



Performance through collaboration

The Western Australian Rural Landholder Social Benchmarking Report, 2026

Project 1.2.010

**Soil CRC Social Benchmarking of
Rural Landholders Across Australia**

RESEARCH COMMISSIONED BY: THE COOPERATIVE RESEARCH CENTRE FOR HIGH PERFORMANCE SOILS (SOIL CRC), the West Midlands Group (WMG), Wheatbelt Natural Resource Management (NRM), Department of Water and Environmental Regulation (DWER) and the Department of Primary Industries and Regional Development, Western Australia (DPIRD).

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LIST OF ACRONYMS

CSU – Charles Sturt University.

DPIRD – Department of Primary Industries and Regional Development.

DWER – Department of Water and Environmental Regulation.

Farmer – Full-time and part-time farmers combined.

FTF – Full-time farmer.

HF – Hobby farmer.

Lifestyler – Hobby farmers and non-farmers combined.

Livestockers – Landholders in the south-west of WA engaging with one or more of the following enterprises: pasture, dairying, beef cattle, cattle backgrounding, sheep and sheep for export.

LGA – Local Government Area.

NF – Non-farmer.

NRM – Natural Resource Management.

NWB – Northern Wheatbelt area. This was the area of WA surveyed in the 2020 survey and includes the LGAs of Coorow, Dandaragan, Dalwallinu, Moora and Wongan-Ballidu.

PTF – Part-time farmer.

Soil CRC – Cooperative Research Centre for High Performance Soils.

SW – South-west area of WA. For the purpose of the 2025 survey, the SW area of WA includes the Healthy Estuaries WA Catchment Areas of Peel-Harvey, Leschenault, Vasse-Geographe, Lower Blackwood, Scott River, Wilson Inlet, Torbay Inlet and Oyster Harbour. See map on page 19.

WB – Wheatbelt region. For the purpose of the 2025 survey, this region includes the Wheatbelt NRM subregions (Avon Arc, Central Wheatbelt, Eastern Wheatbelt and Southern Wheatbelt) and the north-west area of the WA Wheatbelt (LGAs of Dandaragan, Dalwallinu and Moora). See map on page 19.

WMG – West Midlands Group.

EXECUTIVE SUMMARY

The 2026 *Western Australia Rural Landholder Social Benchmarking Report* (this report) presents findings from the 2025 Western Australia Rural Landholder Survey, one of twelve coordinated surveys conducted across six Australian farming regions, building on earlier data collected in the Northern Wheatbelt (WB) region in 2020. Funded by the Cooperative Research Centre for High Performance Soils (Soil CRC) with regional partner funding from DPIRD, DWER, Wheatbelt NRM and the West Midlands Group (WMG), the project aims to deepen understanding of social and economic decision-making drivers related to soil, land and farm management. Led by Murdoch University in partnership with CSU and these regional organisations, as well as the Liebe Group, the study forms part of a broader national effort to generate robust, comparable datasets to inform both local and national agricultural support strategies.

An established mail-out methodology followed best-practice survey approaches to ensure reliability and comparability over time, seeking insight on including current and intended on-farm practices, landholder goals and challenges, management approaches, values, and perceptions of risk. Building on a core set of questions, the 2025 Western Australian Rural Landholder Survey was tailored through workshops with our partners to ensure regional relevance. The 2025 survey incorporated new emphases on farm business and nutrient management, reflecting priorities identified by regional partners. Data collection involved mailing a total of 4,000 surveys to West Australian landholders managing properties over 10 hectares, with 2,000 mailed out across the WB and 2,000 survey questionnaires posted to landholders in the south-west high rainfall regions of Western Australia (WA). After accounting for ineligible contacts and opt-outs (1,931 opt-outs/non-responses in total), 481 valid responses were obtained, representing an overall response rate of 23.2%. Notably, response rates varied by region, with lower participation in the WB (17.0%) compared to the south-west (SW) (28.4%). The dataset includes detailed demographic and property information, enabling analysis of relationships between landholder characteristics and management practices. For analytical clarity, respondents are categorised into production-focused farmers (full-time and part-time) and lifestyle-oriented landholders (hobby farmers (HF) and non-farmers (NF)), providing a structured basis for interpreting patterns of practice and change.

PROFILE OF FARMING

The WB region is characterised by a predominantly production-oriented landholder base, with Farmers (full-time and part-time) forming the majority, while Lifestylers (HFs and NFs) represent a substantial minority. Land use remains centred on mixed broadacre systems, particularly cereals, sheep, legumes and pasture, reflecting a stable and highly productive agricultural landscape. Farmers dominate these enterprises and operate within integrated mostly grain-livestock systems, while Lifestylers contribute to increasing diversification through smaller-scale activities, such as tree planting and supporting remnant vegetation. WB Farmers were the most likely to live on their properties and work more hours on the farm, and SW Lifestylers were least likely to live on their properties, spending less time working on the land there. The average farmer landholding was approximately seven times smaller in the SW region (Table 1).

Table 1. Profile of Farmers and Lifestylers in the Wheatbelt (WB) region (Farmer n = 75–86, Lifestyler n = 22–53) and South-west (SW) of WA (Farmer n = 182–221, Lifestyler n = 59–74).

Landholder characteristic	WB Farmers	WB Lifestylers	SW Farmers	SW Lifestylers
Mean age of respondent	56 yrs	61 yrs	61 yrs	66 yrs
Mean area owned	3766 ha	1369 ha	503 ha	84 ha
Mean on-property hours work/week	50 hrs	*24 hrs	38 hrs	18 hrs
Resident on property	90%	76%	79%	66%
Proportion earning a net on-farm profit last financial year	65%	6%	48%	19%

* n for this response is low (n = 22) – interpret with caution.

Farmers in the WB are typically experienced, managing large-scale properties with strong intergenerational continuity, high labour input and relatively consistent profitability. Their engagement in planning and knowledge-sharing activities is high, reflecting adaptive and business-oriented management. In contrast, Lifestylers tend to manage smaller properties, rely more heavily on off-farm income, and exhibit lower levels of engagement in formal agricultural management. Value orientations differ accordingly: Farmers balance economic priorities with stewardship goals, while Lifestylers place stronger emphasis on environmental amenity, lifestyle, and living in harmony with nature.

In the SW, the landholder profile is more diversified, with a stronger presence of Lifestylers alongside Farmers, contributing to a multifunctional rural landscape. Land use is dominated by livestock and pasture systems, particularly beef cattle, with less emphasis on cropping. Diversification is more pronounced than in the WB, with both Farmers and Lifestylers engaging in a wider range of enterprises, including horticulture, viticulture, forestry, and tourism. Environmental management is also more embedded, with widespread revegetation and retention of native vegetation across landholder types.

Farmers in the SW generally operate smaller properties and experience more variable profitability, linking with greater reliance on off-farm income. Despite this, they remain actively engaged in land management and learning activities. Lifestylers, while managing small holdings and deriving limited farm income, demonstrate relatively strong involvement in land stewardship activities. Across the region, values are more closely aligned between Farmers and Lifestylers than found to be in the WB, with shared emphasis on environmental quality, amenity and long-term sustainability. Economic objectives remain important for Farmers but are more integrated with ecological and social considerations, reflecting a holistic and adaptive land-use system.

COMPLEX DECISIONS IN FARMING AND LAND MANAGEMENT

In the WB, Farmers demonstrate wide implementation of production-oriented farming and soil stewardship practices, including maintaining groundcover, soil testing, fertiliser application, and reduced tillage, supported by integrated systems such as legumes and time-controlled grazing (Figure 1). Lifestylers engage with these practices at much lower levels, reflecting lower production intensity. While Farmers also adopt some longer-term and specialised practices, such as perennial pastures, revegetation and soil amendments, more capital-intensive or longer pay-

off innovations (such as carbon farming) remain limited across both groups. Attached values (Figure 1) and guiding life principles were measured across the four groups, finding that the top life principle for WB Lifestylers and all landholders in the SW was 'Respecting the earth and living in harmony with nature'. The top guiding life principle for WB Farmers was 'Creating wealth and striving for a financially profitable business'.

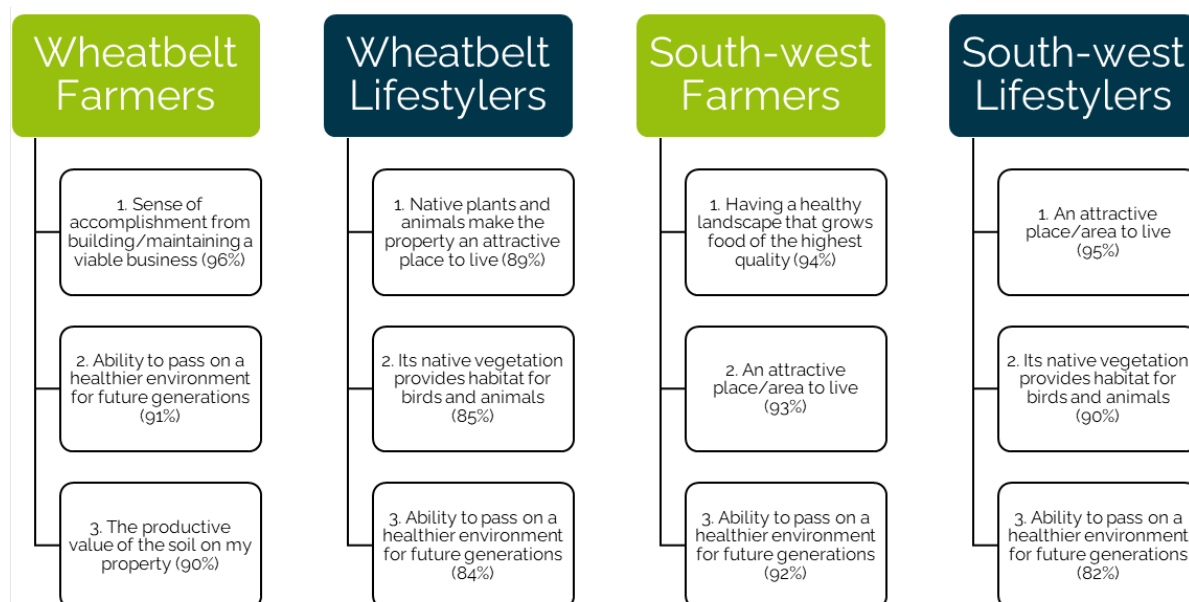


Figure 1. Top three attached values of Farmers and Lifestylers in the Wheatbelt (WB) (n = 110–122) and South-west (SW) of WA (n = 266–274) Farmers and Lifestylers.

WB Farmers reported high confidence in established practices and strong openness to innovation, though adoption was typically contingent on locally proven outcomes. They employ structured, medium-to-long-term planning and operate within collaborative decision-making networks involving family and advisers. In contrast, Lifestylers show more variable confidence, shorter planning horizons, and rely on simpler, household-based decision-making processes. Profitability is a key driver for Farmers, linked to enterprise optimisation and intensification, whereas Lifestylers place less emphasis on income generation, often favouring low-intensity management, leasing, or small-scale diversification.

Knowledge and data use further reinforce this divide. Farmers exhibit strong technical knowledge, particularly in soil management, planning, and risk mitigation, actively engaging in data-driven decision-making, despite some connectivity constraints. Lifestylers show lower levels of technical knowledge and more limited engagement with formal data systems, relying instead on informal or experiential approaches. Both groups associate improved landscape health with reduced pressure on land; however, Farmers achieve this within productive systems through targeted interventions, while Lifestylers emphasise lower-input, passive strategies, such as reduced stocking and natural regeneration.

In the SW, both groups demonstrate moderate to high engagement in core land management practices, including soil management, pasture improvement, and environmental actions such as revegetation. Confidence levels are also more aligned, with both Farmers and Lifestylers expressing strong support for soil health practices and evidence-based decision-making, although advanced technologies and market-based mechanisms remain less widely adopted.

Profitability strategies among Farmers focus on adaptive grazing, soil improvement and enterprise adjustment, while Lifestylers tend towards reduced intensity and diversified or passive income streams. Just over half of Farmers in the SW note sufficient financial capacity for

investment and innovation planning. They typically operate within structured decision-making frameworks and medium-term planning horizons. Lifestylers in the SW display greater engagement in land management than their WB counterparts, with a balanced approach to planning and a willingness to adopt practices where benefits are clear.

Knowledge and implementation patterns in the SW indicate a more shared baseline between groups. While Farmers maintain strong expertise in soil and farm system management, Lifestylers demonstrate moderate but meaningful understanding, particularly in environmental processes and climate preparedness. Data-driven approaches are widely supported, though more formally embedded among Farmers. Overall, practice adoption in the SW is shaped by alignment between knowledge, confidence and perceived value, resulting in a broad uptake of adaptive and biologically oriented practices.

ENGAGING LANDHOLDERS

In the WB, Farmers rely strongly on field days, crop walks and peer-to-peer learning, highlighting the importance of locally grounded, experiential knowledge supported by agronomists and independent advisers (Figure 2). Lifestylers engage less with these networks and instead make greater use of digital channels, such as websites and newsletters. Across both groups, knowledge systems are hybrid in nature, integrating personal experience, peer networks and institutional inputs such as weather services.

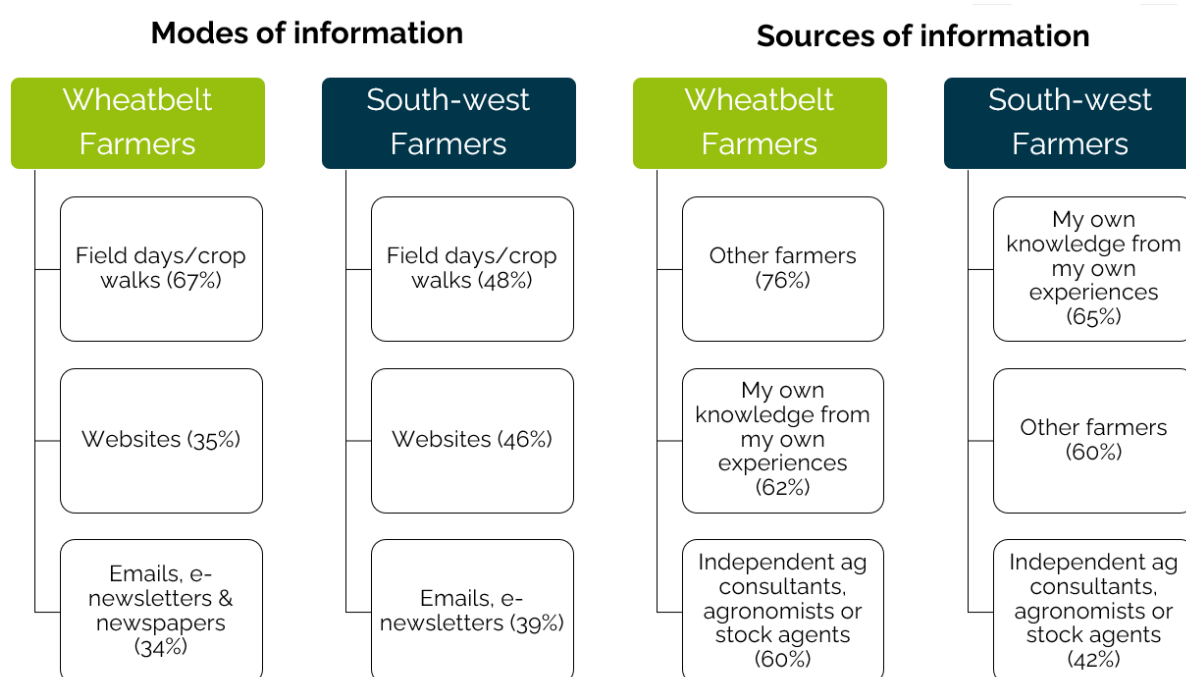


Figure 2. Top modes and sources of information used in the past 12 months by Farmers in the Wheatbelt (WB) region (n = 77–78) and South-west (SW) of WA (n = 192–195).

Perceptions of support in the WB reveal a clear divide between Farmers and Lifestylers. Grower groups are highly trusted and central to engagement, acting as key conduits for Farmer knowledge exchange and innovation. Farmers report feeling moderately supported in their farming and land management, but identify significant gaps in financial incentives, regulatory settings, and access to practical, locally relevant research and extension. Natural resource management (NRM) organisations also play a trusted role in the WB, complementing grower groups and enabling broader engagement, particularly among Lifestylers. However, Lifestylers

show generally lower engagement and trust in existing support structures, suggesting that current models are less effective for this cohort and require more tailored, inclusive approaches.

In the SW, engagement patterns are more balanced across Farmers and Lifestylers, supported by a well-developed mix of digital, in-person, and print channels. Websites, field days and newsletters are widely used, with both groups drawing on peer networks, personal experience, and professional advice. Lifestylers are more engaged than in the WB, particularly through digital platforms and community networks (Figure 2), while Farmers continue to value face-to-face learning for applied knowledge. This reflects an accessible and cohesive regional information environment.

Support systems in the SW are also more evenly distributed, with less disparity between Farmers and Lifestylers. While financial and institutional support gaps persist, both groups emphasised the need for clearer policy, reduced bureaucracy and practical, science-based extension. Overall, effective engagement across both regions requires flexible, multichannel strategies that recognise differing capacities, motivations, and relationships to land management.

CHALLENGES ON THE LAND

In the WB, Farmers and Lifestylers both identify government decision-making as a key regional challenge (Figure 3), with priorities diverging at property scale. At the property level, soil degradation is a major issue across all landholder groups, particularly salinity, erosion, and declining fertility, contributing to reported land loss. Farmers focus on economic viability pressures, including declining soil health, infrastructure gaps, and production constraints, with increasing soil-nutrient requirements coinciding uncomfortably with increased input costs. Lifestylers emphasise environmental risks, such as bushfire, floods, pest species, and soil and water conditions, reflecting a stronger focus on landscape health and liveability.

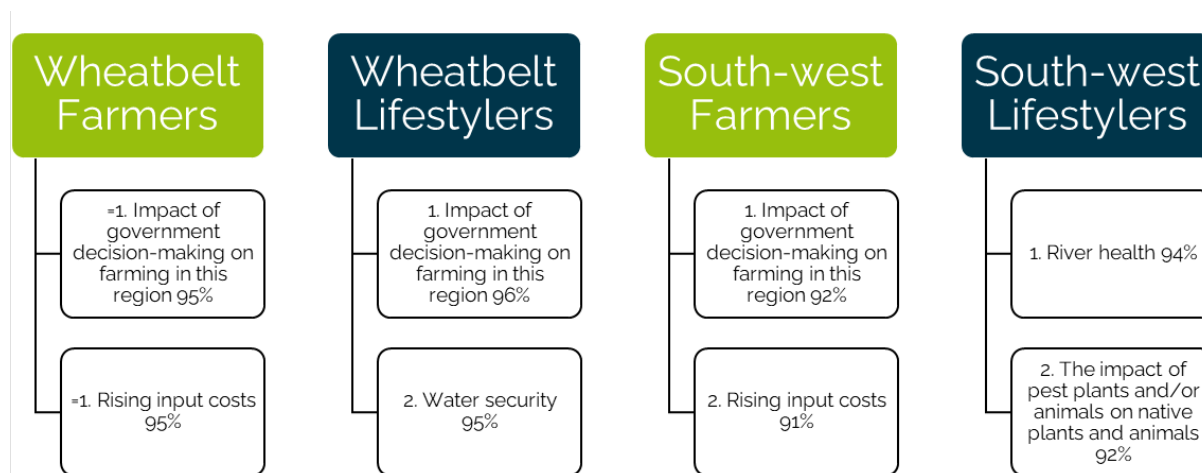


Figure 3. Top two regional issues facing Wheatbelt (WB) (n = 127–136) and South-west (SW) of WA (n = 249–276) Farmers and Lifestylers.

In the SW, challenges are similarly shaped by policy, water, and climate, but with stronger environmental integration. Farmers focus on costs, regulation, profitability, and water constraints, while Lifestylers emphasise river health, pests, and landscape conditions. Soil issues focus on acidity and water holding capacity, with Farmers focused on productivity and Lifestylers on ecosystem function.

Land degradation is less widely reported than in the WB, though still significant where it occurs. Opportunities are more integrated, combining agricultural diversification, soil improvement and carbon or biodiversity markets for Farmers, alongside restoration and lifestyle-oriented land uses

for Lifestylers. Overall, the SW shows higher levels of climate adaptation activity and disaster preparedness across both landholder groups.

Climate concerns differ in emphasis but converge on water security as the dominant issue. Farmers tend to express higher confidence in adaptation, while Lifestylers show stronger concern about climate impacts but lower confidence in managing them – a national trend. Opportunities also diverge: Farmers focus on intensification, technology, and market-based innovation, while Lifestylers prioritise conservation, revegetation, and low-intensity land use.

THE FUTURE OF FARMING

In the WB, long-term planning among Farmers is strongly oriented towards intergenerational continuity and farm expansion, with retaining land within the family as the dominant objective. Many also intend to reinvest through land improvement, land acquisition, or leasing arrangements, reinforcing a commercially expansion-focused trajectory. Lifestylers, in contrast, show limited interest in growth, with future plans centred on maintaining current property use rather than increasing production intensity or scale.

Farmers are further progressed with succession planning but show notable gaps, indicating ongoing uncertainty around intergenerational transfer (Figure 4). Land expansion is common. Among Lifestylers, few have established formal succession arrangements. Overall, change in the WB is incremental, with gradual uptake of new practices, with higher uptake among younger landholders, noting a strong continued reliance on established systems and knowledge networks.

In the SW, long-term planning is balanced across economic, environmental, and lifestyle objectives. While retaining land within families remains important, expansion is less common and conservation-oriented intentions are more prominent. Generational change in the SW comes with stronger uptake of diversified and regenerative practices among younger landholders and a broader, more balanced knowledge base supporting a forward-looking and flexible land management trajectory.

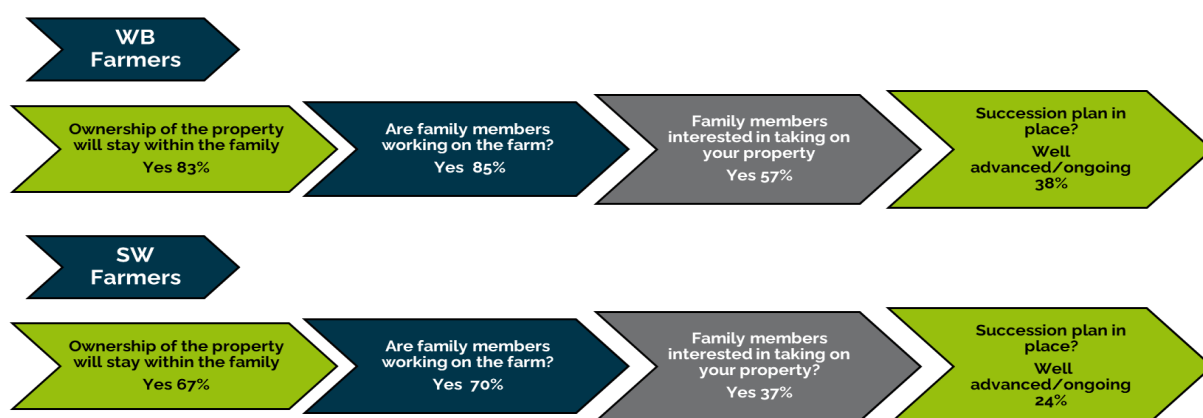


Figure 4. The succession pipeline, which includes statistically linked items, on whether the property will stay in the family; family inclusion in decision-making; and succession plan progress for Farmers in the Wheatbelt (WB) region (n = 77–81) and South-west (SW) of WA (n = 141–198).

The following recommendations emerge from these findings

In the WB, long-term stewardship is shaped by Farmers' strong emphasis on intergenerational continuity, farm expansion and reinvestment, while Lifestylers are more likely to maintain static,

lifestyle-oriented land-use patterns. Regionally coordinated support should therefore prioritise succession planning through facilitated workshops, practical templates and peer-learning opportunities that help landholders clarify future ownership and management pathways. Complementary options for leasing, land transfer and alternative stewardship arrangements, including conservation covenants and biodiversity agreements, would help maintain productive and ecologically sound landscapes as ownership changes over time.

The SW of WA is well-placed for integrated programs because landholder goals are more balanced across production, conservation and lifestyle objectives, with stronger convergence in values between Farmers and Lifestylers. Support should build on trusted NRM organisations, grower groups and catchment groups to deliver practical on-ground trials, digital resources and on-farm demonstrations that show the benefits of adaptive grazing, soil health improvement and water quality protection. Building on farmer achievements, such as expanding non-farm and value-added income opportunities, including farm-based tourism, niche premium products and carbon- or biodiversity-linked markets, would further align stewardship goals with the region's economic and environmental priorities.

1. INTRODUCTION

This report focuses on the development, implementation, and outcomes of a social benchmarking survey implemented in Western Australia (WA) in 2025, which follows up on a Soil CRC rural landholder survey undertaken in the Northern Wheatbelt in 2020. The 2025 landholder survey was mailed out to two regions of WA: the WB region and the high rainfall zone of SW of WA. This work is part of the 'Surveying On-Farm Practices' project, undertaking social benchmarking of rural landholders across Australia. The project is supported by funding from the Cooperative Research Centre for High Performance Soils (Soil CRC). This project is situated within Program 1 of the Soil CRC, which is focused on improving understanding of social and economic factors driving decision-making and uptake of soil innovations, including levers for change.

Led by Associate Professor Hanabeth Luke of Murdoch University, the project commenced in 2019 to deliver regionally and nationally relevant landholder surveys in partnership with local farming and natural resource management (NRM) organisations across five Australian states. The project is designed to generate robust and accurate data that can inform and support improved knowledge-sharing and uptake of soil and land management practices for organisations supporting agriculture and land management from a local to a national scale. This is building a dataset of national importance, capturing both a breadth and depth of information related to on-farm decision-making among Australian landholders.

The survey gathers detailed information about actual and intended on-farm practices, alongside the challenges, goals, and aspirations of respondents. In addition, it collects contextual data concerning management styles, landholder values, self-assessed knowledge and confidence in recommended practices and perceptions of agricultural risk. The systematic survey method undertaken builds on best-practice survey methods (Luke, 2025), including the foundational work of Professor Allan Curtis (Curtis & De Lacy, 1998). Murdoch University researchers partnered with CSU, WMG, Liebe Group, Wheatbelt NRM, DPIRD and DWER to develop and undertake the survey in Western Australia.

1.1 REGIONAL CONTEXT

During 2023–2024, WA's WB experienced two challenging but highly variable seasons marked by below-average and poorly timed rainfall, low soil moisture reserves, frost impacts in some areas and a late break to the 2024 season. While grain yields generally fell below the exceptional levels achieved in 2022, particularly in 2023, growers benefited from strong grain quality, improved water use efficiency and periods of favourable winter rainfall in 2024. At the same time, profitability was affected by high input costs, elevated interest rates, softer grain prices and ongoing global market disruptions linked to the Russia–Ukraine war and Red Sea shipping issues. During 2024–2025, the WB experienced another season heavily influenced by rainfall timing, beginning with low subsoil moisture and a cautious start before widespread winter rainfall significantly improved crop prospects. While some areas remained dry and variable, much of the grain belt benefited from improved growing-season rainfall during the second half of 2025, supporting above-average crop potential and strong grain production. Growers continued to manage volatility in grain prices, input costs and seasonal uncertainty, but overall conditions were more favourable than the preceding two years, with many regions achieving strong yields and improved confidence heading into harvest when this survey opened from August 2025.

Across the SW mixed farming region, 2023–2024 was characterised by reduced rainfall reliability, delayed pasture and crop establishment, and increasing pressure on feed supplies and grazing systems following a dry autumn and lower-than-ideal spring rainfall. Winter rain helped improve crop and pasture growth, but outcomes remained highly dependent on local rainfall timing and soil moisture. Farmers faced a combination of seasonal uncertainty, higher operating costs and fluctuating commodity markets, requiring careful management of feed resources, stocking rates and crop inputs to maintain profitability and resilience. The years 2024–2025 generally brought better seasonal conditions, with an earlier break in parts of the region, improved winter rainfall and strong crop and pasture growth. Some coastal and higher-rainfall areas experienced excessively wet conditions and temporary waterlogging, while inland areas remained dependent on regular rainfall through spring. Livestock and mixed farming enterprises benefited from improved feed availability and production potential, although ongoing pressures from input costs, financing costs and market fluctuations continued to influence farm profitability and management decisions.

1.2 CONCEPTUAL FRAMEWORK

The theoretical framework that underpins this study acknowledges the complexity of human behaviour and decision-making when it comes to land and farm management. Seeking to understand this complexity is critically important when aiming to influence rural land management practices. Many key factors shape landholder management practices, including governance structures, climatic conditions, property market trends and demographic shifts, alongside farmers' perceptions of priority issues, their knowledge of best practices, and their roles as land stewards. As Lockwood (1999) points out, the absence of clearly understood causal relationships between these influencing factors reduces the likelihood of successfully encouraging changes in land management practices.

Values, beliefs and personal norms, understood as socially accepted patterns of behaviour and decision-making, play a critical role in either reinforcing or moderating these influencing factors. Shifting these deeply ingrained personal attributes is a long-term challenge (Lockwood, 1999). Nevertheless, engaging effectively with landholders requires an understanding of their values and beliefs. The Value-Belief Norm Theory provides a useful framework for exploring the links between values and behaviour, particularly in the context of environmental interactions and land management (Stern et al., 1999). McIntyre et al. (2008) distinguish between 'held' values, fundamental principles individuals consider important, and 'assigned' values, which reflect the significance landholders attribute to their land and farming operations. Additionally, value orientations, described by Axelrod (1994) as biospheric (environmentally focused), egoistic (focused on the self and what can be gained) and altruistic (focused on supporting others in society), influence decision-making by determining which held values take precedence. Individuals may simultaneously hold multiple, sometimes competing, value orientations (Lockwood, 1999; de Groot & Steg, 2008).

Developing effective strategies to promote the adoption of current recommended practices and innovative approaches depends on identifying the most influential 'levers' for change. Lockwood (1999) highlights that landholders are unlikely to adopt new approaches, technologies, or practices if they are unaware of them or lack confidence in their effectiveness. Similarly, perceived high costs or excessive complexity may further deter adoption. Therefore, surveys should not only assess landholders' knowledge and confidence regarding best-practice land and farm management but also explore their sense of personal responsibility for land and soil stewardship. Curtis and Luke (2019) argue that an individual's willingness to take risks significantly

affects their likelihood of adopting new practices, with more risk-tolerant individuals being more open to change.

Another essential aspect of engaging rural property owners is identifying effective approaches for extension services and information-sharing. Understanding how landholders perceive and trust local and regional organisations is crucial for fostering learning, dialogue and action (Luke, 2017). Landholder typologies, such as those developed by Groth et al. (2014), offer valuable insights into how different priorities influence land management decisions. This study's questionnaire builds upon this typology, categorising respondents into full-time farmers (FTF), part-time farmers (PTF), hobby farmers (HF), or non-farmers (NF). This classification method has been validated in peer-reviewed research (Groth et al., 2014) and applied throughout all phases of the Soil CRC project (Curtis and Luke, 2019), demonstrating its effectiveness in tailoring strategies to facilitate practice change among diverse landholder groups.

1.3 SURVEY DEVELOPMENT

To ensure consistency and facilitate comparison across regions, a core set of questions related to general soil management principles and landholder demographics is retained in every iteration of the survey, with local workshops used to identify local topics of importance for building into the survey, and to inform reporting. The key topics and priorities relevant to WA were identified through a collaborative workshop facilitated by Associate Professor Hanabeth Luke in partnership with the WMG in Dandaragan in October 2024 (Figure 5). During the workshop, participants contributed to the development and refinement of critical topics and survey questions, drawing on insights from the previous regional survey, which included repeat questions on data management, but also built in more soil testing-focused questions, and a new section on structural decision-making processes. A comprehensive list of issues affecting farmers in WA were built into the repeat survey, highlighting challenges, such as landholder perspectives on climate change, supporting young farmers, shifts in land management and enterprise types, along with key factors influencing decision-making in NRM and farming.



Figure 5: Refining the WA Social Benchmarking Survey at Dandaragan, for 2025 implementation.

The West Midlands workshop identified several new key topics and questions in relation to decision-making about farms, land management and farming resilience, with a focus on provision of technical information in relation to soil health, data management, profitability, emissions, biodiversity and adaptation strategies. The discussions explored the multifaceted roles of farmers as both business operators and land stewards, emphasising the balance between production objectives and sustainable soil and land management. Other key themes included managing uncertainty, farm planning, succession strategies and decision-making processes, formal (such as a board) and informal (such as checking in with one's spouse). Questions were raised about what drives farmers to change, to improve their soil health and build resilience over different timeframes, from income diversity to disaster response planning.

Further discussions and workshops with Wheatbelt NRM, DPIRD and DWER, through June and July 2025, highlighted interest in gaining sound data on farmer attitudes towards regenerative agriculture, precision farming and minimisation of inputs. Also included were the perceived state of soil health and drivers of nutrient management. Soil testing regimes and how on-farm data were being used were also raised as important for all regions of Western Australia. It remained a priority to understand how landholders access information on farm, land and soil management.

The workshop's outcomes were synthesised into five priority areas:

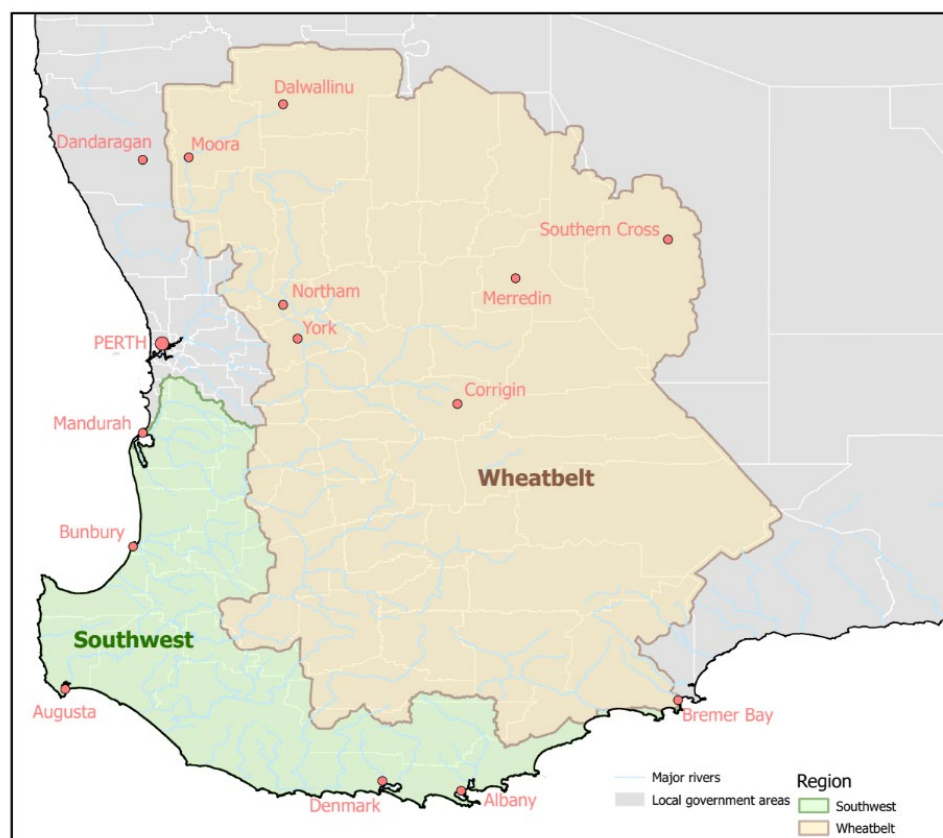
- A) a profile of farming on the WB and also in the high rainfall catchments in the SW of WA
- B) the complexities of decision-making in land management, with a particular focus on nutrient management

- C) challenges in land management, including soil health and climate change
- D) strategies for engaging land managers
- E) the future of farming in the region, including potential changes.

Some minor revisions were made to the survey following this workshop. Using these priorities, along with findings from surveys conducted in 2020, the project team refined the survey instrument. The survey included sections addressing key challenges faced by landholders, their values, practices, experiences and knowledge of various issues, as well as their confidence in implementing best practices for soil, farm and land management. A draft version of the survey was circulated to workshop participants for feedback and further refinement. Following revisions, the updated survey was piloted with local partners and a small group of rural landholders. The final questionnaire is provided in Appendix 2.

1.4 SURVEY ADMINISTRATION AND RESPONSE RATE

In August 2025, advance notifications were dispatched to a random sample of properties exceeding 10 hectares throughout the WB and high rainfall zone of the SW region of WA. For this survey, the WB region included landholders in the Wheatbelt NRM subregions (Avon Arc, Central Wheatbelt, Eastern Wheatbelt and Southern Wheatbelt) and the north-west area of the Wheatbelt where the LGAs of Dandaragan, Dalwallinu and Moora are located. Landholders surveyed in the SW region of WA included those within the Healthy Estuaries WA Catchment Areas of Peel-Harvey, Leschenault, Vasse-Geographe, Lower Blackwood, Scott River, Wilson Inlet, Torbay Inlet and Oyster Harbour (Figure 6). The identification of property addresses was facilitated by spatially referenced landholder data supplied by local councils in the WB and using Landgate data in the SW region of WA.



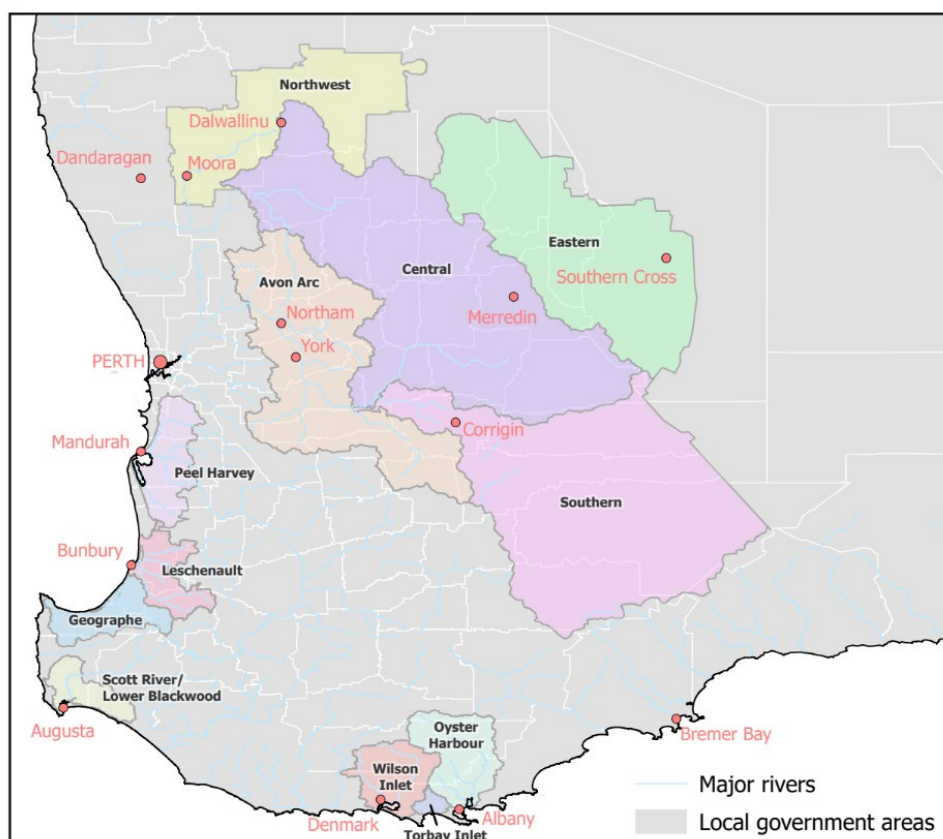


Figure 6. Maps illustrating the boundaries drawn for the Wheatbelt (WB) region and the South-west (SW) region of WA for the purpose of the survey (top panel) and the location of subregions (bottom panel). See Appendix Table X1 and X2 for response rates by subregion. Images by Simon McDonald.

Two thousand comprehensive survey booklets were sent to the WB region and a further 2,000 were sent to the SW region of WA. A supplementary section focused on nutrient management was sent with the survey booklets for landholders in the SW region of WA. This primary mailing effort was subsequently supported by two reminder notices, a second survey booklet, and followed up with two thank you/reminder notices and a closing reminder in January 2026.

After considering undeliverable mail and instances where landholders opted out of participation, the final sample size for the survey was established at 481 landholders. Ultimately, a total of 330 surveys were returned in booklet format, augmented by an additional 151 responses submitted online, resulting in an overall response rate of 23%.

1.5 DATA ANALYSIS

Three main methods were used to analyse the data: descriptive statistics, statistical tests for significant relationships and correlation analyses through linear regression modelling. Descriptive statistics, including frequencies, means and medians, were applied to summarise survey responses, excluding 'not applicable' and missing responses from the means calculations. Further analysis focused on identifying statistically significant differences among landholder groups (FTFs, PTFs, HFs and NFs) and generational cohorts, namely Baby Boomers and older (referred to as Baby Boomer+), which includes those born in and before 1964 and was combined with older landholders due to low sample sizes for the Silent Generation, Generation X (1965–1980), and Generation Y and younger (referred to as Generation Y-), which includes those born from 1981 onwards and was similarly combined due to low sample sizes for Gen Z landholders.

To evaluate group differences, Kruskal-Wallis rank sum tests were used for continuous or Likert scale variables, such as age or agreement levels, with grouping variables, such as farmer identity. Likert scale responses were condensed into two categories (1–2 and 4–5) for reporting percentage agreements. For nominal data, such as yes/no responses, Pearson's chi-squared test with simulated values was employed to detect differences across groups. Chi-squared goodness-of-fit tests were used to assess dependencies between grouping variables. Pairwise comparisons explored positive and negative relationships between variables that might influence the adoption of best-practice management practices related to agriculture and natural resource management. Respondents could select 'Don't know/Not applicable' for relevant questions, with the proportion of such responses varying across items.

Word clouds were also used as a supplementary descriptive tool to provide a visual summary of key words and themes emerging from open-ended survey responses. In these figures, word size reflected the relative frequency of each term, providing a quick indication of the most commonly raised ideas and concerns across respondents. Word clouds were interpreted alongside the quantitative results to support thematic interpretation rather than as a standalone analytical method.

Statistical significance was determined at a p-value threshold of 0.05, indicating a less than 5% likelihood of the observed relationship or difference occurring by chance. Analyses were conducted using R statistical software and Microsoft Excel.

Logistic regression modelling was then applied to assess how selected independent variables contributed to the likelihood of best-practice implementation. Pairwise comparisons were carefully reviewed to exclude irrelevant or nonsensical statistically significant relationships, narrowing the analysis to approximately 30 independent variables for input into a modelling program which can identify a group of variables that together influence best-practice management decisions. Only models achieving an accuracy above 70% were considered. Variables were ranked using the Akaike Information Criterion, with models exhibiting multicollinearity flagged for further evaluation. While excluding multicollinear variables reduces redundancy (e.g. when two variables have similar effects), it may also omit conceptually important factors. For example, if both participation in a soil health group and property size show a meaningful relationship with best-practice implementation but are correlated, regression modelling may exclude one variable, potentially overlooking key insights. Although advanced statistical techniques could better address causality, such methods are beyond the scope of this research.

The following sections present the survey results and their implications.

2. A PROFILE OF FARMING IN WESTERN AUSTRALIA

2.1 AN AGRICULTURAL LANDSCAPE

The 2025 WA Landholder Survey indicates clear regional differences in the composition of landholder types between the WB and the SW region of WA. In 2025, FTFs represented 46% of survey respondents in the WB region, while NFs represented 31%, with both PTFs and HFAs each accounting for 11%. A similar but more pronounced pattern is observed in the SW survey respondents, where PTFs (30%) and HFAs (15%) together comprise a larger share than in the WB, while FTFs account for 45% and NFs 10% (Figure 7).

The regional differences are driven by the patterns in landholder compositions for each sub-region in the WB and the SW region of WA. Of the four landholder typologies (full-time, part-time, hobby and non-farmers), FTFs represented the greatest proportion of landholders across most of the subregions surveyed in the WB region (Avon Arc and Eastern, North-west and Southern Wheatbelt), with the exception being the Central Wheatbelt, where NFs (51%) were the most selected landholder type. FTFs were also the most selected landholder type in subregions of the SW of WA (Vasse-Geographe, Oyster Harbour, Peel-Harvey, Scott River/Lower Blackwood, Torbay Inlet and Wilson Inlet), with the exception being Leschenault, where PTFs (37%) represented the greatest portion of landholders. (Figure 8).

In terms of landholder roles in 2025, the majority of respondents in both regions identified as landowners (89% in the WB and 87% in the SW), with comparatively small proportions identifying as farm or land managers, lessees, or retired farmers, suggesting that ownership is the predominant mode of land tenure for both areas despite the diversity in landholder identities (Figure 9).

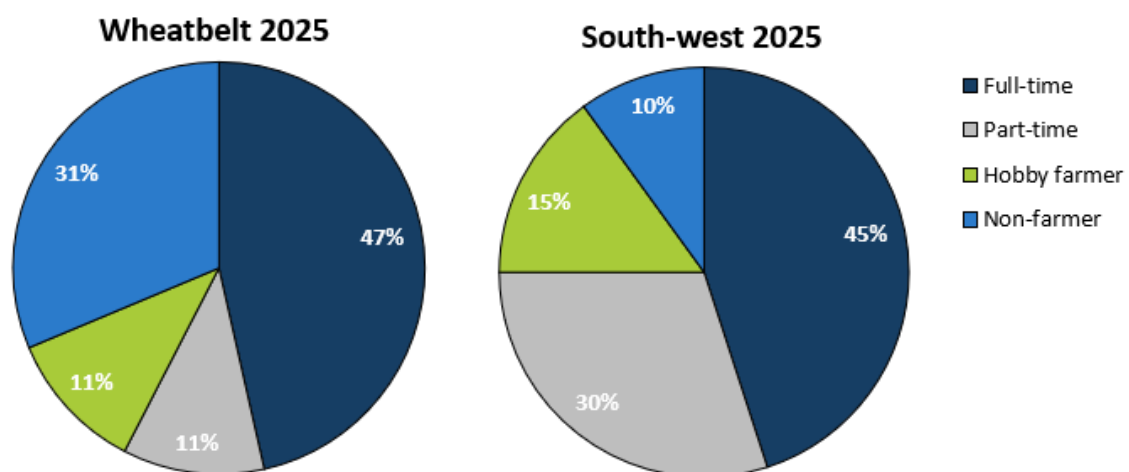


Figure 7. Proportion of landholder respondent identities in the Wheatbelt (WB) (n = 150) and the South-west (SW) of WA (n = 298).

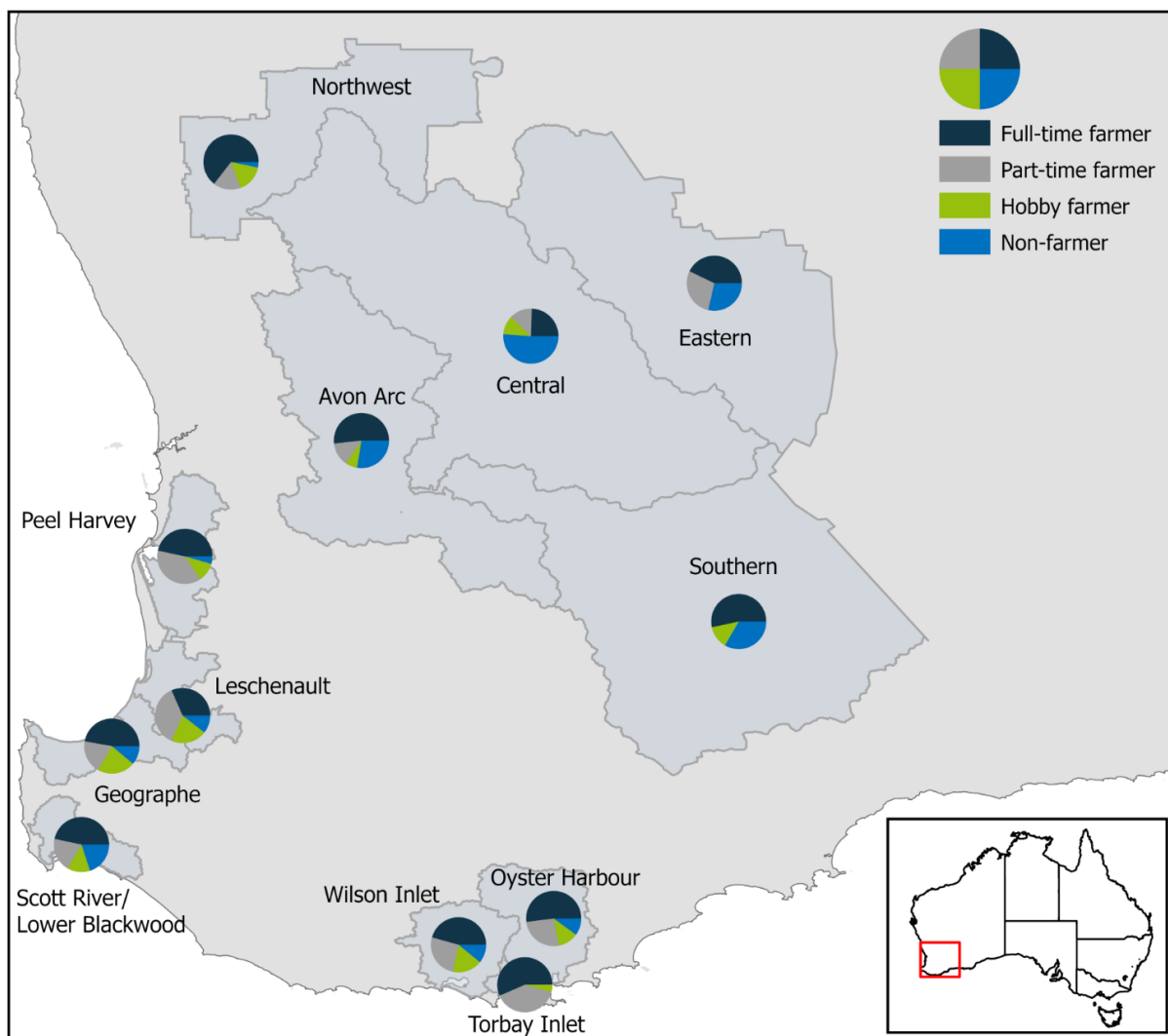


Figure 8. The distribution of landholder categories in the Wheatbelt (WB) region ($n = 152$) and the South-west (SW) of WA ($n = 306$) by local government area.

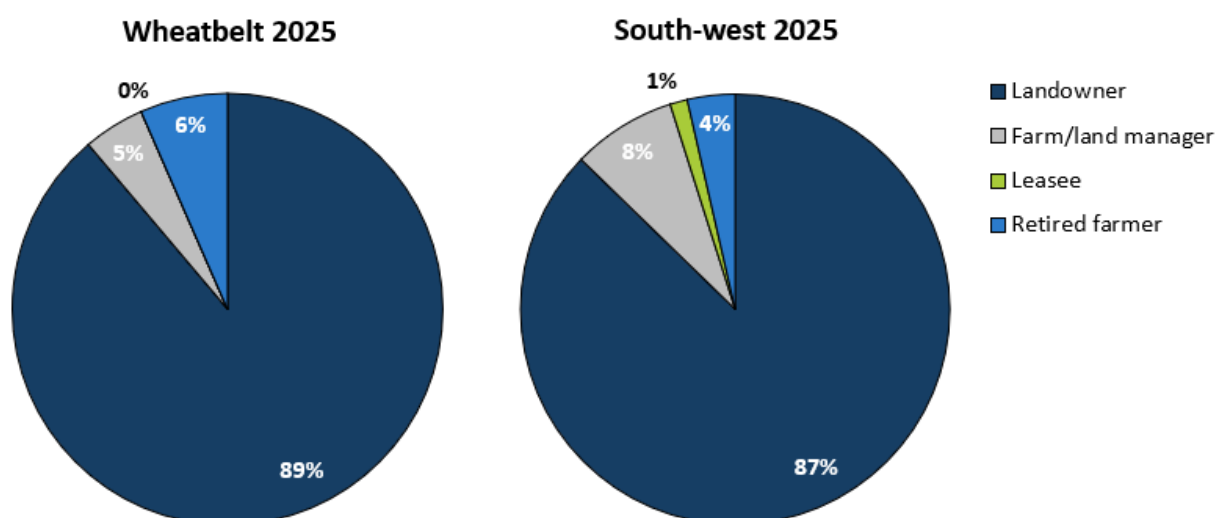


Figure 9. Roles for those completing the survey in the Wheatbelt (WB) ($n = 152$) and the South-west (SW) of WA ($n = 306$).

2.1.1 Land use in the Wheatbelt region

The results highlight a landscape dominated by mixed broadacre farming, with cereals, sheep and pastures forming the foundation across all landholder types (Figure 10). Almost all FTFs reported cereal production (94%), with similarly high involvement in sheep (59%) and pasture enterprises (54%). Even PTFs displayed strong engagement in these traditional systems, showing the enduring strength of grain–livestock integration in the region. Legumes and oilseeds were commonly included, reflecting both soil management practices and economic diversification strategies.

A noticeable diversification trend emerges among PTFs and HFs, who engage in a wide range of smaller-scale or alternative enterprises. Activities such as horticulture, beef cattle, viticulture and beekeeping featured more prominently among these groups compared to full-time producers. Farm-based tourism, in particular, was undertaken by 18% of PTFs and 6% of HFs, suggesting growing interest in income streams that connect agriculture with visitors and local communities. These enterprises indicate that many smaller-scale landholders are using lifestyle and innovation-oriented models to supplement traditional farming.

Environmental and carbon-oriented activities were notably present but unevenly distributed. Around 43% of FTFs reported areas of remnant native vegetation on their properties, while 9% participated in tree planting for carbon schemes. Heritage agreements or covenants were less common but still represented (4% of FTFs and 6% of HFs), pointing to a modest but steady incorporation of conservation practices. Other tree planting (possibly for shelter or revegetation) was widespread across all landholder types, suggesting that tree-based land management is now a broadly accepted part of farming practice in the WB.

The survey shows the persistence of livestock enterprises linked to export and domestic markets, particularly sheep likely destined for live export (32% of full-time landholders).¹ Beef cattle, while less dominant than sheep, were integrated in roughly one-fifth of full-time holdings and nearly a quarter of part-time and hobby farms. Together, these findings illustrate a WB farming system that remains agriculturally productive and export-oriented but which is also experimenting with diversification, environmental stewardship and low-intensity enterprises that broaden rural income and land-use outcomes.

¹ Federal legislation mandates that all live sheep exports by sea will be completely banned, effective 1 May 2028.

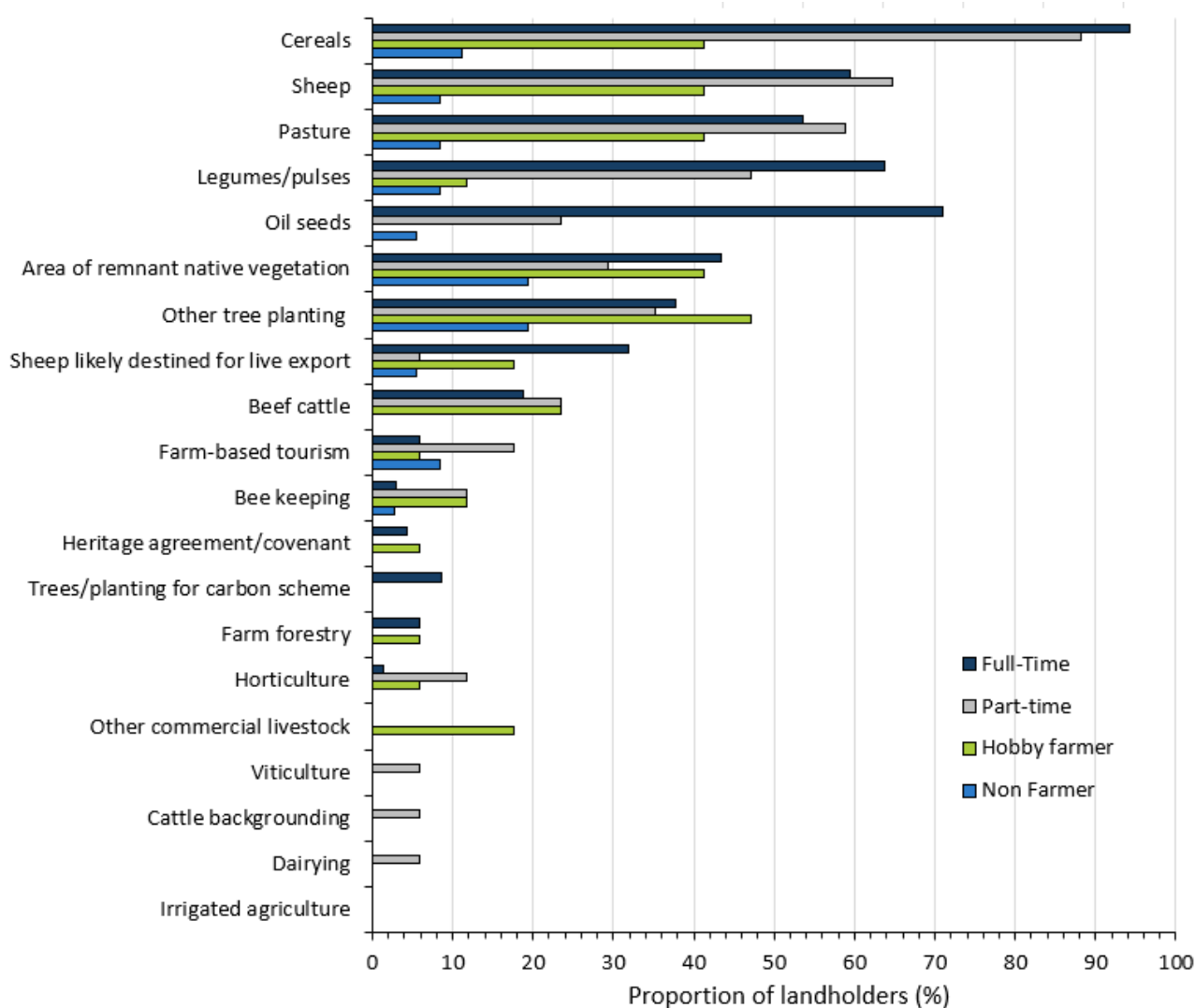


Figure 10. Land use in the Wheatbelt (WB) region by landholder type. Percentages show the proportion of landholders undertaking each activity at the time of the 2025 WA Landholder Survey (n = 139). Note: n is low for both part-time and hobby farmers (n = 17).

2.1.2 Land use in the South-west region of WA

The SW region survey suggests that livestock and pasture-based systems continue to dominate the regional agricultural landscape (Figure 11). Beef cattle production was the leading enterprise across all landholder types, involving 77% of FTFs, 83% of PTFs, and 67% of HFs. Pasture management closely followed, highlighting the close integration between grazing enterprises and land use. Sheep production, though less dominant than beef, was still common among full-time (23%) and part-time (28%) landholders, reflecting the ongoing importance of mixed farming systems in this region's more temperate zones.

Diversification and small-scale ventures appear stronger in the SW compared to the WB, particularly among PTFs and HFs. Beekeeping, horticulture and farm forestry were practiced by notable proportions of these groups, illustrating the region's suitability for high-value, low-acreage enterprises. Farm-based tourism and viticulture were also more prevalent among hobby and non-farmer participants, reflecting a landscape where lifestyle farming and amenity values have strong influence. The SW thus demonstrates a hybrid rural economy, one that balances commercial production with lifestyle-oriented and environmentally conscious land use.

Environmental stewardship and conservation activities featured significantly in this region's profile. Around 38% of non-farmer respondents and over one-fifth of other landholder types maintained areas of remnant native vegetation, suggesting widespread recognition of ecological values on private land. While only a small proportion participated in formal heritage agreements or carbon planting projects, the frequency of 'other tree planting' (reported by 18–24% across groups) points to ongoing engagement in revegetation and landscape restoration, whether for shade, shelter or biodiversity outcomes.

Finally, while broadacre cropping, such as cereals, oilseeds and legumes, was less common than in the WB, these enterprises still played a supplementary role among a small share of FTFs. Dairying and irrigated agriculture contributed further diversity, especially among FTFs. Taken together, the SW region exhibits a mixed farming mosaic strongly oriented towards grazing but enriched by boutique agricultural, tourism and environmental activities, reflecting both the region's productive capacity and its evolving rural identity.

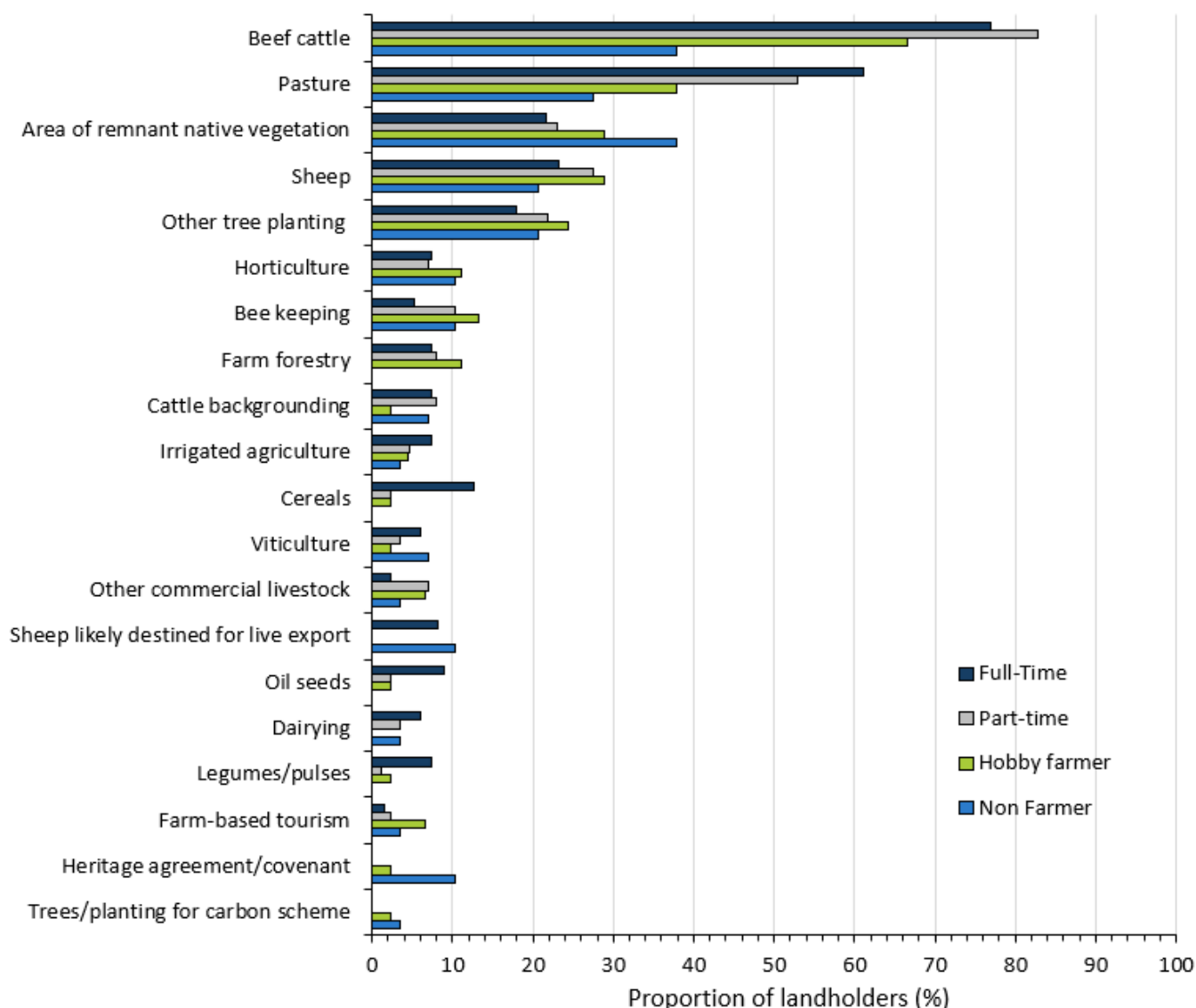


Figure 11. Land use in the South-west (SW) region of WA by landholder type. Percentages show the proportion of landholders undertaking each activity at the time of the 2025 WA Landholder Survey (n = 295). Note: n is low for non-farmers (n = 29).

2.2 LAND MANAGEMENT

2.2.1 Key demographics and attributes in the Wheatbelt region

To simplify the presentation of results, the following sections display data for Farmers and Lifestylers. 'Farmers' refers to respondents who identified as FTFs or PTFs, while 'Lifestylers' refers to respondents who identified as HFs or NFs, grouped together for analysis.

Farmers (both full- and part-time)

When assessing farm management, the responses paint a picture of a mature, highly experienced farming population managing large-scale agricultural enterprises. The average age of respondents was 56 years, with 10% identifying as female, illustrating an older and male-dominated farming demographic compared to the 2021 ABS statistics for the Central Wheatbelt, where the median age was 47 years and 48% of the population identified as female (Australian Bureau of Statistics, 2021b). The vast majority (90%) resided on their properties, indicating a strong local presence and deep community attachment (Table 2). Family ownership of the farms averaged 65 years, underscoring the long-term continuity of agricultural stewardship in the region. Most respondents also actively worked on their farms (averaging 50 hours per week), reflecting strong, hands-on management roles rather than absentee ownership. Farm scale and ownership patterns reveal substantial landholdings and active business growth. On average, each respondent owned around 3,766 hectares in the region and managed an additional 1,433 hectares through leasing or share farming agreements, suggesting an emphasis on expansion and operational efficiency. Nearly seven in 10 (68%) Farmers had purchased additional land in the past two decades, while a smaller proportion (23%) had subdivided or sold part of their holdings. On average, respondents owned four rural properties across WA and held 85% of the total land owned by survey respondents in the region, showing a pattern of consolidation and diversifying property ownership across regions.

Economic performance was relatively strong, though not without variability. Almost all Farmers (95%) earned income from agriculture, with 65% reporting a net profit in the most recent financial year and 78% having done so over the past five years. While most farm income was gained on property, 30% of total income was earned off-farm, indicating some diversification or financial cushioning through secondary work or investments. Income contributions from partners were also notable, with around one-quarter of households reporting dual off-farm earners. These figures illustrate a broadly profitable but adaptive sector balancing risk through multiple income sources.

Engagement with learning and planning activities was high, suggesting proactive management and openness to innovation. A substantial 68% of respondents had attended soil health or productivity field days in the previous year, showing strong interest in improving farm performance and sustainability. Additionally, 60% had prepared or were in the process of developing a property or whole-farm management plan. Combined, these trends indicate that WB Farmers in 2025 were not only managing large, multigenerational enterprises but were also actively investing in knowledge and planning to sustain productivity into the future.

Lifestylers (both hobby and non-farmers)

Conversely, Lifestylers were a demographic quite distinct from the region's FTFs. Respondents were older on average (61 years) and more likely to be women (54%), with over three-quarters residing on their properties (Table 2). Their holdings were smaller, averaging 1,369 hectares and typically limited to one property, suggesting that this group prioritised amenity and lifestyle over large-scale agricultural production. Family ties to the land were generally more recent (averaging 19 years of ownership), reflecting newer entrants to rural living rather than multigenerational farm succession.

Economic engagement in agriculture among Lifestylers was relatively low, but not non-existent. Only 16% reported earning income from agricultural activities, with just 6% making a net profit in the last financial year. The vast majority (69%) of their household income came from off-farm sources, indicating that property ownership often served as a residence, recreational space, or supplementary investment rather than a primary occupation. Many households relied on dual off-property incomes (42%), signalling a high degree of diversification away from farming as a main livelihood.

Participation in structured farm management or learning activities was limited, reflecting less emphasis on production-oriented land use. Only 14% of respondents had attended a soil health or productivity field day, and just 15% had prepared or were preparing a property management plan. Combined with relatively few family members working on-farm (29%) and modest time spent on property (24 hours per week), these findings suggest that Lifestylers in the WB maintained a lighter form of land engagement. Their focus appears oriented more towards lifestyle and landscape amenity than intensive agricultural enterprise or environmental management planning.

2.2.2 Key demographics and attributes in the South-west of WA

Farmers (both full- and part-time)

Farmers in the SW region of WA were generally older and well established on their land. The average age of respondents was 61 years and 30% identified as female, illustrating an older and male-dominated farming demographic compared to the 2021 ABS statistics for the Albany statistical area where the median age was 45 years and 50% of the population was female (Australian Bureau of Statistics, 2021a). Most Farmers (79%) lived on their properties, and their operations were typically family-based, with an average of 48 years of family ownership and 70% reporting other family members working on the property (Table 2). Landholdings were moderate in scale, with an average of 503 hectares owned in the region and around two rural properties held per farming household. Farmers owned 94% of the total land surveyed in the SW region, making them the primary land managers in the region.

Farm business structures combined owned and additional managed land, indicating flexible approaches to achieving viable scale. On average, Farmers had about 64 hectares of their land leased, share farmed, or agisted by others, and they themselves managed an additional 353 hectares through leasing or share farming arrangements. They worked an average of 38 hours per week on property, suggesting a strong ongoing labour contribution while leaving some capacity for off-farm work or other activities. These patterns point to mixed models of land access and use that allow Farmers to adjust to changing economic and seasonal conditions.

Financially, agriculture remained a central income source but did not always translate into consistent profitability. A large majority (91%) earned income from agriculture on their property in the last financial year, yet only 48% reported a net profit in that year and 64% reported a net profit over the last five years. Off-farm income was important, representing 51% of total household income, with many households drawing earnings from both the respondent and their partner. This reliance on diversified income streams suggests that many SW Farmers actively balance farm business risk with external employment or investments.

Engagement with learning and strategic planning was relatively strong among this group. Around 60% had attended a soil health or productivity field day in the previous 12 months, indicating interest in improving land management and production practices. Nearly half (48%) had prepared or were preparing a property management or whole-farm plan, reflecting a substantial commitment to structured planning, sustainability, and long-term resilience. Collectively, these characteristics portray SW farm businesses as family-oriented, moderately scaled operations that blend on-farm work, off-farm income, and proactive management to remain viable and adaptable.

Lifestylers (both hobby and non-farmers)

SW Lifestylers were generally older, smaller-scale owners with a strong off-farm income base. The average age of respondents was 66 years, and 30% were female. Around two-thirds (66%) lived on their properties, but their landholdings were modest, averaging 84 hectares and typically limited to a single rural property (Table 2). Family ownership averaged 29 years, indicating reasonably long but not multigenerational ties to their land.

Their engagement in agricultural production was mixed and generally secondary to other income sources. About half (49%) earned some income from agriculture in the last financial year, yet only 19% reported a net profit in that year and 24% had earned a net profit over the past five years. Most households relied heavily on off-farm earnings, with 71% of income coming from non-farm sources and a large share of respondents and their partners both earning off-property income. Time spent on property averaged 18 hours per week, substantially lower than for FTFs and PTFs, reinforcing the more lifestyle-oriented nature of these holdings.

In terms of management engagement, Lifestylers showed moderate but not intensive involvement in formal learning and planning. One-fifth (20%) had attended a soil health or productivity field day in the previous 12 months, and about one-third (32%) had prepared or were preparing a property management or whole-farm plan. While these rates are lower than for commercial Farmers, they indicate a meaningful subset of Lifestylers who actively considered land stewardship and farm planning. Overall, SW Lifestylers appeared to blend rural living and amenity values with limited or supplementary agricultural activity, supported predominantly by off-farm income and lighter on-property work commitments.

Table 2. Key attributes summary table of Farmers (full-time and part-time combined) and Lifestylers (hobby and non-farmers combined) in the Wheatbelt (WB) region (Farmers n = 56–81, Lifestylers n = 21–45) and South-west (SW) of WA (Farmers n = 133–200, Lifestylers n = 43–70). Overall landholder data from the 2025 WA Landholder Survey is also given (n = 275–426).

Landholder attributes	WB Farmers	WB Lifestylers	SW Farmers	SW Lifestylers	WA Overall 2025
Mean age of respondent	56 yrs	61 yrs	61 yrs	66 yrs	58 yrs
% Female respondent	10%	54%	20%	30%	26%
Resident on property	90%	76%	79%	66%	82%
Mean area owned in region (% land owned in survey region)	3766 ha (85%)	1369 ha (15%)	503 ha (94%)	84 ha (6%)	2913 ha
Number of rural properties owned	4	1	2	1	3
Bought additional land in region in past 20 yrs (%Yes)	68%	5%	37%	11%	48%
Subdivided or sold part of property in past 20 yrs (%Yes)	23%	12%	19%	16%	20%
Mean area of property leased, share farmed or agisted by others	105 ha	*6 ha	64 ha	36 ha	134 ha
Mean area of additional land that you manage (e.g. lease, share farm)	1433 ha	*5 ha	353 ha	15 ha	1036 ha
Mean length of family ownership	65 yrs	19 yrs	48 yrs	29 yrs	50 yrs
Other family members working on the property (%Yes)	85%	29%	70%	48%	63%
Mean on-property work hrs/week	50 hrs	*24 hrs	38 hrs	18 hrs	44 hrs
Earned income from agriculture on property (last financial year) (%Yes)	95%	16%	91%	49%	67%
Earned net profit from property in last financial year (%Yes)	65%	6%	48%	19%	48%
Earned net profit from property over last 5 years (%Yes)	78%	5%	64%	24%	54%
Per cent of income that was earned off farm in last financial year (%Yes)	30%	*69%	51%	71%	41%
Received off-property income the last financial year (%Yes)	10% me, 28% partner, 27% both	21% me, 2% partner, 42% both	19% me, 16% partner, 35% both	24% me, 7% partner, 44% both	14% me, 19% partner, 30% both
Attended soil health/productivity field day last 12 months (%Yes)	68%	14%	60%	20%	48%
Preparing/prepared a property management or whole-farm plan	60%	15%	48%	32%	45%
Do you identify as Aboriginal and/or Torres Strait Islander? (%Yes)	1%	5%	2%	0%	3%
What is the highest level of formal education you have completed?	Year 10 (11%), Year 12 (33%) tertiary (40%), vocational (12%)	Year 10 (27%), Year 12 (12%) tertiary (39%), vocational (20%)	Year 10 (14%), Year 12 (18%) tertiary (46%), vocational (18%)	Year 10 (11%), Year 12 (15%) tertiary (58%), vocational (9%)	Year 10 (18%), Year 12 (27%) tertiary (38%), vocational (14%)

* Denotes responses where n < 30.

2.3 LANDHOLDER GOALS

The following presents landholder responses to the question 'Please outline/list your main goal/s in relation to your property/farm.'

2.3.1 Farmer goals and values

A thematic review of stated goals among WB Farmers (full- and part-time) in WA, derived from an open-ended survey question, reveals a strong dual emphasis on profitability and long-term sustainability (Figure 12). Respondents frequently prioritised maintaining financial viability through productive grain, livestock, or mixed farming enterprises, alongside improving efficiency, infrastructure, and adapting to market and climatic conditions. Central to these goals is a consistent focus on soil health, including increasing soil organic carbon, improving fertility and enhancing resilience.

'Improve infrastructure, become financially sustainable, move to less labour-intensive practices, improve my production to match market demand, specifically, meeting market timing objectives better.'

Wheatbelt farmer

At the same time, environmental stewardship and intergenerational responsibility were deeply embedded, with many aiming to leave the land in better condition through practices such as biodiversity protection, salinity and erosion management, and adoption of sustainable/regenerative approaches.



Figure 12. Word cloud representation of responses of Wheatbelt (WB) Farmers to the question: 'Please outline/list your main goal/s in relation to your property/farm' (n = 69). Each word is emphasised in relation to the number of responses. Source: wordcloud.com.

In the SW of WA, results suggest a strongly production-focused system that was more explicitly integrated with diversified enterprise structures and regenerative land management practices (Figure 13). Core objectives centred on profitable livestock and mixed farming enterprises, particularly beef cattle and sheep production, alongside cropping and niche or value-added enterprises such as stud stock, viticulture and farm diversification, with many respondents emphasising financial viability, debt servicing and stable income generation under variable market and climatic conditions. These production goals were closely linked to efforts to improve

productivity through enhanced pasture management, and herd and genetic improvement, infrastructure upgrades and more efficient use of inputs. At the same time, environmental stewardship is a pervasive theme, with frequent references to improving soil health, increasing soil carbon, enhancing pasture resilience, protecting remnant vegetation, restoring waterways, and adopting regenerative practices such as rotational grazing, reduced chemical use and revegetation, reflecting a more tightly coupled relationship between ecological function and commercial farm performance.

SW farmer

Figure 13. Word cloud representation of responses of South-west (SW) of WA Farmers to the question: 'Please outline/list your main goal/s in relation to your property/farm' (n = 177). Each word is emphasised in relation to the number of responses. Source: wordclouds.com.

The goals expressed among Lifestylers (HFs and NFs) in the WB region highlight a strong emphasis on lifestyle, residential use and personal wellbeing (Figure 14). When answering the question 'Please outline/list your main goal/s in relation to your property/farm', many respondents described their properties as homes or retirement blocks, with goals focused on maintaining amenity (e.g. green lawns, firebreaks) and overall property condition. Environmental stewardship also emerged as a key theme, with aspirations centred on revegetation, biodiversity enhancement and habitat creation, often framed as improving ecological condition or creating a personal 'oasis.' These values are commonly integrated with low-intensity productive activities, such as growing vegetables or keeping animals (e.g. horses or sheep) for personal use rather than profit, alongside conservation-oriented practices including wildlife protection and chemical-free or organic land management.

2.4 LANDHOLDER VALUES

In addition to these qualitative responses, two ways of understanding what landholders value and their value-orientation are presented in this report. The first are guiding life principles, which indicate landholder value-orientation. Egoistic, altruistic and biospheric value orientations reflect differing motivations for undertaking behaviours associated with land management. Egoistic values prioritise personal benefits (e.g. health, finances), altruistic values emphasise the welfare of other people, and biospheric values focus on the intrinsic worth of nature and non-human species (de Groot & Steg, 2008).

2.4.1 Guiding principles

In the WB region, the importance of guiding principles in 2025 reveals a clear divergence between Farmers and Lifestylers, alongside a balanced overall profile. 'Respecting the earth and living in harmony with nature' emerged as the most important principle overall (71%), with particularly strong emphasis among Lifestylers (85%) compared to Farmers (64%) (Table 3). 'Creating wealth and striving for a financially profitable business' was also highly ranked overall (64%), but this was driven predominantly by Farmers (81%), while Lifestylers assigned considerably less importance (33%). These findings indicate that, particularly among Farmers, both environmental stewardship and financial viability are highly valued, suggesting that these priorities are not necessarily treated as oppositional or mutually exclusive. 'Caring for vulnerable people and correcting social injustice' occupies a moderate position overall (54%), again with stronger alignment among Lifestylers (65%) than Farmers (49%). In contrast, 'being influential and having an impact on people and events' was consistently the least important principle across all groups, with low levels of endorsement, indicating limited prioritisation of influence-oriented values within the region.

A similar pattern is evident in the results from the SW of WA, although with generally higher valuation of environmental and social principles across all landholder types. 'Respecting the earth and living in harmony with nature' was the dominant guiding principle (79% overall), with both Farmers (78%) and Lifestylers (85%) rating it highly, reinforcing its centrality across landholder identities. 'Creating wealth and striving for a financially profitable business' remained important overall (63%), though again there was a marked contrast between Farmers (73%) and Lifestylers (33%). These results indicate that, for many Farmers, profitability and stewardship are both important considerations in how land management is understood and prioritised. 'Caring for vulnerable people and correcting social injustice' was moderately valued across all groups (54% overall), with relatively minor variation between Farmers (52%) and Lifestylers (57%). As in the WB, 'being influential and having an impact on people and events' ranks lowest (28% overall), suggesting that personal or social influence was not a primary driver of landholder decision-making relative to environmental stewardship and economic viability.

Table 3. Importance of guiding principles of landholders overall, Farmers (full-time and part-time combined) and Lifestylers (hobby and non-farmers combined) in the Wheatbelt (WB) region (n = 136–137) and South-west (SW) of WA (n = 272–275). Means (out of 5) are given in brackets and orange shading highlights the top three values by percentage, with the darkest shade reflecting the most important principle.

Guiding principles	% Important/very important					
	WB Overall 2025	WB Farmers 2025	WB Lifestylers 2025	SW Overall 2025	SW Farmers 2025	SW Lifestylers 2025
Respecting the earth and living in harmony with nature	71% (3.9)	64% (3.8)	85% (4.3)	79% (4.2)	78% (4.1)	85% (4.4)
Caring for vulnerable people and correcting social injustice	54% (3.6)	49% (3.5)	65% (3.8)	54% (3.5)	52% (3.5)	57% (3.6)
Creating wealth and striving for a financially profitable business	64% (3.7)	81% (4.2)	33% (3.0)	63% (3.7)	73% (3.9)	33% (3.1)
Being influential and having an impact on people and events	22% (2.7)	24% (3.0)	23% (2.9)	28% (2.9)	29% (2.7)	24% (2.6)

2.4.2 Biospheric values

In the WB, biospheric values were strongly prioritised across all landholders, with 'the ability to pass on a healthier environment for future generations' (88%) emerging as the most important value, followed by 'an attractive place/area to live' and 'having a healthy landscape that grows food of the highest quality' (both 82%) (Table 4). Farmers placed relatively greater emphasis on production-oriented environmental values, such as soil productivity and food quality, whereas Lifestylers showed stronger alignment with ecological and amenity-based values, including the role of native vegetation and fauna in enhancing liveability. Values associated with belonging and connection to place were also important, though slightly less dominant, indicating that both environmental stewardship and lived experience shaped landholder perspectives in the region.

In the SW of WA, biospheric values were equally, if not more, prominent and this was expressed consistently across both Farmers and Lifestylers. 'An attractive place/area to live' (94%) was the most highly rated value, alongside 'the ability to pass on a healthier environment for future generations' (89%) and strong recognition of landscape health and biodiversity. Compared to the WB, Lifestylers in the SW demonstrated particularly high valuation of environmental and aesthetic attributes, especially those related to native vegetation and habitat provision. Overall, biospheric values in the SW reflected a strong convergence between production, lifestyle and conservation priorities.

2.4.3 Egoistic values

In the WB, egoistic values were highly influential, particularly among Farmers, and were strongly oriented towards economic viability and productive capacity. 'A sense of accomplishment from building/maintaining a viable business' (96%) and 'the productive value of the soil' (90%) were the most important values for Farmers, highlighting the centrality of commercial agriculture. Additional values, such as income generation, contribution to food and fibre production, and family wealth also ranked highly, reinforcing the economic framing of land management. In

contrast, Lifestylers placed considerably less importance on these financial and production-oriented values, instead showing greater alignment with lifestyle-oriented aspects, such as recreation.

Comparatively, in the SW of WA, egoistic values remained important overall but exhibited a similar divergence between Farmers and Lifestylers. Farmers placed strong emphasis on business viability (90%), soil productivity (87%) and producing food and fibre (83%), indicating continued prioritisation of economic and productive outcomes. However, Lifestylers assigned lower importance to income and wealth-related values, while placing relatively greater emphasis on non-commercial uses of land, particularly recreation. Compared to the WB, the SW of WA results show slightly more even engagement with egoistic values across landholder types, though clear distinctions between production and lifestyle motivations persist.

2.4.4 Altruistic values

In the WB, altruistic values were moderately to highly important, with 'a great place to raise a family' (81%) and 'my property is an important part of who I am' (77%) being the most prominent. These values highlight the social and identity-based dimensions of landholding, particularly among Farmers, who tended to rate these aspects more highly than Lifestylers. Opportunities for learning and community belonging were also valued, though to a lesser extent, suggesting that while social considerations were important, they were secondary to environmental and economic drivers in this region.

In the SW of WA, altruistic values were similarly prominent but demonstrated a slightly stronger and more consistent emphasis across all landholder types. Identity-based connections to property were particularly significant ('my property is an important part of who I am', 84%), alongside family-oriented values (78%) and opportunities for learning and community engagement. Farmers generally reported higher importance across most altruistic values, though Lifestylers also showed substantial alignment, particularly in relation to identity and lifestyle factors. Overall, the SW reflected a more cohesive integration of social, relational and lifestyle values within landholder perspectives.

Table 4. Importance of attached values of landholders overall, Farmers (full-time and part-time combined) and Lifestylers (hobby and non-farmers combined) in the Wheatbelt (WB) region (n = 110–122) and South-west (SW) of WA (n = 266–274). Means (out of 5) are given in brackets and orange shading highlights the top three values by overall percentage, with the darkest shade reflecting the most important principle.

Attached values	% Important/very important					
	WB Overall	WB Farmers	WB Lifestylers	SW Overall	SW Farmers	SW Lifestylers
BIOSPHERIC						
Ability to pass on a healthier environment for future generations	88% (4.2)	91% (4.4)	84% (4.1)	89% (4.4)	92% (4.4)	82% (4.2)
An attractive place/area to live	82% (4.2)	83% (4.1)	81% (4.3)	94% (4.5)	93% (4.5)	95% (4.4)
Having a healthy landscape that grows food of the highest quality	82% (4.0)	88% (4.2)	67% (3.6)	88% (4.3)	94% (4.4)	70% (3.8)
Provides a sense of belonging to a place	74% (4.1)	77% (4.1)	69% (4.0)	81% (4.1)	83% (4.2)	73% (3.9)
Its native vegetation provides habitat for birds and animals	74% (4.0)	68% (3.9)	85% (4.2)	84% (4.2)	84% (4.2)	90% (4.3)
Native plants and animals make the property an attractive place to live	69% (3.9)	60% (3.8)	89% (4.3)	76% (4.0)	75% (4.0)	81% (4.1)
EGOISTIC						
Sense of accomplishment from building/maintaining a viable business	81% (4.1)	96% (4.5)	41% (3.1)	78% (4.0)	90% (4.4)	44% (3.0)
The productive value of the soil on my property	80% (4.0)	90% (4.3)	55% (3.4)	81% (4.1)	87% (4.3)	59% (3.5)
An important source of household income	71% (3.8)	85% (4.2)	30% (2.5)	64% (3.7)	74% (4.1)	28% (2.6)
Sense of accomplishment from being a part of a positive change in farming	71% (3.8)	79% (4.1)	48% (3.3)	66% (3.8)	71% (4.0)	47% (3.2)
An asset that is an important part of family wealth	69% (3.9)	83% (4.3)	41% (3.2)	71% (3.9)	80% (4.1)	44% (3.2)
Sense of accomplishment from producing food and fibre for others	69% (3.7)	83% (4.2)	35% (2.7)	76% (3.9)	83% (4.1)	49% (3.2)
An asset that will fund my retirement	60% (3.6)	64% (3.7)	52% (3.3)	53% (3.5)	58% (3.7)	40% (3.0)
A place or base for recreation	58% (3.6)	53% (3.5)	75% (4.0)	61% (3.7)	61% (3.7)	70% (3.9)
ALTRUISTIC						
A great place to raise a family	81% (4.1)	88% (4.3)	63% (3.5)	78% (4.0)	83% (4.2)	62% (3.5)
My property is an important part of who I am	77% (4.1)	79% (4.2)	75% (4.2)	84% (4.2)	87% (4.3)	71% (3.9)
Provide opportunities to learn new things	74% (3.9)	77% (4.0)	70% (3.6)	74% (3.9)	80% (4.1)	60% (3.6)
Provides a sense of belonging to a community	69% (3.9)	72% (3.9)	62% (3.7)	67% (3.8)	69% (3.9)	58% (3.5)

3. COMPLEX DECISIONS IN FARMING AND LAND MANAGEMENT

3.1 LAND MANAGEMENT PRACTICES

3.1.1 Wheatbelt region

Farmers in the WB reported widespread adoption of core soil and pasture management practices over the past five years. High proportions maintained at least 70% groundcover in non-drought years (85%), tested soils to understand condition and nutrients (78%), applied synthetic fertilisers such as N, P, K and S (76%), and used minimum or no-tillage techniques (74%) (Figures 16 and 17). Many also prepared fertiliser budgets or plans for most of their property (66%), planted legumes (68%) and used time-controlled, cell or holistic grazing (76%), indicating strong emphasis on productivity, soil health and grazing efficiency. Lifestylers undertook these practices at much lower levels, with only 17% maintaining 70% groundcover, 13% testing soils and using synthetic fertilisers and 15% using minimum or no-till or planting legumes.

A second group of practices focused on longer-term resilience, pasture systems and revegetation. Among Farmers, 59% had sown perennial pastures, 54% had planted trees and shrubs (including direct seeding), and 54% had applied lime at least once to arable land. Half (51%) reported using farming practices they considered regenerative, 43% used multi-species pastures or cropping (more than three species), and 37% had fenced native bush, grasslands or waterways to manage stock access. For Lifestylers, adoption was again lower: 50% had applied lime at least once, but only 7% had planted trees and shrubs, 2% had sown perennial pastures, 17% reported regenerative practices, 13% used multi-species systems, and 11% had fenced native areas or waterways.

More specialised or emerging practices showed moderate uptake among Farmers, with limited use by Lifestylers. Among Farmers, 29% used integrated pest management, 28% applied biological soil supplements (such as compost tea or effluent), 27% used precision farming techniques, 26% improved waste management practices, and 18% undertook deep ripping or other deep soil amelioration. Lifestylers reported much lower engagement: 17% used integrated pest management, 7% applied biological supplements, 7% used precision farming, 7% improved waste management, and 15% used deep ripping or similar methods. Only 12% of Farmers used soil moisture monitoring, compared with 2% of Lifestylers, highlighting that real-time soil monitoring remained uncommon overall.

Climate and carbon-related or accredited alternative systems were adopted only by a small minority. Six per cent of Farmers reported participating in carbon farming under the Australian Carbon Credit scheme, and 2% farmed organically under an accredited scheme. Tree management trends were mixed: 16% of Farmers and 9% of Lifestylers encouraged or managed native grasses or grains to grow at scale, while 18% of Farmers and 13% of Lifestylers had removed an area of trees or shrubs in the past five years. Overall, the data show Farmers implementing a broad suite of conventional, regenerative and innovation-oriented practices at relatively high rates, with Lifestylers engaging more selectively and, in most cases, at much lower levels.

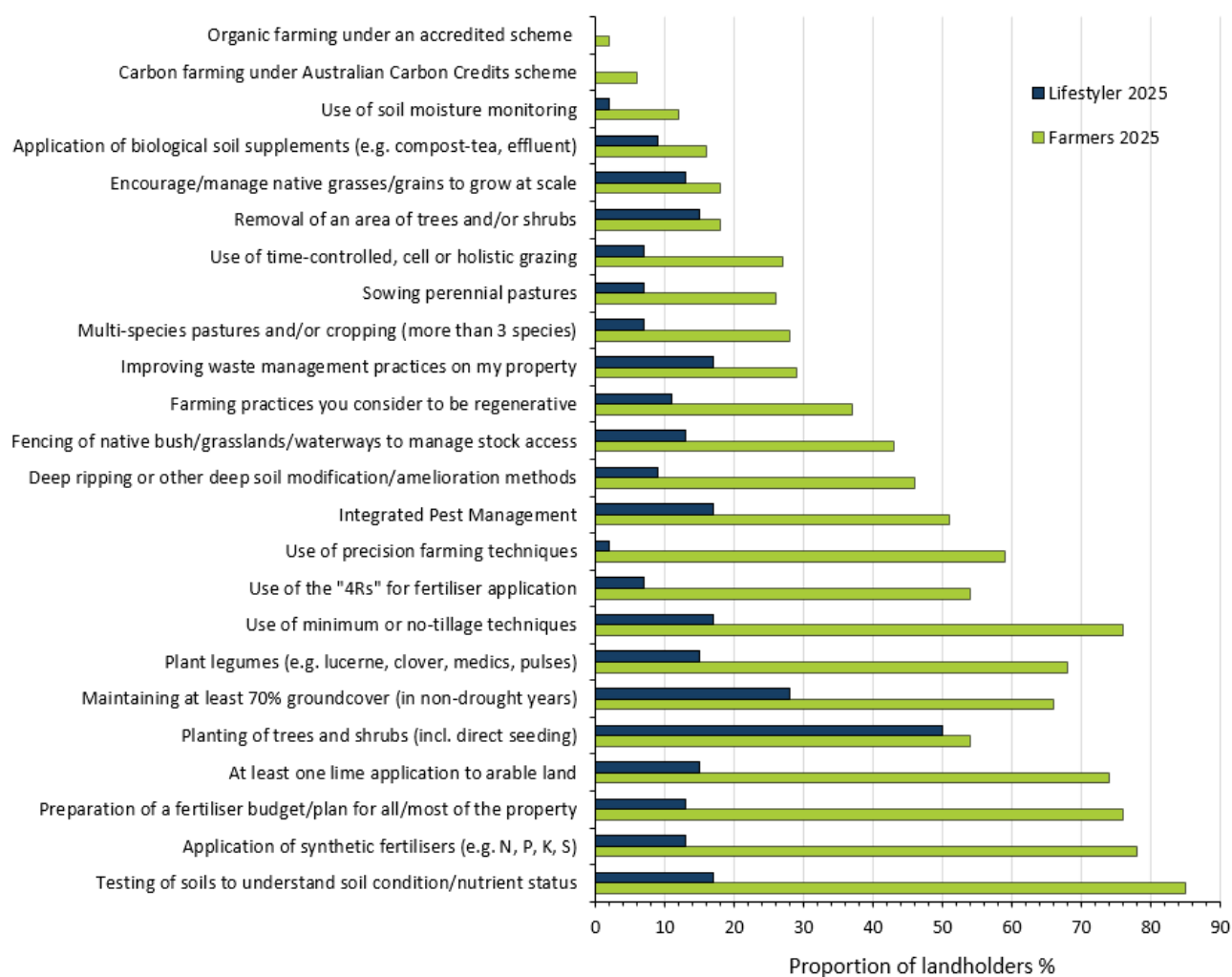


Figure 16. Practices implemented in the past five years by Farmers (full-time and part-time combined; n = 82) and Lifestylers (hobby and non-farmers combined; n = 46) in the Wheatbelt (WB) region.

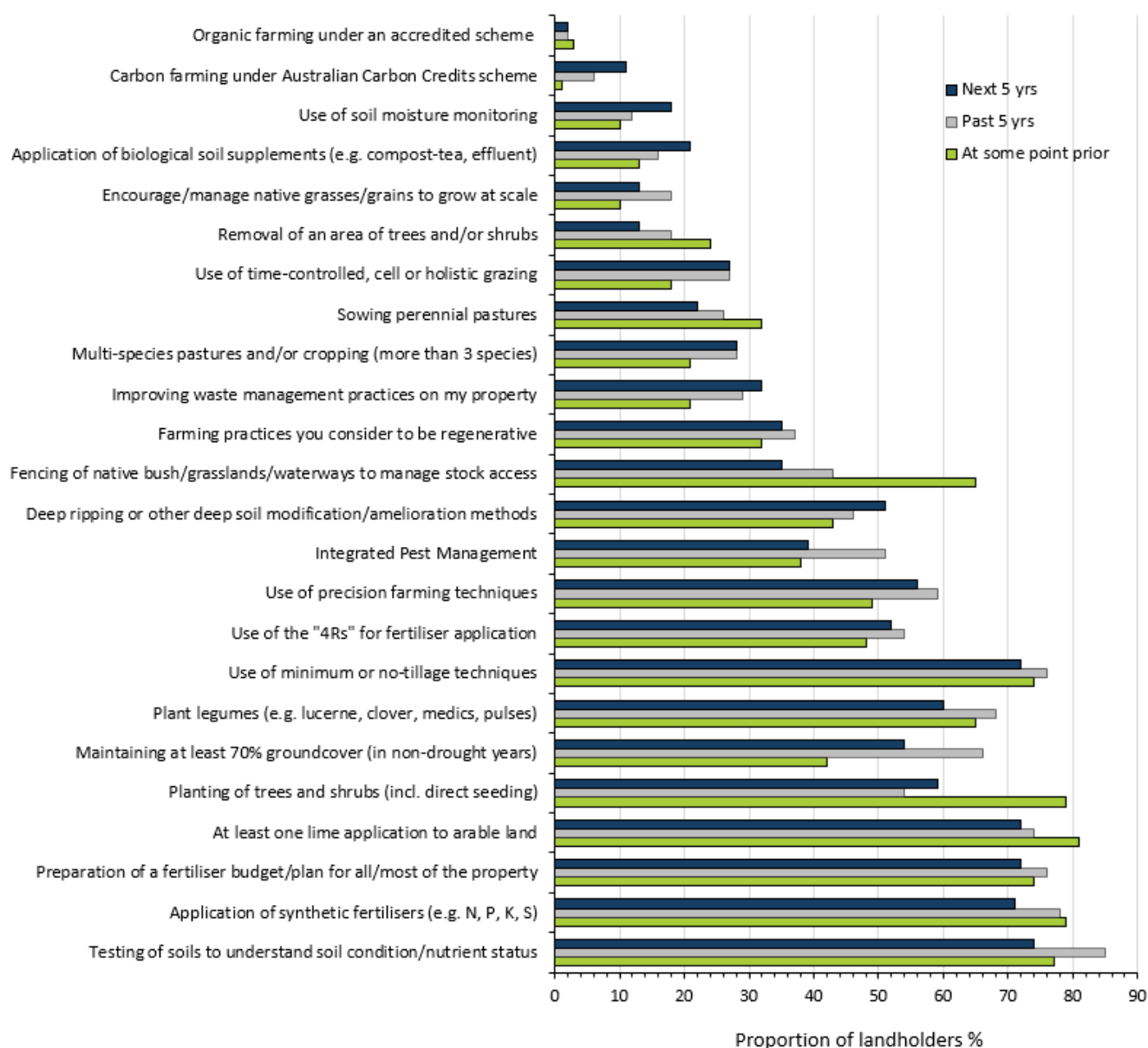


Figure 17. Practices implemented over time by Farmers (full-time and part-time combined; n = 82) in the Wheatbelt (WB) region.

3.1.2 South-west of WA

Farmers in the SW of WA reported high adoption of core productive land management practices over the past five years, with Lifestylers also reasonably active but at generally lower levels. Among Farmers, 68% maintained at least 70% groundcover in non-drought years and 68% tested soils to understand nutrient status, while 69% applied synthetic fertilisers and 52% used minimum or no-tillage (Figures 18 and 19). Lime application was common (61%), and 63% prepared a fertiliser budget or plan for all or most of their property. Lifestylers also engaged in these practices but less intensively, with 49% maintaining 70% groundcover, 38% testing soils, 26% applying synthetic fertilisers, 24% using minimum or no-till, 32% applying lime and 24% preparing a fertiliser plan.

Pasture, grazing and regenerative-oriented practices were widely used by Farmers and to a lesser extent by Lifestylers. Among Farmers, 54% planted legumes, 49% used time-controlled, cell or holistic grazing and 45% had sown perennial pastures. In addition, 42% reported farming practices they considered regenerative and 42% used multi-species pastures or cropping with more than three species. Lifestylers showed lower but still notable engagement: 15% planted

legumes, 25% used time-controlled or holistic grazing, 21% had sown perennial pastures, 29% reported regenerative practices and 14% used multi-species systems.

Environmental stewardship and biodiversity-related actions featured for both groups, though understandably Farmers rated higher in more technical aspects. Fencing of native bush, grasslands or waterways to manage stock access was implemented by 36% of Farmers and 26% of Lifestylers. Planting trees and shrubs (including direct seeding) was reported by 41% of Farmers and 42% of Lifestylers, one of the few practices where Lifestyler adoption slightly exceeded that of Farmers. Farmers also showed moderate uptake of integrated pest management (35%), biological soil supplements such as compost-tea or effluent (28%), and improving waste management (24%), while corresponding figures for Lifestylers were 15%, 18% and 11%.

More specialised or capital-intensive practices remained less common across both groups. Precision farming techniques were used by 24% of Farmers and 6% of Lifestylers, and deep ripping or other deep soil amelioration methods by 18% of Farmers and 8% of Lifestylers. Only small proportions encouraged or managed native grasses or grains at scale (8% of Farmers, 4% of Lifestylers), and soil moisture monitoring was rare (5% and 3% respectively). Engagement with formal carbon and organic schemes was very low, with 2% of Farmers participating in carbon farming under the Australian Carbon Credit scheme and 1% in accredited organic farming; Lifestylers reported 0% involvement in carbon farming and 1% in organic schemes.

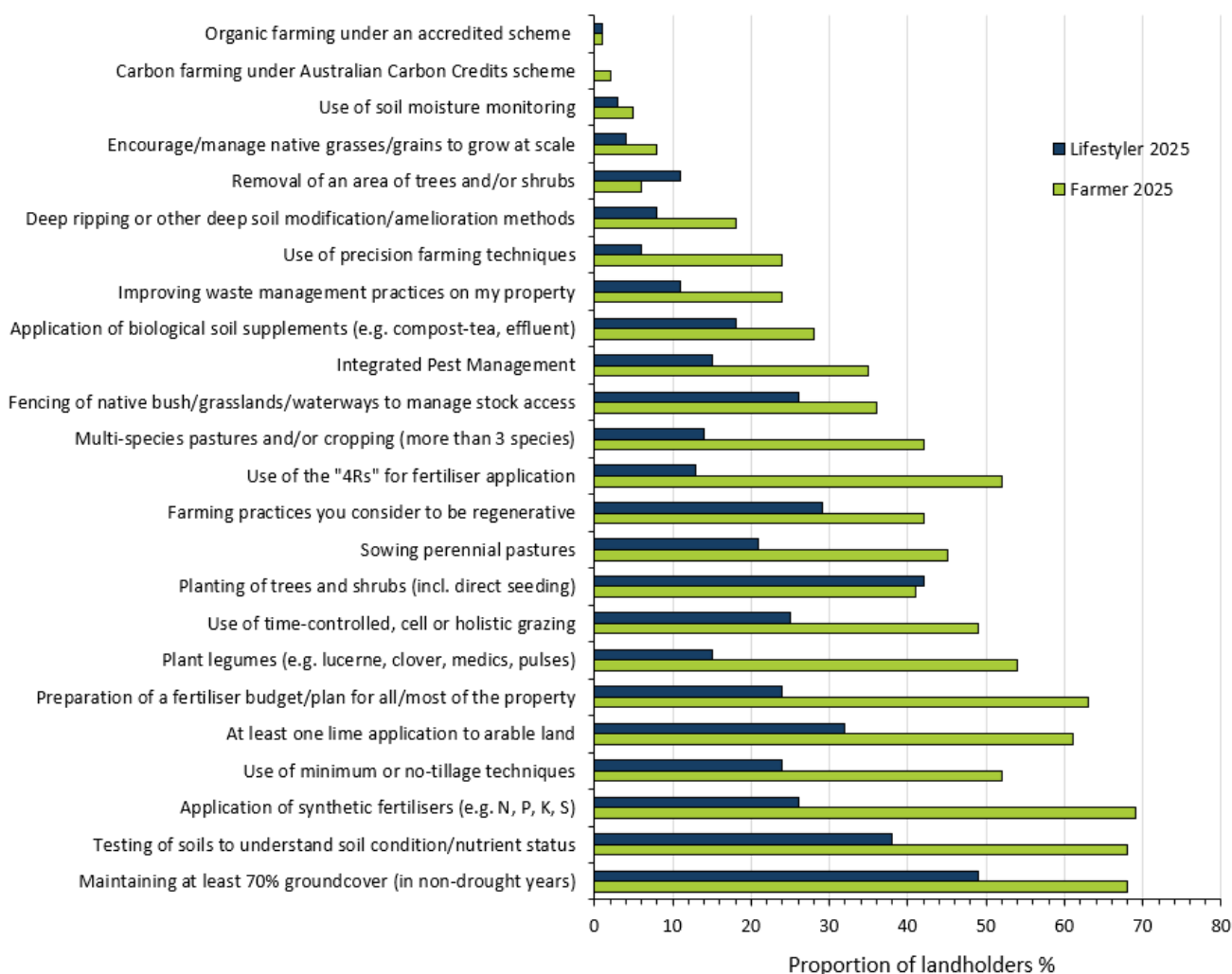


Figure 18. Practices implemented in the past five years by Farmers (full-time and part-time combined; n = 215) and Lifestylers (hobby and non-farmers combined; n = 72) in the South-west (SW) of WA.

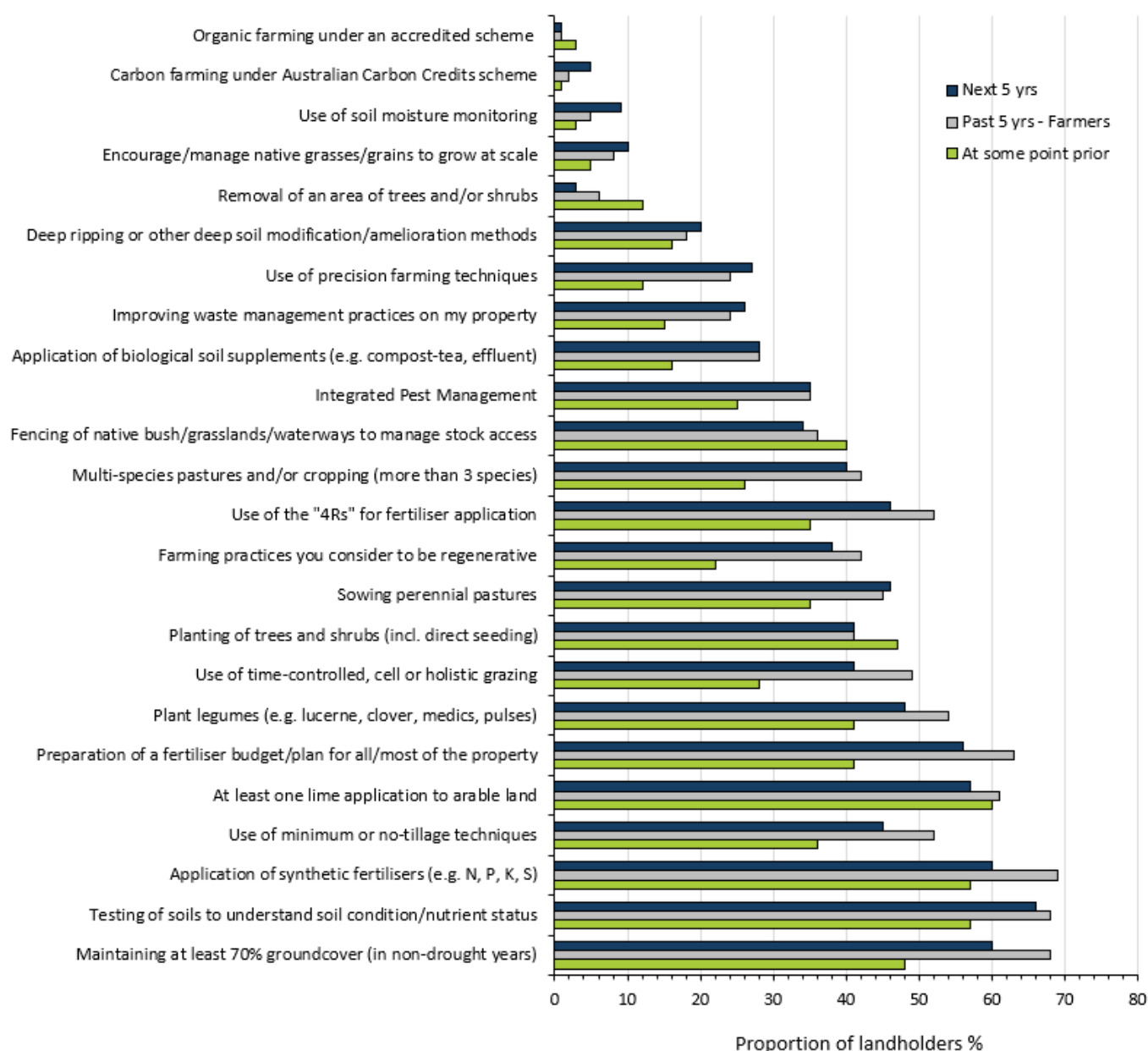


Figure 19. Practices implemented overtime by Farmers (full-time and part-time combined; n = 215) in the South-west (SW) of WA from the 2025 WA Landholder Survey (n = 306).

3.1.3 Synthetic inputs

In the WB region, relatively small proportions of landholders reported decreasing their use of synthetic fertiliser inputs per hectare, with fewer than one in five indicating a reduction overall (Table 5). Decreases in pesticide, herbicide, and fungicide use were somewhat more common, with approximately one-third of landholders reporting a decline in these inputs. Overall, while there was some evidence of movement towards reduced input use, the extent of change remained limited, particularly for fertiliser inputs.

In the SW of WA, reductions in synthetic fertiliser use were more widely reported, with over one-third of landholders indicating a decrease per hectare. Reductions in pesticide, herbicide, and fungicide inputs were even more prevalent, with close to half of landholders reporting decreased use. These findings suggest a broader uptake of input reduction practices in the SW, particularly in relation to chemical inputs, compared to fertiliser use.

Table 5. Synthetic fertiliser and chemical inputs used by landholders overall, Farmers (full-time and part-time combined) and Lifestylers (hobby and non-farmers combined) in the Wheatbelt (WB) region (n = 110–122) and the South-west (SW) of WA (n = 266–274). Means (out of 5) are given in brackets.

Statement	% Agree/strongly agree					
	WB Overall 2025	WB Farmers 2025	WB Lifestylers 2025	SW Overall 2025	SW Farmers 2025	SW Lifestylers 2025
Overall, I am decreasing my use of synthetic fertiliser inputs per hectare	19% (2.7)	17% (2.5)	23% (3.6)	37% (3.2)	39% (3.2)	36% (3.5)
Overall, I am decreasing my use of pesticide/herbicide/fungicide inputs per hectare	33% (3.0)	27% (2.7)	44% (4.0)	48% (3.6)	52% (3.6)	38% (3.6)

3.2 CONFIDENCE IN THE IMPLEMENTATION OF BEST PRACTICE

3.2.1 Wheatbelt region

In the WB region, confidence in core soil management practices was generally high, particularly among Farmers, with soil testing emerging as the most strongly endorsed practice (Table 6). A substantial majority of landholders agreed that soil testing was essential for understanding soil conditions and nutrient status, with particularly strong agreement among Farmers compared to Lifestylers. Similarly, practices such as fencing to manage stock access and the application of lime to address soil acidity were widely supported, again with notable divergence between Farmers and Lifestylers. Farmers consistently reported higher confidence in these production-oriented practices, reflecting their stronger engagement with commercial outcomes and agronomic decision-making.

Confidence in more management-intensive or longer-term practices in the WB was comparatively moderate to low, particularly among Lifestylers. While there was solid support for stubble retention and recognition of biological activity as an indicator of soil productivity, agreement declined for practices involving higher costs, complexity, or delayed returns, such as deep tillage, perennial pastures, and intensive grazing systems. Notably, there was limited confidence across all landholder groups in the justification of engaging in biodiversity or carbon markets. Overall, the results indicate a clear divide between Farmers and Lifestylers, with Farmers demonstrating greater alignment with established best practices, while Lifestylers exhibited more variable and often lower confidence across most measures.

Confidence in maintaining stubble

Of WB Farmers, 82% were confident that maintaining stubbles was worth the returns. The statistical analysis identified clear patterns within the modelling, as did the pairwise analysis. A strong model, with an R² value of 5.8, showed that in the WB the five factors working together with confidence in maintaining stubble were: feeling supported; concerns about changing weather patterns; using the Western Australian No-Tillage Farmers Association (WANTFA) as a key information source; having strong personal norms to care for their soil; and value grower groups for supporting local research and development. Similarly, robust models also showed a

strong association with use of the four Rs (4Rs) in fertiliser application, and having remnant or restored natural areas on their farms.

The pairwise analysis showed that confidence that maintaining stubble was worth the returns most strongly correlated with values Farmers attached to their farm and soil, including ability to pass on a healthier environment to future generations and being a part of positive change in farming. Other practices being implemented were growing oil seeds, planting perennial pastures, supporting native vegetation, maintaining groundcover, time-controlled grazing and using the 4Rs in fertiliser application. They were also more likely to consider their practices regenerative. Those maintaining stubble were concerned about a range of regional issues, including changing weather patterns, farm succession, river health and absence of regional services. They were more likely to be concerned about on-farm issues that included the impact of temperature extremes and water for livestock, low levels of organic carbon and compaction in soils.

Socially, there was a very strong trust in grower groups; they were viewed as a source of valued information while driving research priorities and were respondents likely to be members. They had strong trust in their NRM organisation, and were of a view that their local NRM organisation and grower group should play an advocacy role on their behalf. Field days, scientific literature, grower groups and WANTFA were deemed particularly important information sources for these growers, who often worked with property managers to make farming decisions. In terms of attitude, this group saw themselves as early adopters who were open to new ideas about farming and saw risks as a challenge to embrace. They also were of a view that it was a responsibility of landholders to manage their farms in expectation of a variable climate.

3.2.2 South-west of WA

In the SW region, confidence in best-practice land management is generally higher and more consistent across both Farmers and Lifestylers compared to the WB. Soil testing, fencing to manage stock access, and recognition of biological activity as a key indicator of soil productivity all received strong support across all landholder types (Table 6). Unlike the WB, Lifestylers in the SW demonstrated levels of confidence that are broadly comparable to Farmers, particularly in relation to environmental stewardship practices, such as fencing and soil health monitoring. This suggests a more cohesive understanding of land management principles across the broader landholder population in this region.

Furthermore, SW landholders show stronger confidence in practices that involve longer-term trade-offs or system changes, such as accepting short-term production losses for long-term gains and the adoption of intensive grazing strategies. Support for perennial pastures was also notably higher than in the WB, indicating greater acceptance of systems that prioritise sustainability and resilience. However, confidence in biodiversity and carbon market participation remained low across all groups. Overall, the SW displayed a more unified and progressive orientation towards best-practice land management, with less pronounced differences between Farmers and Lifestylers and stronger endorsement of both productivity and sustainability-focused practices.

Confidence in maintaining stubble

Of SW Farmers, 40% were confident that maintaining stubbles was worth the returns. The pairwise analysis showed that confidence in maintaining stubble positively correlated with Farmers found on larger farms who highly valued the production of high-quality food in a healthy landscape, on a farm they regarded as a great place to raise a family.

These Farmers were involved mostly in cereal or oil cropping. They highly valued their soils and felt a strong sense of belonging to their land and community. There was a very strong trust in

grower groups; they viewed them as a source of valued information while driving research priorities and were likely to be a member. They were also likely to be of a view that their local NRM organisation should play an advocacy role on their behalf.

Their associated practices were deep ripping and they regarded this as a useful practice. They were more likely to have been implementing multi-species pastures, applying biological supplements and micronutrients to their soil (particularly magnesium, potassium and calcium), and avoiding fertiliser application in unfavourable weather. They reported sound knowledge of processes impacting soil health and structure, as well as how to undertake data-based fertiliser strategies, plant legumes, and they understood the role of on-farm biology for supporting soil and landscape health. Typically, they had been undertaking no-till farming for a longer period and considered themselves to be early adopters. Their preferred information sources were podcasts, grower groups, field days and commercial agronomists. They were likely to have family working with them on the farm, a little more time for farm planning, with future planning having a strong reinvestment focus on the farm. There was a weaker but still significant link with human-induced climate change.

The modelling identified a similar trend to the WB Farmers, highly valuing their soils, growing high-quality food, being in a grower group, and viewing one's-self as an early adopter, with an R^2 of 4.6. Gender was also a factor, with women Farmers slightly more likely to maintain stubble, however, the strongest correlation was with couples managing the farm together, who were significantly less likely to be maintaining stubble.

A lack of confidence in maintaining stubble correlated with experiencing negative secondary amelioration impacts, experiencing soil-borne diseases and using TV as a source of information about farming and land management. Females had significantly more confidence in the value of maintaining stubble than their male counterparts.

Engaging in waste recirculation on-farm

The modelling showed that Farmers in the southwest regions engaging in on-farm waste management tended to be younger Farmers who viewed their properties as a place to learn new things, were concerned about soil carbon levels, spread their own fertiliser and had good trust in their local natural resource management organisation ($R^2 = 0.48$). In the WB, Farmers engaged in waste recirculation projects, had high reported knowledge of soil carbon and gained their information from commodity groups, had a successor in place, had sufficient time to try new things, and saw a strong path to market for their produce ($R^2 = 0.72$).

Table 6. Confidence in best practice of landholders overall, Farmers (full-time and part-time combined) and Lifestylers (hobby and non-farmers combined) in the Wheatbelt (WB) region (n = 130–135) and South-west (SW) of WA (n = 266–279). Means (out of 5) are given in brackets and orange shading highlights the top three values by percentage, with the darkest shade reflecting the most important value.

Confidence Statement	% Agree/strongly agree					
	WB Overall 2025	WB Farmers 2025	WB Lifestylers 2025	SW Overall 2025	SW Farmers 2025	SW Lifestylers 2025
Soil testing is an essential step in understanding soil condition/nutrient status	82% (4.5)	95% (4.5)	57% (4.1)	88% (4.5)	90% (4.5)	84% (4.4)
Fencing to manage stock access is an essential element of protecting waterways, soil and native vegetation	71% (4.4)	73% (4.3)	69% (4.5)	88% (4.5)	91% (4.5)	81% (4.5)
The costs of applying lime to balance soil acidity is justified by increased production	70% (4.3)	88% (4.4)	35% (3.7)	78% (4.2)	85% (4.2)	57% (4.0)
The benefits of stubble retention outweigh problems arising from the practice	69% (4.2)	82% (4.3)	44% (4.0)	37% (4.0)	40% (4.1)	29% (3.7)
Biological activity is an important indicator of the productive capacity of soils	62% (4.0)	73% (4.0)	46% (3.9)	83% (4.3)	82% (4.3)	84% (4.3)
Reduced production in the short-term is justified where there are long-term benefits	56% (3.7)	61% (3.7)	49% (3.9)	76% (4.0)	79% (4.0)	71% (3.9)
Grower groups are the best way to drive and direct local research, development and extension	54% (3.8)	64% (3.7)	35% (3.7)	49% (3.6)	53% (3.6)	35% (3.5)
The cost of deep tillage and subsoil modification are justified by the benefits	53% (3.9)	63% (3.9)	30% (3.6)	24% (3.3)	27% (3.4)	13% (3.0)
Pathway to market for my produce is clear	46% (3.5)	63% (3.6)	16% (3.1)	58% (3.5)	68% (3.6)	29% (3.2)
Intensive grazing for short periods is usually better than set stocking	45% (3.8)	55% (3.8)	28% (3.6)	76% (4.2)	81% (4.3)	59% (3.8)
The costs of establishing perennial pastures are justified by the returns	32% (3.4)	36% (3.4)	23% (3.4)	54% (3.8)	53% (3.7)	52% (3.8)
I'm confident that adopting regenerative/ holistic farming practices is justified by the returns	29% (3.2)	24% (2.9)	37% (3.9)	47% (3.6)	46% (3.5)	52% (3.9)
Engaging in biodiversity/carbon markets is justified by the returns	10% (2.8)	7% (2.7)	14% (3.1)	11% (2.8)	12% (2.8)	12% (3.0)

3.3 KNOWLEDGE OF CURRENT RECOMMENDED PRACTICE

3.3.1 Knowledge of the farm system

Wheatbelt region

In the WB, Farmers consistently reported higher levels of self-assessed knowledge across most topics compared with Lifestylers, with the strongest areas of knowledge concentrated in core farm management and production practices. The highest levels of knowledge among Farmers related developing farm or property plans based on land class and soil characteristics (84%), preparing for extreme weather events (79%), and integrating legumes or pulses into enterprise systems (79%) (Table 7). These results indicate a strong foundation in risk preparedness and production-oriented decision-making.

Environmental and natural resource management knowledge in the WB followed a similar pattern, with Farmers reporting moderate levels of understanding across topics such as remnant vegetation, nutrient run-off, wetlands, and biodiversity (generally between 54% and 61%). Farmers' knowledge of more specialised or emerging areas, including holistic or regenerative agriculture, grazing strategies, natural capital accounting, and market-based environmental mechanisms, was relatively low, as was knowledge relating to Indigenous land management and pre-European land.

South-west of WA

In the SW of WA, Farmers similarly reported understandably higher levels of knowledge than Lifestylers. Farmers demonstrated strong knowledge in preparing for extreme weather events (79%), farm planning (67%), and integrating legumes or pulses (63%), reflecting a solid base in both risk management and production systems (Table 7). Lifestylers reported lower levels of knowledge in these areas, particularly for legumes or pulses (12%) and farm planning (32%).

Environmental knowledge was relatively strong among SW Farmers, particularly in relation to nutrient run-off (73%) and the role of wetlands and native vegetation in water filtration (63%), indicating a high level of awareness of water quality and landscape processes. Both groups showed low levels of knowledge in areas such as Indigenous land history, native grass persistence, natural capital accounting, and market-based environmental mechanisms, indicating consistent knowledge gaps across regions.

Table 7. Self-assessed sound or very sound knowledge of landholders overall, Farmers (full-time and part-time combined) and Lifestylers (hobby and non-farmers combined) in the Wheatbelt (WB) region (n = 123–126) and South-west (SW) of WA (n = 279–290). Means (out of 5) are given in brackets and orange shading highlights the top three values by percentage, with the darkest shade reflecting the most important value.

Knowledge topic	% Sound/very sound					
	WB Overall 2025	WB Farmers 2025	WB Lifestyle 2025	SW Overall 2025	SW Farmers 2025	SW Lifestyle 2025
How to prepare my farm and family for an extreme weather event such as fire, flood or drought	64% (3.9)	79% (4.1)	40% (3.5)	70% (3.9)	79% (4.1)	44% (3.5)
Preparing a farm/ property plan, allocating land use according to land class/soil characteristics	63% (3.8)	84% (4.3)	27% (2.7)	57% (3.7)	67% (3.9)	32% (3.1)
How to (re)introduce more legumes/pulses into your enterprise mix	58% (3.6)	79% (4.1)	21% (2.5)	50% (3.4)	63% (3.7)	12% (2.5)
The role of remnant vegetation/understorey plants in supporting the natural ecosystem	50% (3.5)	61% (3.9)	33% (3.0)	52% (3.6)	54% (3.6)	47% (3.5)
The influence of nutrient run-off on the quality of water in rivers/wetlands	46% (3.4)	59% (3.8)	23% (2.7)	67% (3.8)	73% (3.9)	48% (3.5)
The role of wetlands and native vegetation for filtering water entering rivers, lakes or streams	41% (3.4)	54% (3.7)	23% (3.0)	59% (3.7)	63% (3.8)	52% (3.6)
The role of on-farm biodiversity for supporting soil and landscape health	41% (3.3)	55% (3.6)	20% (2.7)	40% (3.3)	44% (3.3)	31% (3.0)
The '4Rs' of nutrient management, i.e. right source, rate, time and place of fertiliser applications	40% (3.2)	55% (3.7)	16% (2.1)	49% (3.4)	60% (3.7)	17% (2.5)
Options and strategies to (re)establish perennial pastures (e.g. Lucerne/native grasses) in this area	37% (3.1)	49% (3.6)	13% (2.3)	32% (3.1)	37% (3.3)	12% (2.4)
Holistic farm management and/or regenerative agriculture	27% (2.9)	33% (3.1)	20% (2.6)	36% (3.1)	41% (3.3)	21% (2.7)
The use of time-controlled, holistic or cell grazing strategies	25% (2.8)	32% (3.2)	15% (2.3)	48% (3.4)	56% (3.6)	27% (2.8)
How land in your district was used and managed before European settlement	21% (2.4)	21% (2.5)	22% (2.3)	17% (2.3)	19% (2.4)	12% (2.2)
The Aboriginal group/s who are connected to the area where your property is located	18% (2.5)	19% (2.6)	20% (2.5)	15% (2.2)	16% (2.2)	15% (2.1)
How to support the persistence of native grasses in this area	16% (2.5)	18% (2.7)	15% (2.2)	15% (2.5)	19% (2.7)	6% (2.2)
Natural capital accounting/environmental, social and governance reporting	15% (2.3)	22% (2.6)	5% (1.8)	13% (2.2)	14% (2.3)	8% (1.9)
Market mechanisms providing funds to support the building of carbon and/or biodiversity	14% (2.4)	21% (2.7)	3% (1.8)	10% (2.1)	10% (2.2)	11% (1.9)

3.3.2 Knowledge of soil processes and management

Wheatbelt

In the WB, Farmers reported consistently high levels of self-assessed knowledge across core soil management topics, particularly those directly related to productivity and risk mitigation. The strongest areas of knowledge included maintaining ground cover to minimise erosion (90%), using soil testing to inform planning (86%), identifying key soil constraints (84%), and applying appropriate strategies to address these constraints (82%) (Table 8). These findings indicate a well-developed understanding of practical soil management among Farmers, especially in relation to maintaining productivity and responding to site-specific limitations.

Knowledge related to soil processes and emerging or more complex aspects of soil health was comparatively lower in the WB. Around three-quarters of Farmers reported sound knowledge of processes leading to declining soil health (78%), while just over half reported knowledge of building soil organic matter (54%) and understanding soil carbon and microbiology (49%). Overall, the results suggest that WB Farmers have strong capabilities in conventional soil management but show more limited knowledge of biological and soil health-focused approaches.

South-west of WA

SW of WA, Farmers demonstrated strong knowledge across key soil management areas, such as maintaining ground cover (79%), using soil testing (72%), identifying soil constraints (66%), and implementing appropriate management strategies (64%) (Table 8). Farmers reported moderate levels of knowledge in areas such as declining soil health processes (65%), building soil organic matter (58%), and soil carbon and microbiology (51%). Knowledge of biological soil supplements was higher in the SW of WA than in the WB for both Farmers (49%) and Lifestylers (36%). Despite this, gaps remain across both groups in more advanced or emerging soil management practices.

Table 8. Self-assessed sound or very sound soil knowledge of landholder overall, Farmers (full-time and part-time combined) and Lifestylers (hobby and non-farmers combined) in the Wheatbelt (WB) region (n = 124–129) and South-west (SW) of WA (n = 283–287). Means (out of 5) are given in brackets and orange shading highlights the top three values by percentage, with the darkest shade reflecting the most important value.

Knowledge topic	% Sound/very sound					
	WB Overall 2025	WB Farmers 2025	WB Lifestylers 2025	SW Overall 2025	SW Farmers 2025	SW Lifestylers 2025
Strategies to maintain ground cover to minimise erosion in your area	69% (3.9)	90% (4.3)	35% (3.2)	70% (4.0)	79% (4.1)	42% (3.4)
How to use soil testing to inform planning to maximise soil productivity (e.g. a nutrient budget)	65% (3.8)	86% (4.3)	26% (2.8)	60% (3.7)	72% (4.0)	29% (3.0)
How to identify the main constraints to soil productivity on your property	64% (3.7)	84% (4.2)	28% (2.7)	55% (3.5)	66% (3.8)	25% (2.8)
Appropriate strategies and tools to address soil constraints on your property	63% (3.6)	82% (4.0)	29% (2.7)	51% (3.5)	64% (3.7)	18% (2.7)
The processes leading to declining soil health or structure in your area	59% (3.6)	78% (4.1)	29% (2.7)	56% (3.6)	65% (3.8)	33% (3.0)
How to build soil organic matter/soil carbon	45% (3.4)	54% (3.7)	31% (3.0)	52% (3.4)	58% (3.6)	36% (3.0)
The role of soil carbon/ microbiology (e.g. bacteria & fungi) in soil health	40% (3.3)	49% (3.5)	27% (2.8)	45% (3.3)	51% (3.4)	33% (3.0)
The benefits of applying biological soil supplements (e.g. compost, manure, microbial inoculants)	34% (3.2)	34% (3.3)	35% (3.2)	46% (3.3)	49% (3.4)	36% (3.1)

3.4 ATTITUDINAL AND CAPACITY FACTORS

Attitudinal and capacity-related indicators highlight a generally strong sense of stewardship among landholders, alongside more variable perceptions of economic performance, wellbeing, and engagement with knowledge networks. Across both regions, high levels of agreement are evident for statements relating to personal responsibility for maintaining soil productivity and confidence in land condition over time. These findings suggest that landholders broadly perceived themselves as active custodians of their land, with a strong orientation towards sustaining or improving its productive capacity.

At the same time, attitudes relating to profitability, stress management, and participation in collective learning structures such as grower groups were more moderate. While a majority of landholders reported satisfaction with profitability in most years and indicated that they were coping with the challenges of farm management, these responses were less uniformly positive. Interest in regenerative or holistic farming approaches were also evident, though not universal.

indicating a degree of openness to alternative practices alongside more conventional management frameworks.

3.4.1 Landholder attitudes

Wheatbelt region

In the WB region, landholder attitudes were strongly characterised by a high level of personal responsibility towards maintaining soil productivity, with a substantial majority expressing agreement with this statement. Similarly, a large proportion of landholders reported confidence that their land was in better condition than when they commenced management, indicating positive perceptions of land stewardship outcomes over time. These attitudes point to a strong alignment between land management practices and a sense of long-term responsibility for land condition.

In contrast, attitudes relating to profitability and capacity to manage stress were more moderate, with just over half of landholders expressing satisfaction with farm profitability in most years and a similar proportion indicating that they were coping well with associated challenges. Engagement with local grower groups was less widely reported, with under half of respondents indicating a sense of responsibility to participate in such networks. Interest in learning more about regenerative or holistic farming approaches was present but not dominant, suggesting that while some landholders were exploring alternative practices, uptake of these ideas remains varied.

South-west of WA

In the SW of WA, landholder attitudes similarly reflected a strong sense of stewardship, with very high levels of agreement regarding personal responsibility to maintain soil productivity. Confidence in land condition was also widely reported, with a clear majority indicating that their land was in better condition than when they assumed management. These responses suggest a broadly positive outlook on land management outcomes and an enduring commitment to maintaining productive and sustainable systems.

Attitudes towards profitability and capacity to manage stress were moderately positive, with over half of landholders expressing satisfaction with farm profitability in most years and a notable majority indicating that they were coping well with the demands of farm management. Participation in local grower groups was less prominent, with fewer than half of respondents identifying a personal responsibility to engage in these networks. Interest in regenerative or holistic farming approaches was relatively strong compared to other attitudinal measures, indicating a growing openness to alternative or adaptive management strategies within the region.

Table 9. Attitudes of Landholders overall, Farmers (full-time and part-time combined) and Lifestylers (hobby and non-farmers combined) in the Wheatbelt (WB) region (n = 133–136) and South-west (SW) of WA (n = 275–279). Means (out of 5) are given in brackets and orange shading highlights the top three attitudes by percentage, with the darkest shade reflecting the most important value.

Landholder attitudes	% Agree/strongly agree					
	WB Overall 2025	WB Farmers 2025	WB Lifestylers 2025	SW Overall 2025	SW Farmers 2025	SW Lifestylers 2025
I feel a personal responsibility to maintain the productive capacity of my soil	83% (4.5)	95% (4.6)	60% (4.2)	94% (4.6)	97% (4.7)	85% (4.4)
I'm confident that my land is in a better condition than when I took on the management of this farm	81% (4.5)	94% (4.5)	59% (4.5)	85% (4.3)	90% (4.5)	68% (3.9)
Most years I'm satisfied with my farm's profitability given the seasonal conditions experienced	58% (3.8)	77% (3.9)	19% (3.1)	57% (3.5)	63% (3.5)	37% (3.3)
I am coping well with the associated stresses and challenges of managing my farm	57% (3.8)	71% (3.8)	30% (3.7)	68% (3.7)	72% (3.7)	60% (3.8)
I feel a personal responsibility to be part of a local grower group (for research and development)	48% (3.6)	65% (3.7)	16% (3.3)	43% (3.4)	51% (3.5)	24% (3.1)
I am interested in learning more about regenerative/holistic farming approaches	44% (3.5)	46% (3.3)	48% (4.1)	52% (3.6)	51% (3.5)	57% (3.8)

3.4.2 Risk and change

Wheatbelt region

In the WB, openness to new ideas about farming and land management was a dominant theme, particularly among Farmers. A very high proportion of WB Farmers (95%) reported being open to new ideas (Table 10), indicating a strong orientation towards innovation within this group. At the same time, moderate levels of social trust were evident, with 76% of Farmers agreeing that most people are trustworthy. Notably, over half of WB Lifestylers (51%) agreed that people are primarily motivated by their own welfare, indicating a more cautious or sceptical social outlook within this group.

Capacity to engage in risk-taking and experimentation in the WB varied markedly between landholder types. Farmers were more likely to report having the financial capacity to take risks (59%) and sufficient time to experiment (48%), indicating comparatively stronger conditions for on-farm innovation and trialling of new practices. In terms of risk orientation, around half of WB Farmers indicated that they were early adopters (54%) or viewed risks as a challenge (50%), while lower proportions of Lifestylers reported similar attitudes. Caution was evident among Farmers, with 58% indicating that they preferred to see local success before adopting new practices.

Despite this, relatively few respondents expressed resistance to change, suggesting that when risk is approached cautiously, there remains a general willingness to adapt.

South-west of WA

High levels of openness to new ideas were observed across both Farmers and Lifestylers. A large majority of Farmers (94%) and a substantial proportion of Lifestylers (88%) reported being open to new approaches, indicating a broadly receptive environment for innovation across landholder types (Table 10). Social trust was moderate and relatively consistent between groups, with 64% of Farmers and 60% of Lifestylers agreeing that most people are trustworthy.

Patterns of risk capacity and behaviour also revealed differences between Farmers and Lifestylers. Around half of Farmers reported having the financial capacity (54%) and time (48%) to take risks and experiment, while slightly lower proportions of Lifestylers reported similar capacities (47% and 42%, respectively). Farmers were more likely to identify as early adopters (42%) compared with Lifestylers (28%), and similar proportions of Farmers indicated that they viewed risks as challenges (44%). Many landholders preferred to see evidence of local success before adopting new practices, though this tendency was somewhat less pronounced. Overall, the findings suggest that while openness to innovation is high, adoption behaviours are shaped by a balance between willingness to experiment and a pragmatic, evidence-based approach to managing risk.

Table 10. Risk and openness views of landholders overall, Farmers (full-time and part-time combined) and Lifestylers (hobby and non-farmers combined) in the Wheatbelt (WB) region (n = 115–126) and South-west (SW) of WA (n = 271–278). Means (out of 5) are given in brackets and orange shading highlights the top three values by percentage, with the darkest shade reflecting the most important value.

Risk and openness to change	% Agree/strongly agree					
	WB Overall 2025	WB Farmers 2025	WB Lifestyle 2025	SW Overall 2025	SW Farmers 2025	SW Lifestyle 2025
I am open to new ideas about farming and land management	83% (4.1)	95% (4.2)	68% (3.9)	92% (4.1)	94% (4.2)	88% (4.0)
Most people are trustworthy	67% (3.6)	76% (3.7)	55% (3.4)	63% (3.5)	64% (3.5)	60% (3.4)
Financially, I can afford to take a few risks and experiment with new ideas	44% (3.2)	59% (3.5)	24% (2.7)	52% (3.3)	54% (3.3)	47% (3.1)
I prefer to see evidence of local success before trying a new practice	53% (3.3)	58% (3.3)	36% (3.1)	43% (3.1)	45% (3.1)	38% (3.1)
I am usually an early adopter of new ag practices and technology	43% (3.3)	54% (3.4)	25% (3.1)	39% (3.2)	42% (3.2)	28% (3.0)
I usually view risks as a challenge to embrace	45% (3.3)	50% (3.4)	39% (3.3)	44% (3.2)	44% (3.2)	37% (3.1)
I have sufficient time available to take a few risks and experiment with new ideas	40% (3.1)	48% (3.3)	32% (2.9)	46% (3.1)	48% (3.2)	42% (3.1)
I prefer to avoid risks	40% (3.1)	38% (3.0)	38% (3.2)	38% (3.0)	36% (2.9)	44% (3.2)
People are almost always interested only in their own welfare	39% (3.1)	31% (2.9)	51% (3.4)	39% (3.1)	41% (3.2)	34% (3.1)
This may not be the best farm around, but I see no reason to change	22% (2.6)	23% (2.5)	21% (2.7)	24% (2.5)	21% (2.4)	29% (2.6)

3.5 FARM MANAGEMENT FACTORS

3.5.1 Strategic decision-making

Wheatbelt region

Strategic decision-making among WB landholders was primarily influenced by medium-term planning horizons, particularly among Farmers. The most commonly reported timeframe for WB Farmers was approximately five years (46%), indicating a strong emphasis on medium-term strategic planning (Figure 20). This was followed by longer-term horizons of approximately twenty years (29%), while a smaller proportion reported making decisions primarily on a year-to-year basis (14%). Opportunistic and seasonal timeframes were relatively uncommon among Farmers (5% each), suggesting that most FTFs and PTFs in the WB adopt a more structured and forward-looking approach to strategic decisions.

In contrast, WB Lifestylers displayed a greater tendency towards shorter or less structured decision-making timeframes. Year-to-year planning was the most commonly reported timeframe (24%), followed closely by opportunistic decision-making (21%) and five-year horizons (24%). Longer-term planning was less prevalent among this group, with 16% indicating approximately twenty-year horizons and a small minority (5%) reporting timeframes of one hundred years or longer. These results suggest that while WB Farmers tended to emphasise medium- to long-term strategic planning, Lifestylers were more likely to rely on shorter or more flexible decision-making approaches.

South-west of WA

In the SW region of WA, Farmers similarly demonstrated a strong emphasis on medium-term strategic planning. Approximately five years was the most frequently reported timeframe influencing decision-making (41%), followed by year-to-year planning (27%) and longer-term horizons of approximately twenty years (17%) (Figure 20). Opportunistic and seasonal decision-making were reported less frequently among Farmers (4% and 6% respectively), indicating that most Farmers in the region tended to base strategic decisions on structured planning over multiple years rather than short-term or reactive approaches.

SW Lifestylers, however, showed a broader distribution of decision-making timeframes. Year-to-year planning was the most common (28%), followed by five-year horizons (34%). Seasonal decision-making was also relatively prominent (12%), while opportunistic decision-making was less common (3%). Long-term planning horizons of approximately twenty years were reported by 16% of Lifestylers, and a small proportion (6%) indicated decision-making timeframes of one hundred years or more.

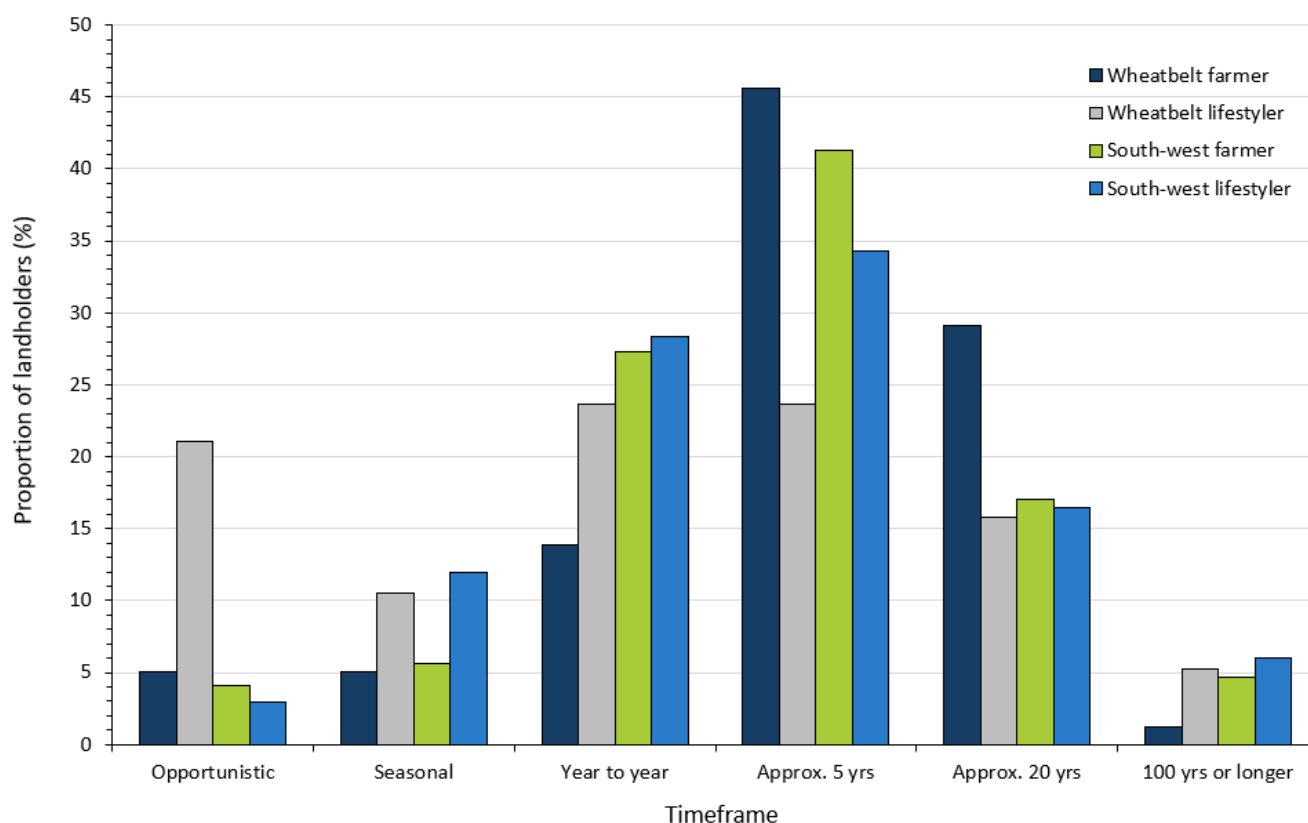


Figure 20. Timeframes that influence strategic decision-making for Farmers (full-time and part-time combined) and Lifestylers (hobby and non-farmers combined) in the Wheatbelt region (n = 125) and the South-west of WA (n = 280).

3.5.2 The decision-making team and process

Wheatbelt region

A comparison of key decision-making roles on properties in the WB region shows that ownership was the dominant influence for both Farmers and Lifestylers, with very high levels of owner involvement (94% for Farmers and 92% for Lifestylers) (Figure 21). Beyond this shared foundation of ownership, however, decision-making structures diverged substantially between the two groups. Among WB Farmers, decision-making was more widely distributed across family members and professional advisory networks, with relatively high involvement of spouses (40%), other family members (30%), agricultural consultants (39%), and financial advisers or accountants (30%), indicating a more complex governance structure supported by both technical and financial expertise.

South-west of WA

The SW of WA showed a similar pattern of owner dominance. Beyond ownership, SW Farmers exhibited a more structured and formally supported decision-making environment, with comparatively higher involvement of boards (38%), spouses (13%), children (12%), and other family members (10%), as well as contributions from property managers (7%), agricultural consultants (5%), and finance advisers or accountants (2%), reflecting more complex enterprise governance arrangements (Figure 21).

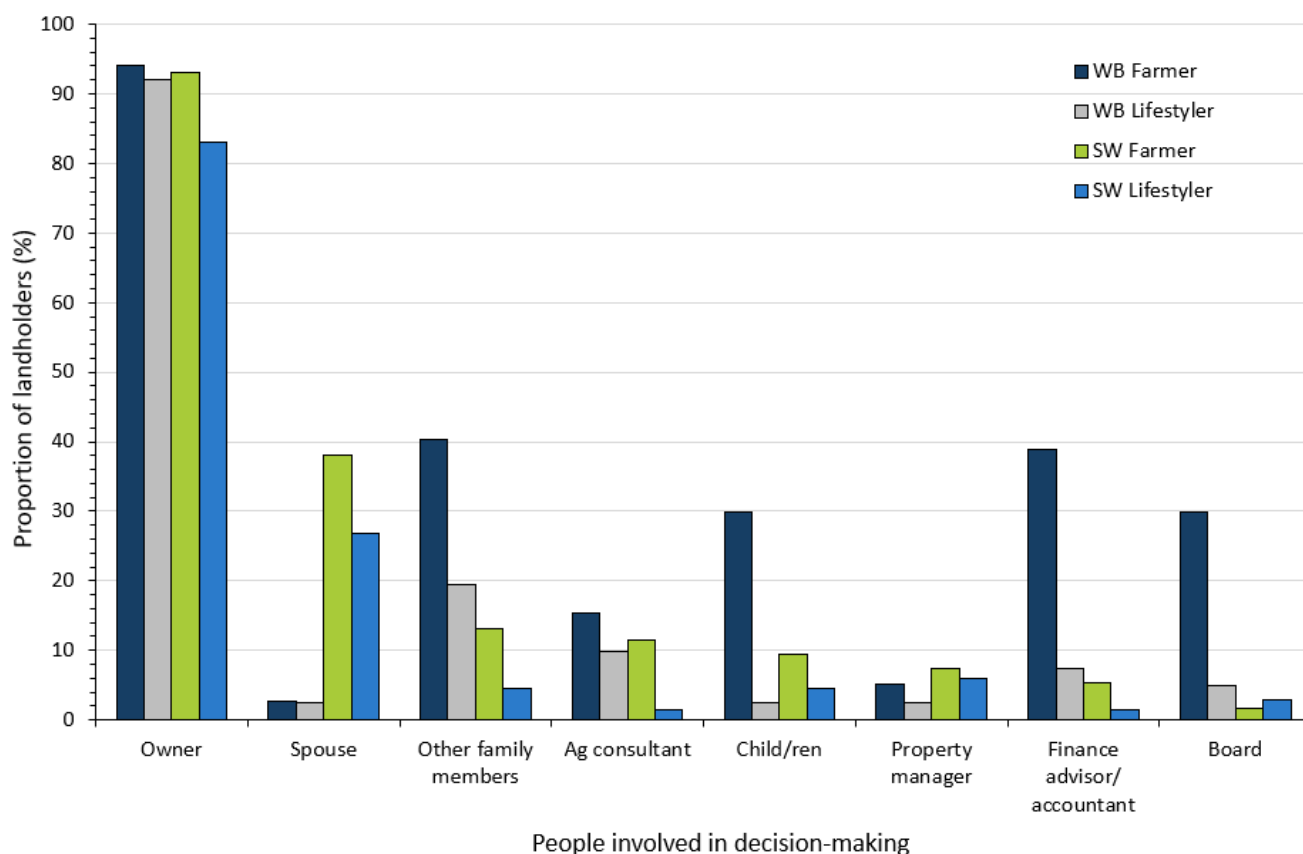


Figure 21. People involved in strategic decision-making on properties in the Wheatbelt region (n =121–125) and South-west of WA (n = 273–274). Data are split by Farmer (full-time and part-time combined) and Lifestyler (full-time and part-time combined) typologies.

3.5.3 Structured decision-making

The following presents landholder responses to the question 'Do you have a structured process in place to make decisions about farm/land management? If yes, please note.'

Wheatbelt region

The presence of a structured decision-making process for farm or land management was more commonly reported among Farmers than Lifestylers in both regions, with notable differences between the WB and SW. In the WB, 37% of Farmers (FTFs and PTFs) indicated that they had a structured process in place, compared to just 5% of Lifestylers (HFs and NFs), suggesting that formalised decision-making was relatively well established among commercial operators but far less common among non-commercial landholders. This pattern reflects the greater complexity, scale, and risk management requirements typically associated with farming enterprises in the region.

Among WB Farmers who reported having a structured decision-making process in place, responses indicate that these systems were typically collaborative, iterative, and strongly linked to both financial and production planning. A substantial proportion (approximately 40–50%) referenced formalised planning frameworks, such as annual budgets, cropping plans, and broader strategic or whole-farm plans, often developed with consultants, agronomists, accountants, or stock agents. Regular meetings (around 30–40%), ranging from weekly to seasonal (pre-, during, and post-seeding/harvest), were also commonly used to support ongoing review and adaptive management, while 20–30% highlight advisory networks involving multiple professionals. Alongside these formal structures, interpersonal and experiential factors remained

important, with around 20–25% of responses noting involvement of family members or business partners in shared decision-making, and 15–20% emphasising the role of personal experience and accumulated knowledge in guiding farm management decisions. Overall, structured decision-making in the WB reflects a combination of formal planning systems, collaborative input, and adaptive, experience-based judgement.

South-west of WA

In the SW, relatively few respondents reported having a structured decision-making process, with 21% of Farmers and 6% of Lifestylers indicating that such systems were in place. While a clear gap between Farmers and Lifestylers remained, the overall uptake of structured approaches was limited. This may reflect differences in enterprise scale, management intensity, or a greater reliance on informal, experience-based approaches to land management. These patterns provide important context for interpreting how structured decision-making is operationalised within the region.

Among SW Farmers who reported having a structured decision-making process, responses indicate a strong emphasis on iterative planning, collaboration, and adaptive management rather than highly formalised systems alone. Around 35–45% described cyclical planning approaches such as 'plan–implement–review–replan,' annual farm plans, or seasonal planning cycles, often supported by soil and leaf testing, crop and pasture rotations, and operational monitoring tools. Regular management meetings were also common (approximately 25–35%), including weekly, monthly, or roundtable discussions, while a similar proportion (around 25–30%) referenced formal farm planning frameworks or structured operational plans. Decision-making was frequently shared, with around 30–40% highlighting joint planning between spouses, partners, family members, or farm managers, and 20–30% noting consultation with advisers or agronomists. Smaller proportions (10–15%) described holistic or regenerative approaches, while a similar number emphasised owner-led decisions grounded in experience and practical judgement, with some isolated scepticism towards broader industry systems. Overall, structured decision-making in the SW reflects a flexible, collaborative, and adaptive system integrating planning, shared responsibility, and technical advice.

3.6 PROFIT DRIVERS

Profit items in the survey were compared for statistically significant relationships with other factors, providing an indication of key profit drivers. WB Farmers who had been profitable within the 2023–24 financial year were more likely to be working full-time on the farm, satisfied with their farm and confident with managing change and uncertainty, with sufficient financial resources to experiment with new approaches to farming, suggesting a self-reinforcing capability loop. They were more likely to view a lack of skilled labour as an issue. Farmers who had not turned a profit in the previous financial year were more likely to be worried by uncertainty of returns limiting investment return, and more likely to have been forced to implement changes due to increased weather variability. This linked with a greater reliance on off-farm income and buying land elsewhere to manage climate risk. An over-reliance on informal peer networks (e.g. friends and neighbours) was linked to lower profitability.

Because 2023–24 was not a great year for the cropping industry, a question was asked whether growers had been profitable over the previous five years. Responses to this question were analysed to ascertain trends related to profitability over time.

The analysis revealed that WB growers who were profitable over time managed more than double the land of non-profitable farmers, and owned three times the number of properties. They also worked longer hours, averaging 53 hours per week. The most profitable enterprises were

testing their soils regularly. Legumes and oil seeds were common enterprise types, with the data indicating that while 61% of farms without legumes were profitable, 90% of surveyed farms growing them were profitable. Liming, precision farming and structured nutrient management were important related practices, with deep ripping having been undertaken in the past.

Mindset influences profitability by shaping how farmers make decisions, adopt practices, and respond to risk and change. In this data, profitable farmers consistently indicated a mindset characterised by confidence, openness, and strategic intent: they were open to new ideas and willing to experiment while basing decisions on data, and they felt more supported and confident managing uncertainty, enabling proactive management. This mindset supported the adoption of planned, knowledge-driven practices (e.g. soil management, precision farming) and engagement with advisers and trusted networks, including grower groups and government departments, reinforcing productivity and efficiency over time. In contrast, while also open to learning, less profitable farmers over time were more likely to feel that major changes were needed and perceived greater constraints, possibly indicating a reactive or pressure-driven mindset. Interestingly, underlying values did not show up as having a significant relationship with long-term profitability in the WB data.

Long-term profitability in the WB is best explained by a coherent system of scale, technical knowledge and disciplined management, where profitable farms consistently apply core agronomic practices (soil correction, fertiliser management, precision techniques) within a structured, data-driven decision framework, supported by strong commercial orientation and adaptive capacity. In this data, more profitable farmers indicated an intention to increase their application of biological amendments, however, they also indicated lower knowledge in regards to them, and confidence in the benefits of applying them.

Important social factors related to profitability were having the family working on the farm and involved in decision-making, particularly their children. They were far more likely to rely on grower groups and relevant government departments (DPIRD/DWER) for information and advocacy, while feeling better supported and accepted by their local community in their approach to farming. Profitable farms had on average lost 269 Ha to production due to soil issues, and were more likely to be increasing their use of synthetic inputs over time. They were also more likely to have been removing forested areas, be less concerned about river health and report low confidence in applying regenerative agricultural practices.

3.6.1 Management decision leading to profitability in the Wheatbelt region – open question

An open question was asked about this topic: In the last five years, what management decision had the most important influence on your profitability?'

A thematic review of management decisions influencing profitability among WB Farmers over the past five years highlights a strong shift towards enterprise restructuring, cropping intensification, and soil-focused productivity improvements. Many Farmers reported reducing or exiting sheep enterprises, transitioning from wool-based systems to crossbred lamb production, or retaining livestock primarily for agronomic benefits rather than core income, alongside expanding cropping areas through land acquisition, leasing, or increased cultivation of higher-value crops such as canola and improved wheat varieties. Key operational changes included greater attention to sowing timing, crop rotation, fallow management, and flexible responses to seasonal variability to stabilise returns. At the same time, profitability was supported through significant investment in soil amelioration practices, such as deep ripping, stubble retention, and controlled traffic farming, combined with improved input management, fertiliser strategies, variable-rate technology, and more disciplined financial and marketing decisions. Overall, these

changes reflect a broader move towards more intensive, technology-enabled, and soil-centred farming systems aimed at improving both short-term profitability and long-term resilience.

South-west of WA

In the SW region of WA, statistically significant relationships with profit provide an indication of key profit drivers for Farmers who had been profitable within the 2023–24 financial year. Whole-farm planning, knowledge of how to use soil testing to inform planning to maximise soil productivity, application of variable-rate fertiliser and having a clear path to market for their produce were the strongest driving factors of profitability, which also linked very strongly with farmer satisfaction. Also, knowledge of market mechanisms providing funds to support the building of carbon and/or biodiversity emerged as an important correlating factor.

The pairwise analysis indicated that profitability within the past financial year (2023–24) among farms in the SW region of WA was strongly shaped by structural capacity, capability and financial independence. Larger farms that were expanding over time were significantly more likely to be profitable, typically run by more experienced operators working longer hours (42 hours vs 35 per week). Profitability was strongly associated with implementation of soil health management practices, higher technical knowledge and values reflecting a combination of commercial and long-term stewardship goals. Farmers who had been profitable in the previous financial year were also likely to have been profitable over the preceding five years and saw a clear path to market for their produce. They were typically on larger farms and owners of more than one property. They worked more hours per week on their farm and had owned their farm for longer (59 years versus 37 years).

Participation in cropping systems was associated with higher profitability, specifically cereals, pulses and oil seeds. The data indicate a strong technical foundation guiding decisions, with a consistently higher self-reported knowledge of soil health including fertiliser strategies, land capability and environmental processes, including natural capital accounting. Subsequently, they were more likely to undertake whole-farm planning, implement fertiliser budgeting, liming and/or variable-rate application, and had maintained groundcover over a longer period. They were also more likely to apply biological or organic inputs over a period of time.

These practice and knowledge differences align with underlying values and motivations, with profitable farmers placing importance on generating income, producing food for others and building a viable business, while maintaining land condition for the future, with a strong personal identity tied to farming. In terms of business management, they were more likely to have a structured decision-making and data management process in place, while working with a commercial adviser. While an issue identified was a lack of sufficient skilled labour to support the farm, family involvement was associated with higher profitability, with farmers who had reported a profit more likely to have an identified farm successor.

Profitable farmers had higher personal wellbeing and higher confidence managing their farms in the face of uncertainty. They were more likely to feel that their agricultural approach was well accepted by others in their farming community. They were more likely to be personally involved in a grower group and have a strong faith in grower groups as trusted information providers. In terms of capacity, they were more likely to be open to trying new approaches, while having both time and money to do so. However, the data suggests a cautious approach, with a preference for seeing local success prior to personal experimentation. This data suggests that a coherent system of informed, strategic management was underpinned by capacity, capability, confidence and commercially oriented values. Conversely, less profitable farms were more likely to have issues with soil sodicity and secondary impacts of amelioration approaches and rely heavily on

off-farm income. They were also more likely to be of a view that fundamental changes were required to make farming systems sustainable.

3.6.2 Open question on profit drivers

Responses to the open question on profit drivers indicate that Farmers had a strong focus on adaptive grazing management, soil fertility improvement, and structural adjustments to livestock systems in response to climatic variability and market pressures. Key decisions included adjusting stocking rates, restructuring paddocks through fencing and water infrastructure, and shifting between breeding, trading, and mixed livestock systems to better match carrying capacity with seasonal conditions. Farmers frequently reported improving pasture productivity through soil testing, lime and fertiliser application, pasture renewal, and more targeted nutrient management, alongside efforts to optimise input costs and increase output per hectare. At the same time, profitability was supported through broader farm restructuring, including land acquisition or leasing changes, diversification into horticulture or fodder systems, investment in infrastructure and precision agriculture, and strategic responses to drought, fire, and price volatility.

For Lifestylers, a dominant theme was leasing or share farming land to external operators, often alongside reducing stock numbers or transitioning away from direct livestock production into lower-maintenance arrangements. Active management, where it occurred, focused on basic land condition improvements, such as fertiliser application, pasture reseeding, weed control, and minor infrastructure upgrades, alongside some diversification into non-farm income streams, including accommodation or environmental plantings. These decisions were frequently linked to gradual restructuring associated with ageing, succession, or reduced labour capacity, with livestock management typically oriented towards maintaining simplified systems rather than expanding production.

3.6.3 Management decisions and landscape health

The following presents landholder responses to the question 'Over the last five years, what management decision had the greatest impact on landscape health?'

Wheatbelt region

The results suggest that the management decisions most frequently identified as improving landscape health over the past five years among Farmers centred on soil improvement, vegetation establishment, and reduced grazing intensity. A dominant focus is on soil-focused interventions such as liming, deep ripping, spading, gypsum use, stubble retention, and no-till or controlled traffic systems, all directed towards enhancing soil structure, biological activity, and reducing erosion risk. Alongside this, many respondents report lowering livestock pressure through destocking, reduced sheep numbers, or adjusted stocking regimes, often associated with better ground cover and reduced degradation. Vegetation-related actions were also prominent, particularly tree planting, saltbush establishment, fencing of waterways and gullies, and wider riparian and biodiversity restoration efforts. These changes were frequently integrated with broader land-use adjustments, including resting marginal paddocks, modifying crop-livestock systems, and improved whole-farm planning, reflecting a coordinated approach to long-term landscape resilience.

Lifestylers, responses indicate that perceived improvements in landscape health over the past five years were primarily associated with lower-intensity land use, vegetation recovery, and gradual ecological repair. A central theme is the establishment of trees and native plantings,

including rehabilitation of creek lines, biodiversity-focused revegetation, and fencing to exclude stock, commonly linked to reduced erosion, improved soil moisture retention, and enhanced habitat quality. Many respondents also described reduced stocking levels, removal of animals, or altered leasing arrangements, which were seen as ways to ease pressure on the land and support natural regeneration. In addition, low-input practices, such as resting land, minimising or ceasing fertiliser and herbicide use, and applying compost, organic matter, or limited rotational grazing were frequently reported as contributing to improved soil condition and broader landscape recovery.

South-west of WA

Responses from farmers in the SW region of WA indicate that improvements in landscape health over the past five years have largely been driven by coordinated soil management, more responsive grazing systems, and increased emphasis on revegetation and landscape protection. A key focus is on improving soil condition and productivity through practices such as liming to correct acidity, gypsum or clay application where needed, deep cultivation, organic amendments, and more precise nutrient management guided by soil and plant diagnostics, all aimed at strengthening pasture growth, moisture retention, and surface cover. These soil-focused measures were closely aligned with shifts in livestock management, including rotational or cell-based grazing approaches, revised stocking levels, subdivision of paddocks, and improved water distribution, which together help moderate grazing pressure and support pasture recovery cycles. In addition, respondents frequently referenced the establishment of shelter plantings, riparian buffers, fencing of waterways and remnant vegetation, and broader habitat restoration efforts, often combined with reduced reliance on chemical inputs and greater adoption of regenerative farming principles.

Similarly, Lifestylers in the SW of WA identified improvements in landscape health as arising from lower-impact land use, vegetation recovery, and active protection of sensitive environmental features. A prominent theme was the exclusion of livestock from bushland, waterways, and wetland areas through fencing, alongside establishment of trees and indigenous vegetation, rehabilitation of creek lines, and restoration of degraded sites, commonly associated with better biodiversity outcomes, reduced erosion, and improved soil moisture dynamics. Many respondents also described decreases in stocking pressure, relocation or removal of animals, and changes to grazing agreements, which were perceived to enable natural regeneration processes and reduce land stress. Complementing this, weed and pest plant control through selective removal and spraying of invasive species, including past plantation remnants, was frequently reported as contributing to improved ecological function and overall landscape recovery.

3.7 DATA MANAGEMENT

3.7.1 Farm data management

Wheatbelt region

In the WB region, Farmers reported strong support for the role of data and scientific evidence in farm decision-making. A large majority of Farmers (76%) agreed that decision-making should be strongly influenced by data or scientific evidence (Table 11). Farmers were also much more likely to report having effective systems in place to manage farm data, with 76% indicating that they had good data management systems. However, a substantial proportion of WB Farmers (66%) reported that internet or mobile phone access presented a barrier to finding or using information for farm management, suggesting that digital connectivity remained an important constraint in the region.

WB Lifestylers also expressed agreement that decision-making should be influenced by data or scientific evidence (62%), although their responses indicate far less engagement with formal data management practices. Only 14% of Lifestylers reported having good systems in place to manage farm data, highlighting a substantial difference compared with Farmers. Barriers related to internet or mobile phone access were also less frequently reported among this group (30%), suggesting that information access constraints may be less pronounced or less directly relevant to their land management activities.

South-west of WA

In the SW of WA, Farmers demonstrated strong support for data-informed decision-making. A large majority (79%) agreed that farm decisions should be strongly influenced by data or scientific evidence (Table 11). Most Farmers also reported having good systems in place to manage farm data (68%). A smaller proportion (38%) indicated that internet or mobile phone access was a barrier to finding or using farm management information.

In the SW of WA, Lifestylers reported similarly high levels of agreement with the importance of data and scientific evidence in decision-making (78%). However, relatively few Lifestylers reported having structured systems to manage farm data, with only 21% indicating that they had good data management systems in place. Reports of internet or mobile phone access acting as a barrier were also relatively low among this group (29%), suggesting that connectivity issues may be less influential in shaping information access for lifestyle landholders in this region.

Table 11. Farm data management views of landholders overall, Farmers (full-time and part-time combined) and Lifestylers (hobby and non-farmers combined) in the Wheatbelt (WB) (n = 132–134) region and South-west (SW) of WA (n = 276–279). Means (out of 5) are given in brackets.

Views about farm data	% Agree/strongly agree					
	WB Overall 2025	WB Farmers 2025	WB Lifestylers 2025	SW Overall 2025	SW Farmers 2025	SW Lifestylers 2025
Decision-making needs to be strongly influenced by data/scientific evidence	70% (3.9)	76% (3.8)	62% (4.0)	77% (4.1)	79% (4.1)	78% (4.1)
I have good systems in place to manage my farm data	54% (3.7)	76% (3.9)	14% (3.1)	55% (3.5)	68% (3.7)	21% (2.8)
Internet or mobile phone access is a barrier to finding/using information for my farm management	55% (3.7)	66% (3.8)	30% (3.3)	37% (3.0)	38% (3.0)	29% (2.9)

3.7.2 Influences on soil health

The following presents landholder responses to the question 'What is the most important influence on your soil health?'

Wheatbelt region

WB Farmers indicated that soil health is primarily influenced by rainfall, soil chemistry, and nutrient management, within the context of economic and operational constraints. Rainfall was

most frequently identified as the key driver, shaping moisture availability and overall productivity, while soil properties, particularly pH and nutrient balance, were managed through lime application, fertiliser use, and soil testing to address constraints, such as acidity and poor fertility. Common practices supporting soil conditions include crop rotations, pasture legumes, stubble retention, and reduced tillage, which contribute to improved structure, organic matter, and moisture conservation. At the same time, factors such as profitability, input costs, and labour availability influence the ability to implement these practices, highlighting that soil health is viewed as the result of an integrated system combining climate, management, and financial capacity.

In contrast to these production-oriented perspectives, responses from Lifestylers in the region indicate that perceptions of soil health were shaped by a more diverse and often non-commercial set of influences, with stronger emphasis on natural processes, personal values, and site-specific constraints. Climatic factors, particularly rainfall variability, run-off following heavy events, and seasonal ground cover, were again identified as central determinants, alongside concerns about overgrazing and erosion. However, many respondents expressed a preference for low-input or 'natural' management approaches, including compost use, biological activity, and avoidance of synthetic fertilisers and herbicides, albeit constrained at times by cost and access to inputs. Knowledge gaps and uncertainty were also evident, with several respondents highlighting a need for clearer guidance and support, while others noted that soil health was less relevant due to limited or non-agricultural use of their properties.

South-west of WA

In the SW of WA, Farmers indicated that soil health was shaped by an integrated combination of soil amelioration, grazing management, and landscape-scale practices, underpinned by seasonal variability and enterprise goals. Soil chemistry management, particularly addressing acidity through widespread lime application, alongside fertiliser use guided by soil, tissue, and sap testing, emerged as a central influence, often coupled with physical interventions such as deep ripping and claying to improve structure and productivity. Grazing management was equally prominent, with rotational and cell grazing, adjusted stocking rates, rest periods, and increased paddock subdivision through fencing identified as critical strategies for maintaining ground cover, improving pasture condition, and enhancing water retention. In addition, many Farmers emphasised the role of revegetation, tree planting, and fencing of waterways and remnant vegetation in reducing erosion, supporting biodiversity, and improving overall landscape function. While some respondents highlighted shifts towards regenerative or lower-input systems, others noted the importance of fertiliser programs and productivity gains, reflecting a spectrum of management philosophies. External pressures, including drought, rainfall variability, and financial capacity, further shape decision-making, reinforcing that soil health in this region is understood as the outcome of adaptive management across interconnected soil, pasture, livestock, and environmental systems.

In contrast to these commercially oriented and production-driven perspectives, Lifestylers suggested that soil health was more strongly influenced by environmental stewardship, small-scale land management, and external pressures, such as fire and neighbouring land use. Revegetation and tree planting, often involving native or endemic species, emerged as dominant themes, frequently linked with fencing off bushland, waterways, and wetlands to protect ecological function and reduce erosion. Grazing management, including reducing stock numbers, restricting access, and adopting rotational practices, was also commonly identified, although typically at a smaller scale and alongside efforts to minimise disturbance through low-input or regenerative approaches. Fire risk and bushfire impacts were a distinctive concern in this region, shaping decisions around vegetation management, fuel reduction, and soil moisture

retention, while drainage and water control were also noted as important for maintaining soil conditions. Weed control, selective fertiliser use, and increasing interest in soil biology and regenerative practices further contribute to soil health perceptions.

3.7.3 Testing/indicators to assess soil health

The following presents landholder responses to the question 'What testing/indicators do you use to assess soil/land health and/or productivity?'

Wheatbelt region

WB Farmers predominantly relied on formal soil testing as the central method for assessing soil health and productivity, with many undertaking regular laboratory-based analyses at varying intervals and depths, including shallow (0–10 cm) annual tests and less frequent deep soil profiling. These tests were commonly complemented by plant and tissue testing, as well as specific measures such as pH, nutrient status (e.g. N, P, K, S and trace elements), soil carbon, and soil biology, alongside targeted diagnostics, such as disease testing (e.g. PredictaB). In addition, some Farmers integrated agronomic tools, such as yield mapping, biomass assessment, satellite imagery, and gross margin analysis, to link soil condition with production outcomes, reflecting a relatively data-driven and multilayered approach.

Alongside these formal methods, experiential and observational indicators remained important, with Farmers frequently assessing crop performance, ground cover, residue breakdown, soil structure, and livestock carrying capacity. Visual inspection and local knowledge were often used in conjunction with soil tests to guide management decisions, particularly in determining inputs such as lime or gypsum. Overall, the findings indicate that WB Farmers typically adopted a mixed-method approach, combining quantitative testing with practical, observation-based insights to evaluate soil condition and inform productivity-focused decision-making.

South-west of WA

Farmers from the SW region of WA similarly relied on soil testing as a central tool for assessing soil and land health, though approaches were often more diverse and integrated with broader farm system indicators. Regular soil sampling, ranging from annual to every two-to-four years, was commonly used to assess pH, nutrient status (including N, P, K, S and trace elements), organic matter, carbon, salinity, and biological activity, with some Farmers adopting more advanced methods such as SAP analysis, Haney tests, soil microscopy, and microbial assessments. These formal measures were frequently complemented by plant and tissue testing, pasture analysis (e.g. feed on offer, pasture quality), and productivity metrics, such as yield, fodder production, and livestock outputs, reflecting a strong linkage between soil condition and whole-farm performance.

At the same time, observational and experiential indicators played a prominent role, with many Farmers assessing pasture growth, species composition, ground cover, soil structure, and biological activity (e.g. earthworms, dung beetles) as key proxies for soil health. Livestock conditions, including weight gain, fertility, and overall performance, was also widely used as an indirect indicator of soil and pasture function. Visual assessment was often used either alongside or, in some cases, in place of formal testing, particularly where Farmers perceived their systems to be performing well. Overall, SW Farmers tended to adopt a holistic and multi-indicator approach, combining formal testing with ongoing monitoring of pasture, livestock, and ecological signals to inform management decisions.

3.7.4 Factors driving implementation of management practices

Wheatbelt region

In the WB, implementation of management practices appeared to be strongly aligned with both high levels of confidence in the value of practices and well-developed knowledge. This was particularly evident for soil testing and minimum or no-tillage techniques, which showed high adoption rates (85% and 76%, respectively), alongside very strong agreement in their importance (95% and 82%) and high levels of knowledge (86% and 90%) (Table 12). Similarly, the preparation of whole-farm or property plans (60%) corresponds with strong belief in data-driven decision-making (76%) and high levels of knowledge related to land-use planning (84%). These patterns suggest that in the WB, practices that were widely adopted tended to be supported by both strong conceptual endorsement and technical understanding.

In contrast, practices with lower levels of adoption in the WB tended to be associated with lower confidence and/or lower knowledge. For example, carbon farming showed very limited uptake (6%), alongside very low agreement that participation was justified by returns (7%), despite moderate levels of knowledge related to soil carbon (54%). A similar pattern was evident for biological soil supplements and perennial pastures, where relatively modest adoption (16% and 26%) aligned with moderate confidence and knowledge. Time-controlled or holistic grazing also showed moderate uptake (27%), supported by moderate levels of confidence (55%) but comparatively lower knowledge (32%). The findings indicate that while knowledge is an important enabler, confidence in economic or practical outcomes played a critical role in driving implementation in the WB.

South-west of WA

In the SW of WA, a similar relationship between implementation, confidence, and knowledge was evident, though with some notable differences in the practices adopted. Soil testing remained a widely adopted practice (68%), supported by high confidence (90%) and strong knowledge (72%), while farm planning (48%) was also linked to high agreement with data-driven decision-making (79%) and moderate knowledge (67%) (Table 12). However, the adoption of minimum or no-tillage techniques was lower (52%) and appeared to be associated with comparatively low confidence (40%), despite high knowledge (79%), suggesting that perceived trade-offs or constraints may limit implementation despite understanding of the practice.

Several practices in the SW showed relatively higher adoption compared with the WB, particularly those associated with more adaptive or biologically oriented systems. These included biological soil supplements (28%), perennial pastures (45%), and time-controlled or holistic grazing (49%), all of which were supported by relatively high confidence (ranging from 53% to 82%) and moderate-to-high knowledge (37% to 56%). In contrast, carbon farming remained very limited in uptake (2%), despite slightly higher confidence than in the WB (12%) and moderate knowledge of soil carbon (58%). The results suggest that in the SW, implementation was also shaped by the interaction of knowledge and confidence, though there was greater uptake of practices associated with system flexibility and biological processes compared with the WB.

Wheatbelt region

WB Farmers who did not undertake soil testing primarily cited financial and practical constraints, with cost and time limitations emerging as the most common barriers (around 60–70% of non-testing-related responses referencing expense or time). A secondary theme related to perceived limited value, with approximately 20–25% questioning the usability of results or their impact on farm decision-making. Issues of trust and independence in testing services were also evident (around 10–15%), with some respondents expressing concern about commercial influence in advisory or sampling processes. A smaller proportion (approximately 10%) indicated a lack of familiarity with available programs or options for independent testing, while a few responses

clarified that soil testing was already undertaken, suggesting occasional misclassification or variability in engagement rather than complete non-use.

Table 12. Implementation of management practices compared to related confidence and knowledge in the practice for Farmers in the Wheatbelt (WB) region (n = 75–83) and South-west (SW) of WA (n = 185–215).

Management Practice	% Who have in past 5 yrs		Confidence	% Agree/strongly agree		Knowledge	% Sound/very sound	
	WB	SW		WB	SW		WB	SW
Testing of soils to understand soil condition/nutrient status	85%	68%	Soil testing is an essential step in understanding soil condition/nutrient status	95%	90%	How to use soil testing to inform planning to maximise soil productivity (e.g. a nutrient budget)	86%	72%
Prepared/preparing a property management or whole-farm plan ¹	60%	48%	Decision-making needs to be strongly influenced by data/scientific evidence	76%	79%	Preparing a farm/property plan, allocating land according to land class/soil characteristics	84%	67%
Carbon farming under Australian Carbon Credits scheme	6%	2%	Engaging in biodiversity/carbon markets is justified by the returns	7%	12%	How to build soil organic matter/soil carbon	54%	58%
Application of biological soil supplements	16%	28%	Biological activity is an important indicator of the productive capacity of soils	73%	82%	The role of soil carbon/microbiology in soil health	49%	51%
Sowing perennial pastures	26%	45%	The costs of establishing perennial pastures are justified by the returns	36%	53%	Options and strategies to (re)establish perennial pastures in this area	49%	37%
Use of minimum or no-tillage techniques	76%	52%	The benefits of stubble retention outweigh the problems arising from the practice	82%	40%	Strategies to maintain groundcover to minimise erosion in your area	90%	79%
Use of time-controlled, cell or holistic grazing	27%	49%	Intensive grazing for short periods is usually better than set stocking	55%	81%	The use of time-controlled, holistic or cell grazing strategies	32%	56%

¹ Assessed as proportion of Farmers who indicated yes to having prepared/preparing a plan rather than in the past five years.

3.7.5 Reasons for not soil testing

The following presents landholder responses to the question 'If you don't soil test, why not?'

Wheatbelt region

WB Farmers who do not undertake soil testing primarily cite financial and practical constraints, with cost and time limitations emerging as the most common barriers (around 60–70% of non-testing-related responses referencing expense or time). A secondary theme relates to perceived limited value, with approximately 20–25% questioning the usability of results or their impact on farm decision-making. Issues of trust and independence in testing services are also evident (around 10–15%), with some respondents expressing concern about commercial influence in advisory or sampling processes. A smaller proportion (approximately 10%) indicate a lack of familiarity with available programs or options for independent testing, while a few responses clarify that soil testing is already undertaken, suggesting occasional misclassification or variability in engagement rather than complete non-use.

South-west of WA

SW Farmers who did not undertake soil testing most commonly cited a combination of perceived sufficiency of existing knowledge and limited perceived benefit, alongside financial and practical constraints. Around 30–35% of responses indicated that soil testing was considered unnecessary due to reliance on observational indicators, such as pasture growth, soil structure, livestock performance, or general visual assessment. A further 25–30% pointed to financial cost, time pressures, or competing priorities (including off-farm work or farm development), while approximately 15–20% suggested that soil testing had not yet been prioritised due to recent land ownership changes, low production intensity, or being at an early stage of farm development. In addition, around 10–15% referenced alternative diagnostic approaches, such as foliar testing or general agronomic knowledge, or indicated that soil conditions were already perceived as productive and stable.

A smaller but notable proportion of responses (approximately 10–15%) raised issues related to access, trust, or experience with soil testing services, including difficulty finding independent providers, concerns about variable results, or perceptions of commercial bias in advice or inputs. A few respondents also noted that testing had been inconsistent, previously undertaken but not continued, or simply forgotten or not offered, indicating that non-use is not always a deliberate rejection but sometimes a function of circumstance or low prioritisation. Overall, non-adoption of soil testing in the SW appeared to be driven less by a single constraint and more by a combination of perceived adequacy of visual assessment, cost-benefit considerations, and variable engagement with testing services.

3.7.6 Involvement in government-led whole-farm soil testing programs

Wheatbelt region

Participation in government-led whole-farm soil testing programs was notably low in the WB across both landholder types. Only around 6% of Farmers reported having been involved, with participation among Lifestylers even lower at just over 3%. This indicates minimal engagement overall in the region and suggests potential limitations in program availability, awareness, or perceived value. The consistently low uptake across both groups highlights a broad opportunity to improve reach and relevance of such initiatives in the WB context.

South-west of WA

In contrast, participation in the SW of WA was substantially higher, particularly among Farmers, with approximately 53% reporting involvement in government-led whole-farm soil testing programs. This reflects strong engagement with these initiatives among commercial farming operations. However, participation among Lifestylers remained much lower at around 17%, likely due to the government-led whole-farm soil testing programs being generally targeted at larger

farms to maximise impact. This regional and landholder divide underscores the need for more tailored approaches to improve accessibility and uptake among Lifestylers.

3.7.8 Soil testing

Given the substantial variation observed within the broad Farmer and Lifestyler categories, the data are more effectively interpreted when disaggregated into four landholder types (FTFs, PTFs, HFs, and NFs). These groupings capture important differences in production intensity, management objectives, and resource capacity that are not adequately reflected in the binary classification. As demonstrated in the WB, behaviours such as soil testing frequency, sampling approach, and perceived barriers vary markedly across these subgroups, indicating that aggregation into Farmers and Lifestylers risks obscuring meaningful patterns and limiting the precision of interpretation.

Wheatbelt region

In the WB region, soil testing practices in 2025 were strongly differentiated by landholder type, with FTFs demonstrating the most consistent and systematic engagement. The majority of FTFs undertook soil testing every three-to-five years (55%), with a substantial proportion also testing annually (32%), while PTFs were more likely to test less frequently, including 31% doing so infrequently (Table 13). HFs and NFs showed markedly lower engagement, with high proportions reporting infrequent or no testing at all (particularly NF at 74% never testing). In terms of a spatial approach, FTFs predominantly adopted systematic paddock-based sampling (59%), whereas PTFs were more likely to test 'as needed' (53%), and NFs overwhelmingly relied on reactive, non-systematic approaches (100% as needed). Soil testing depth varied, though 30 cm was most common among FTFs and PTFs, while shallower (10 cm) and mixed depths were more typical among non-commercial landholders.

Responsibility for soil sampling in the WB further highlights differences in management intensity and access to expertise. FTFs relied heavily on commercial (42%) and independent advisers (35%), reflecting a more professionalised and externally supported approach to soil management, although some farmers expressed reservations about potential vested interests influencing advice. These findings suggest that soil testing in the WB was closely aligned with production-oriented land use, with more intensive, systematic, and externally supported practices concentrated among FTFs.

South-west of WA

In the SW of WA, soil testing practices were relatively frequent and widespread across landholder types, though variation remained evident. Both FTFs and PTFs demonstrated comparatively high levels of engagement, with 32% and 22% respectively testing at least annually, and around half undertaking testing every three-to-five years (Table 13). Notably, 53% of respondents reported having engaged with a government-led whole-farm soil testing program, indicating a substantial level of participation in structured, externally supported initiatives. However, HFs and NFs show lower consistency, with a notable proportion testing infrequently or never (particularly NF at 23% never).

Sampling location was relatively evenly distributed, with both FTFs and PTFs commonly using systematic paddock approaches (50–51%) alongside whole-farm testing, while HFs and NFs continued to rely more on 'as needed' strategies. In terms of depth, shallow sampling (10 cm) was dominant across all groups, indicating a stronger focus on topsoil assessment in this region. Despite this relatively strong uptake, a subset of respondents reported not undertaking soil testing due to a combination of factors, including cost, time constraints, and competing priorities,

as well as a reliance on experiential knowledge, such as pasture performance and livestock conditions, where systems were perceived to be functioning well.

The collection of soil samples in the SW was more frequently undertaken by landholders and their teams, particularly among FTFs (57%) and PTFs (66%), suggesting greater internal capacity or routine integration of soil testing into farm operations. Reliance on commercial and independent advisers was present, particularly among FTFs, while government or catchment advisers played a slightly more prominent role among NFs. However, concerns about the consistency and practical value of results, along with difficulty accessing independent and unbiased testing services, contributed to lower engagement among some landholders, alongside structural factors, such as lease arrangements or soil testing, being deferred as a lower priority activity. Overall, the SW reflects a broadly distributed adoption of soil testing practices across landholder types, shaped by the degree of commercial engagement, management intensity, and perceived relevance of testing to decision-making.

Table 13. Frequency, location and depth attributes of soil testing undertaken by landholders in the Wheatbelt (WB) region (n = 101–132) and the South-west (SW) of WA (n = 234–272).

Soil testing attributes	WB region (2025)				SW of WA (2025)			
	FTF%	PTF%	HF%	NF%	FTF%	PTF%	HF%	NF%
FREQUENCY								
At least annually	32%	6%	21%	4%	32%	22%	13%	18%
Every 3–5 years	55%	63%	21%	7%	48%	56%	40%	9%
Infrequently	14%	31%	14%	15%	14%	8%	33%	50%
Never	0%	0%	43%	74%	6%	14%	15%	23%
LOCATION								
Whole farm	17%	6%	25%	0%	30%	34%	17%	22%
Systematically across paddock	59%	41%	38%	0%	50%	51%	36%	17%
Systematically in one paddock	3%	0%	13%	0%	1%	2%	11%	6%
As needed	21%	53%	25%	100%	19%	14%	36%	56%
DEPTH								
10 cm	34%	41%	43%	17%	63%	75%	64%	31%
30 cm	45%	53%	57%	50%	29%	25%	33%	50%
60 cm	17%	6%	0%	33%	3%	0%	3%	6%
Deepest possible depth	5%	0%	0%	0%	5%	0%	0%	13%
WHO COLLECTS THE SAMPLES?								
My team	20%	47%	50%	14%	57%	66%	73%	41%
Commercial adviser	42%	35%	43%	29%	20%	20%	15%	12%
Independent adviser	35%	18%	0%	14%	19%	8%	9%	24%
Gov/catchment adviser	5%	0%	0%	14%	11%	14%	6%	18%

4. ENGAGING FARMERS

4.1 ACCESSING INFORMATION

4.1.1 Modes of information

Wheatbelt region

The survey found that the top five modes of information used by landholders in the WB region over the past 12 months were field days or crop walks (47%), websites (40%), emails or e-newsletters (33%), newspapers (28%), and radio (25%) (Figure 22). Field days and crop walks were predominantly used by Farmers (67%), with much lower uptake among Lifestylers (9%). In contrast, websites were the most commonly used source for Lifestylers (47%) compared to Farmers (35%). Emails and e-newsletters were used at similar levels by Farmers (34%) and Lifestylers (28%), indicating moderate engagement with digital formats across both groups. Newspapers remained more relevant for Farmers (34%) than Lifestylers (16%), while radio use was relatively comparable, though slightly higher among Lifestylers (28%) than Farmers (23%). These patterns highlight clear differences in how Farmers and Lifestylers access information, with Farmers favouring in-person and traditional media, and Lifestylers showing stronger reliance on online channels. Full results by landholder type are available in the Appendix 1.

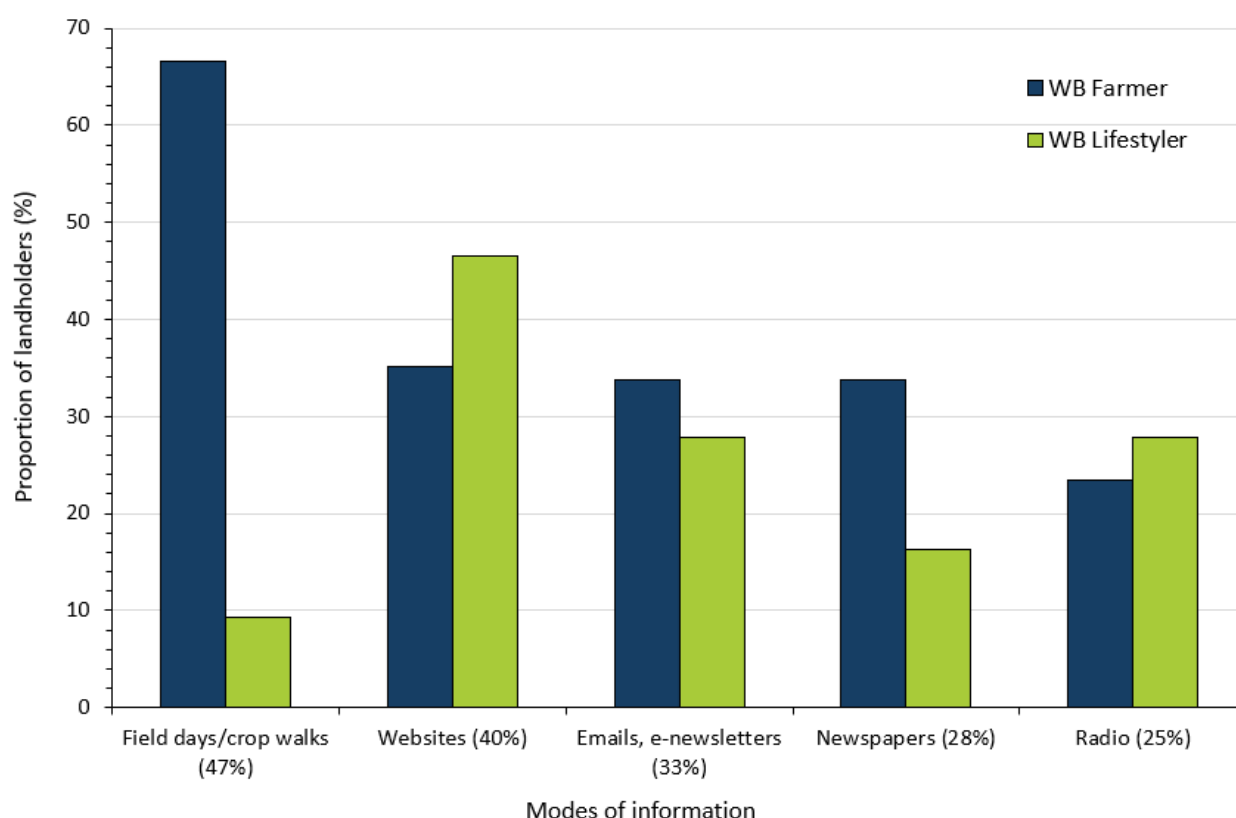


Figure 22. Top five modes of information used in the past 12 months by Farmers (full-time and part-time combined; n = 77–78) and Lifestylers (hobby and non-farmer combined; n = 43) in the Wheatbelt region. The proportion of landholders overall in the Wheatbelt who used each mode of information is given in brackets.

South-west of WA

In the SW region of WA, the top five modes of information were websites (48%), field days or crop walks (39%), emails or e-newsletters (38%), magazines (29%), and short courses (22%) (Figure 23). Websites were widely accessed by both groups, with higher use among Lifestylers (58%)

compared to Farmers (46%). Field days and crop walks remained a key source for Farmers (48%), but were used far less by Lifestylers (14%). Emails and e-newsletters were used equally by Farmers and Lifestylers (39%), indicating consistent engagement with digital communication across both groups. Magazines were more commonly accessed by Farmers (34%) than Lifestylers (15%), reflecting stronger interest in print-based materials among producers. Short courses were used at similar levels by both Farmers and Lifestylers (23%), suggesting shared interest in more structured learning opportunities. These patterns highlight a clear divide between Farmers' preference for in-person and print channels and Lifestylers' stronger reliance on online sources, with some convergence around digital and educational formats.

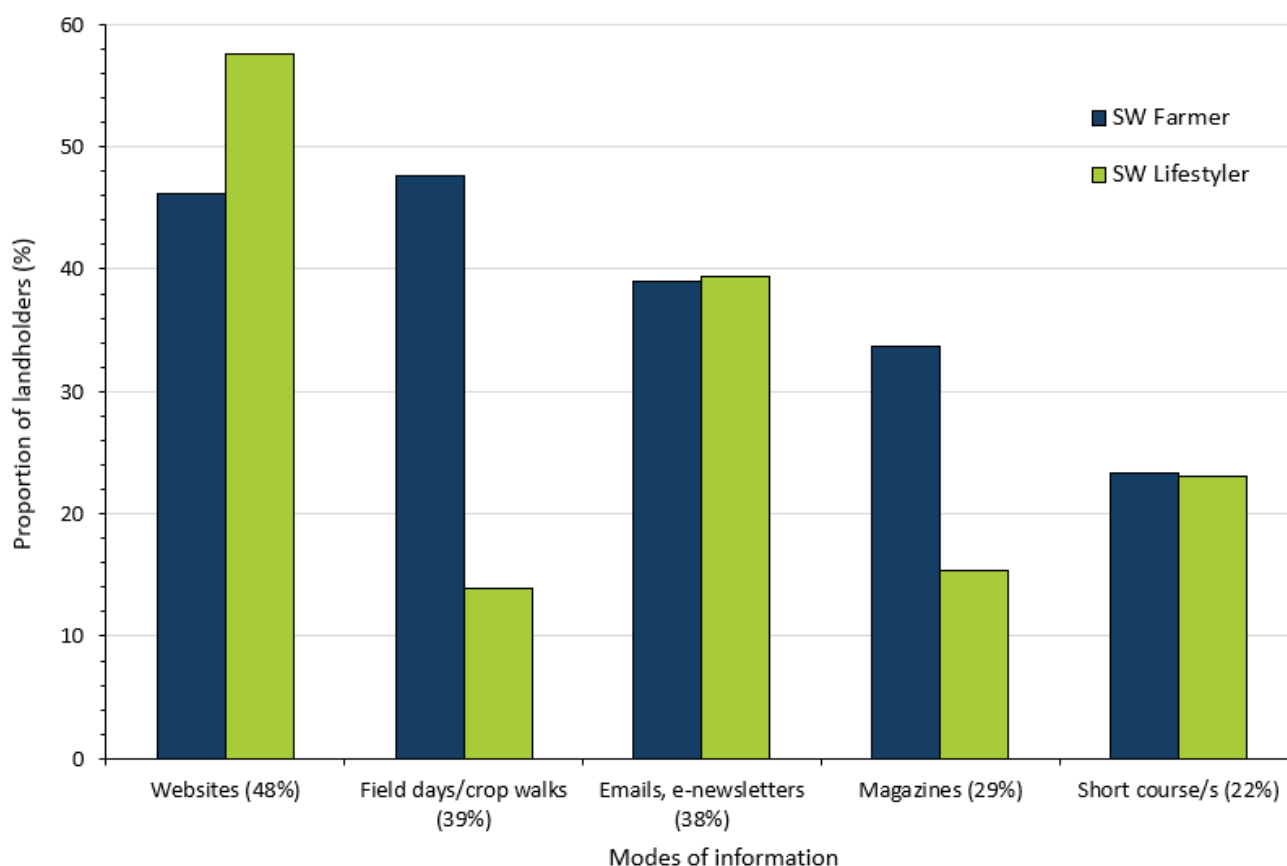


Figure 23. Top five modes of information used in the past 12 months by Farmers (full-time and part-time combined; n=192-193) and Lifestylers (hobby and non-farmers combined; n=65-66) in SW of WA. The proportion of landholders overall in the Wheatbelt who used each mode of information is given in brackets.

4.1.2 Sources of information

Wheatbelt region

The top five information sources used by landholders in the WB region in the past 12 months were other farmers (61%), personal experience or knowledge (55%), independent agricultural consultants, agronomists, or stock agents (41%), friends, neighbours, or relatives (36%), and the Bureau of Meteorology (34%) (Figure 24). Other farmers were the primary source for Farmers (76%), highlighting the importance of peer-to-peer learning, while this source among Lifestylers was much lower (30%). Personal experience was also highly valued by both groups, though more so among Farmers (62%) than Lifestylers (44%). Independent consultants and agronomists were a key source for Farmers (60%) but were rarely used by Lifestylers (5%), indicating a strong divide in reliance on professional advice. Friends, neighbours, and relatives were used at similar levels by Farmers (39%) and Lifestylers (33%), suggesting this source remained broadly relevant across landholder types. The Bureau of Meteorology was consulted at comparable rates, with slightly

higher use among Lifestylers (35%) than Farmers (32%). These patterns underscore the central role of peer networks and professional advisers for Farmers, while Lifestylers relied more on personal experience and general information sources.

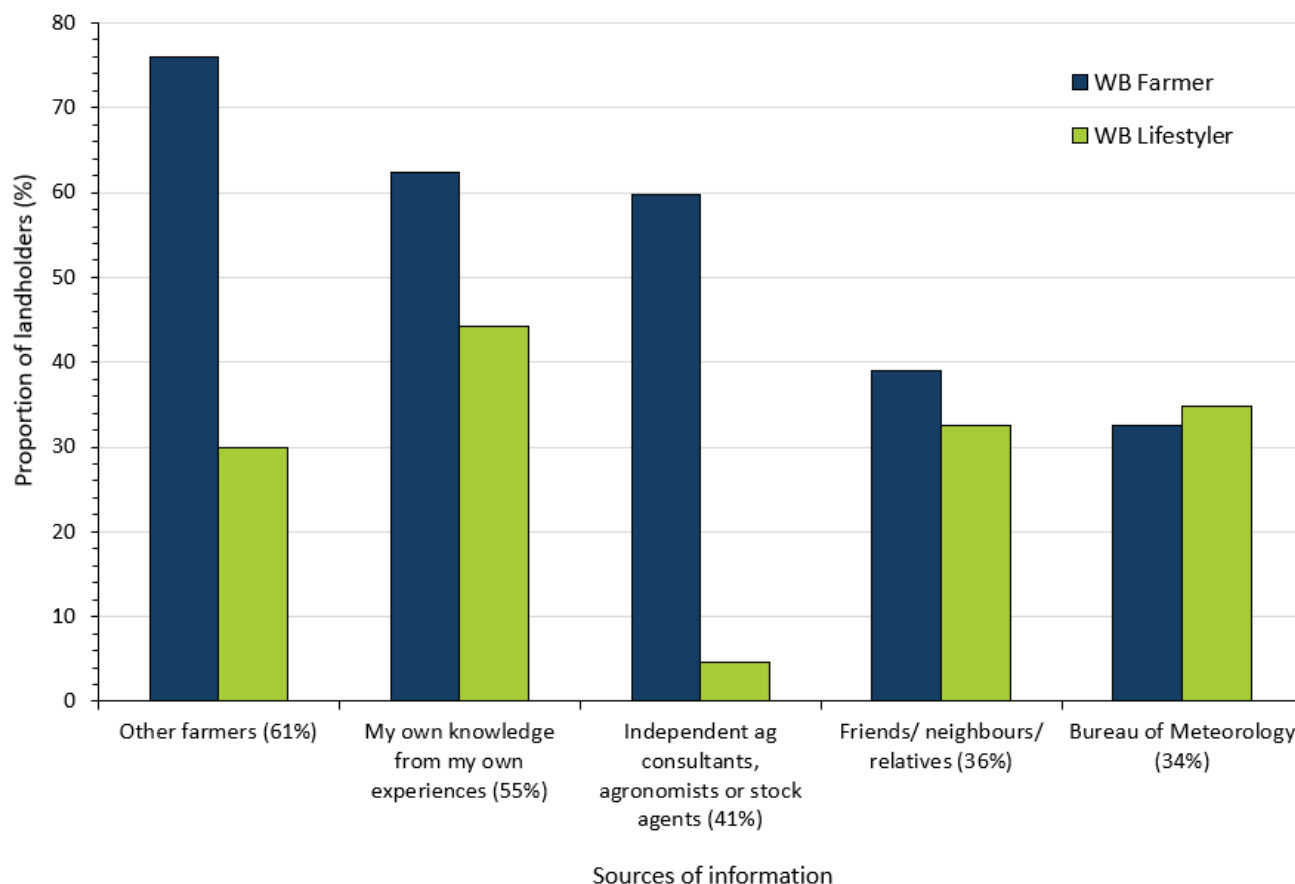


Figure 24. Top five sources of information used in the past 12 months by Farmers (full-time and part-time combined; $n = 77-78$) and Lifestylers (hobby and non-farmers combined; $n = 43$) in the Wheatbelt region. The proportion of landholders overall in the Wheatbelt who used each mode of information is given in brackets.

South-west of WA

The five most commonly used information sources across the SW region of WA were personal knowledge or experience (60%), other farmers (59%), friends, neighbours, or relatives (36%), independent agricultural consultants, agronomists, or stock agents (36%), and the Bureau of Meteorology (33%) (Figure 25). Personal experience was the leading source for Farmers (65%) and remained important for Lifestylers (43%), though to a lesser extent. Other farmers were widely relied upon by both groups, with similar levels of use among Farmers (60%) and Lifestylers (55%), highlighting the importance of peer networks across landholder types. Independent consultants and agronomists were more frequently consulted by Farmers (42%), while use among Lifestylers was relatively low (14%), indicating a divide in reliance on professional advice. The Bureau of Meteorology was used more by Farmers (37%) than Lifestylers (22%), reflecting its stronger role in production-related decision-making. Friends, neighbours, and relatives were accessed at similar levels by Farmers (35%) and Lifestylers (34%), suggesting this source remained broadly relevant across both groups. These patterns reinforce the importance of experiential knowledge and peer exchange, while also highlighting differences in engagement with professional and technical information sources.

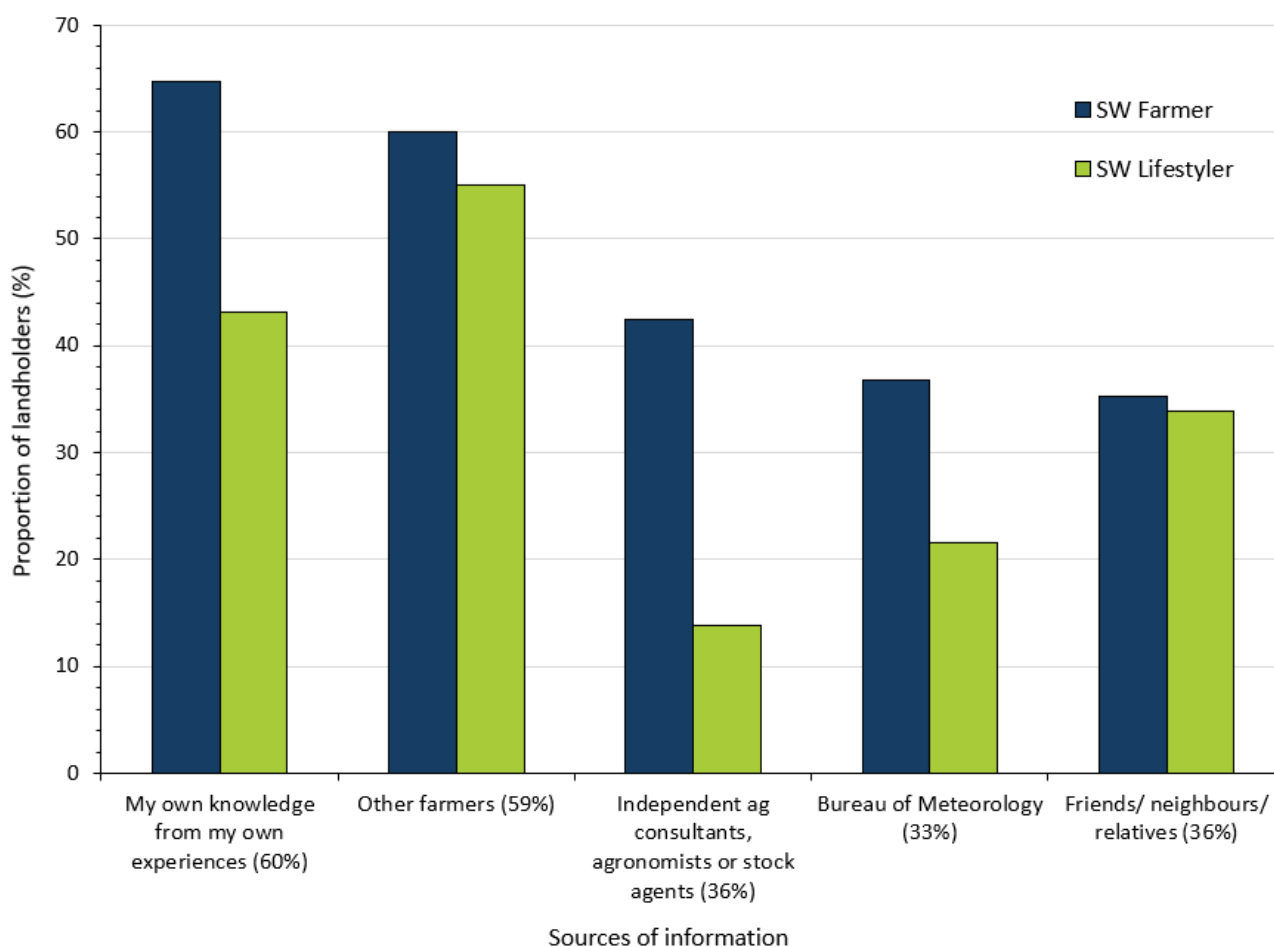


Figure 25. Top five sources of information used in the past 12 months by Farmers (full-time and part-time combined; $n = 193-195$) and Lifestylers (hobby and non-farmers combined; $n = 65$) in the South-west of WA. The proportion of landholders overall in the Wheatbelt who used each mode of information is given in brackets.

4.2 SOURCES OF SUPPORT

4.2.1 Views on support

Wheatbelt region

In the WB, perceptions of support for farming and land management were mixed and varied markedly between Farmers and Lifestylers. Overall, fewer than half of respondents felt adequately supported (47%), though this is substantially higher among Farmers (64%) and drops sharply among Lifestylers (16%), indicating a pronounced disparity in perceived access to or suitability of support mechanisms (Table 14). Perceptions of financial or institutional support for good land and soil stewardship were consistently low across all groups (10%), suggesting a widespread view that incentives were insufficient. However, social acceptance appeared comparatively stronger, with 53% overall agreeing that their approach to land management was well regarded locally, increasing to 70% among Farmers but remaining low among Lifestylers (23%), highlighting differing levels of integration and recognition within rural communities.

South-west of WA

In the SW, a similar but slightly more moderate pattern was evident. Overall perceived support was again reported by 47% of respondents, though the gap between Farmers (51%) and Lifestylers (29%) was less extreme than in the WB (Table 14). As in the WB, perceptions of adequate compensation for stewardship were uniformly low (12%), reinforcing the notion of limited

structural incentives for sustainable land management. Social acceptance of farming practices was relatively high overall (64%) and particularly strong among Farmers (74%), suggesting cohesive community norms around agricultural practices. Nonetheless, Lifestylers reported lower levels of acceptance (35%), indicating that while regional cohesion may be stronger in the SW, differences between landholder types in both perceived support and social integration persisted.

Table 14. Support views of landholders overall, Farmers (full-time and part-time combined) and Lifestylers (hobby and non-farmers combined) in the Wheatbelt (WB) region (n = 131–134) and South-west (SW) of WA (n = 268–278). Means (out of 5) are given in brackets.

Support statement	% Agree/strongly agree					
	WB Overall 2025	WB Farmers 2025	WB Lifestylers 2025	SW Overall 2025	SW Farmers 2025	SW Lifestylers 2025
My approach to farming/land management is generally well accepted by others in my local community	53% (3.7)	70% (3.9)	23% (3.1)	64% (3.8)	74% (3.9)	35% (3.5)
I feel adequately supported to conduct farming and land management activities on my property	47% (3.5)	64% (3.6)	16% (3.1)	47% (3.3)	51% (3.3)	29% (3.1)
There is adequate compensation or support for good land/soil stewardship	10% (2.5)	11% (2.4)	9% (2.6)	12% (2.3)	11% (2.3)	13% (2.3)

4.2.2 Support for agricultural and land management activities

The following presents landholder responses to the question 'What sort of support would enhance your agricultural and land management activities?'

Wheatbelt region

WB Farmers identified that enhanced support for agricultural and land management activities hinged on reducing regulatory burdens, increasing government accountability, and providing financial mechanisms better aligned with climatic variability and rising input costs. There was a strong demand for more locally relevant, independent, and practical research, particularly in areas such as soil health, salinity management, water use efficiency, and non-chemical weed control, alongside clearer extension services, including workshops, demonstration trials, and simplified operational guides. Additionally, Farmers emphasised the need for financial recognition of stewardship practices, including biodiversity conservation and regenerative approaches, as well as subsidies for key inputs and infrastructure. The responses reflect a preference for economically viable, regionally tailored, and practically grounded support systems that integrate farmer knowledge while minimising administrative complexity.

South-west of WA

Farmers in the SW of WA identified that enhanced support for agricultural and land management activities depended on reducing government bureaucracy, improving policy clarity, and

increasing financial assistance for land improvement, conservation measures, and rising operational costs. There was a strong demand for independent, science-based research and extension, particularly in soil health, plant agronomy, pasture systems, and alternative fertilisers, delivered through practical, locally relevant formats such as on-farm demonstrations, grower groups, and accessible decision-support tools. Farmers also emphasised the importance of strengthened regional networks, including Landcare and peer learning groups, alongside improved infrastructure and market access, such as increased abattoir capacity and biodiversity credit opportunities.

4.2.3 Role of NRM and grower groups in supporting landholders

Wheatbelt region

In the WB region, Farmers demonstrated strong engagement with and confidence in grower groups, alongside comparatively lower but still notable connection to NRM/catchment organisations. Over half of Farmers reported being members of a grower group (58%), and 41% were connected to NRM groups, reflecting active participation across both networks. This engagement was underpinned by positive perceptions, with a substantial majority agreeing that grower groups provided valuable information on soil, agronomy, and farm management (74%), compared to 50% for NRM groups. Farmers also expressed higher levels of trust in grower groups to represent landholder interests in research, development, and extension (64% versus 36%), and stronger support for their advocacy role (68% versus 56%). These perceptions were reinforced by a sense of responsibility, with 65% of Farmers indicating a personal obligation to participate in grower groups, and 64% viewing them as the most effective mechanism for driving local research, development, and extension, highlighting their central role within the agricultural knowledge and innovation system.

In contrast, WB Lifestylers exhibited markedly lower levels of engagement, trust, and perceived relevance across both grower and NRM groups. Only 4% reported membership in a grower group and 14% connection to NRM organisations, with just 16% expressing a sense of personal responsibility to participate in grower groups. Perceptions of value were also limited, with 22% agreeing that grower groups provided useful information and 26% indicating the same for NRM groups. Trust in representation remained low (17% for grower groups and 26% for NRM), although Lifestylers demonstrated relatively stronger support for advocacy roles, particularly for NRM organisations (42% compared to 30% for grower groups). While engagement was limited due to the hobby and NF makeup of the group, there was an indication that Lifestylers place some value on the broader community and environmental functions of these organisations, particularly within the NRM context.

South-west of WA

In the SW region of WA, Farmers demonstrated moderate engagement with both grower groups and NRM/catchment organisations, with a clear tendency towards stronger connection and confidence in NRM bodies. While only 25% of Farmers reported membership in a grower group, a substantially higher proportion were connected to NRM organisations (54%), reflecting the prominence of broader natural resource management networks in the region. Despite lower participation, over half of Farmers (51%) still expressed a personal responsibility to be involved in grower groups, and 53% considered them the most effective mechanism for driving local research, development, and extension. However, NRM groups were more frequently perceived as valuable sources of information (63% compared to 52% for grower groups), more reliable in representing landholder interests (49% versus 45%), and slightly stronger in advocacy roles (63% versus 57%), indicating that NRM organisations are viewed as more credible and influential across both knowledge provision and representation.

In contrast, Lifestylers in the SW of WA exhibited understandably lower overall engagement with formal groups, though they show relatively stronger alignment with NRM organisations than grower groups. Only 3% reported being members of a grower group, compared to 33% connected to NRM bodies, and attitudes towards grower group participation remained moderate, with 24% expressing a sense of responsibility and 35% agreeing they were effective for research, development, and extension. Perceptions of value and trust further reinforced this pattern, with 46% of Lifestylers identifying NRM groups as valuable sources of information compared to 28% for grower groups, and higher confidence in NRM representation (35% versus 28%). Advocacy expectations were also stronger for NRM organisations (55% compared to 44%), suggesting that while engagement was limited, Lifestylers placed greater importance on the environmental and community-oriented functions of NRM bodies within the regional landscape.

5. CHALLENGES ON THE LAND

5.1 REGIONAL ISSUES

Wheatbelt

In the WB, the most important district-scale issues differed between Farmers and Lifestylers, but both groups strongly prioritised government decision-making and water security (Figure 26). For Farmers, the leading issues were the impact of government decision-making on farming in the region (95%), support for new and/or young farmers (86%), declining soil health and/or soil productivity (85%), absence of important services and sufficient infrastructure (85%), and water security (84%). For Lifestylers, the top concerns were government decision-making on farming in the region (96%), water security (95%), the availability of water for livestock (89%), risk to life and/or property from bushfires, wildfires and/or flooding (89%), and the impact of pest plants and/or animals on native plants and animals (89%).

South-west of WA

In the SW of WA, Farmers again identified government decision-making as the most important district-scale issue, followed by water and environmental concerns. Their top five issues were impact of government decision-making on farming in the region (92%), water security (88%), the availability of water for livestock (86%), river health including reduced flows and/or salinity/nutrient run-off (84%), and the impact of pest plants and/or animals on native plants and animals (81%) (Figure 26). Lifestylers in the SW also placed highest importance on river health, including reduced flows and/or salinity/nutrient run-off (94%), pest plants and/or animals on native plants and animals (92%), water security (91%), government decision-making on farming in the region (91%), and the availability of water for livestock (86%).

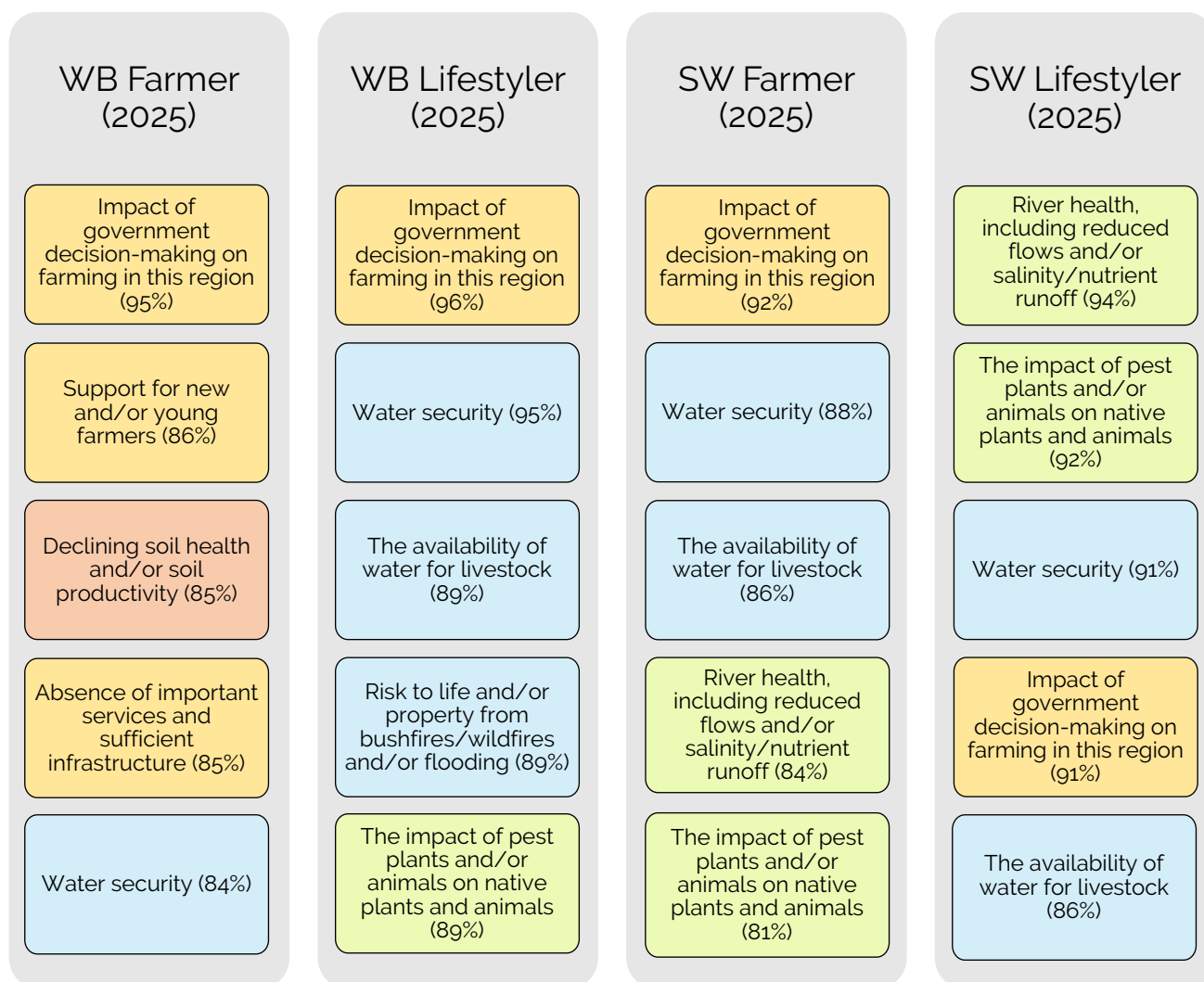


Figure 26. Top five most important/very important district-scale issues for Farmers (full-time and part-time combined) and Lifestylers (hobby and non-farmers combined) in the Wheatbelt (WB) region (Farmer $n = 79-81$, Lifestylers $n = 44-47$) and South-west (SW) of WA (Farmer $n = 192-195$, Lifestyler $n = 64-67$). Issues related to climate change in blue, soil issues in orange, social issues in yellow and environmental impacts in green.

5.2 PROPERTY-SCALE ISSUES

Wheatbelt

In the WB, Farmers' top property-scale concerns were rising input costs (95%), the impact of weeds or pest animals on productivity (86%), weed and pest resistance to herbicides, pesticides and/or fungicides (83%), uncertain returns limiting capacity to maintain or invest in property (80%), and changing rainfall patterns (75%) (Figure 27). Lifestylers in the region placed more emphasis on climate and local management factors, with the impact of temperature extremes and/or changing rainfall patterns (60%), loss of nutrients through the soil profile (57%), activities of neighbouring landholders (56%), soil acidity (55%), and non-wetting soils (55%) among the main issues. Overall, the WB results suggest that Farmers were most concerned with production viability, while Lifestylers gave relatively more attention to environmental and property management constraints.

South-west of WA

In the SW of WA, Farmers identified rising input costs (91%), soil acidity undermining productive capacity (83%), uncertain returns limiting capacity to maintain or invest in property (75%), climate

variability (73%), and weed and pest impacts on productivity (71%) as the main property-scale issues (Figure 27). Lifestylers also highlighted weed and pest impacts (78%), water holding capacity of soils (69%), climate variability (67%), activities of neighbouring landholders (64%), and rising input costs (62%). Compared with the WB, SW Lifestylers placed stronger emphasis on soil and water-related constraints, while Farmers continued to prioritise business pressures and productivity challenges.

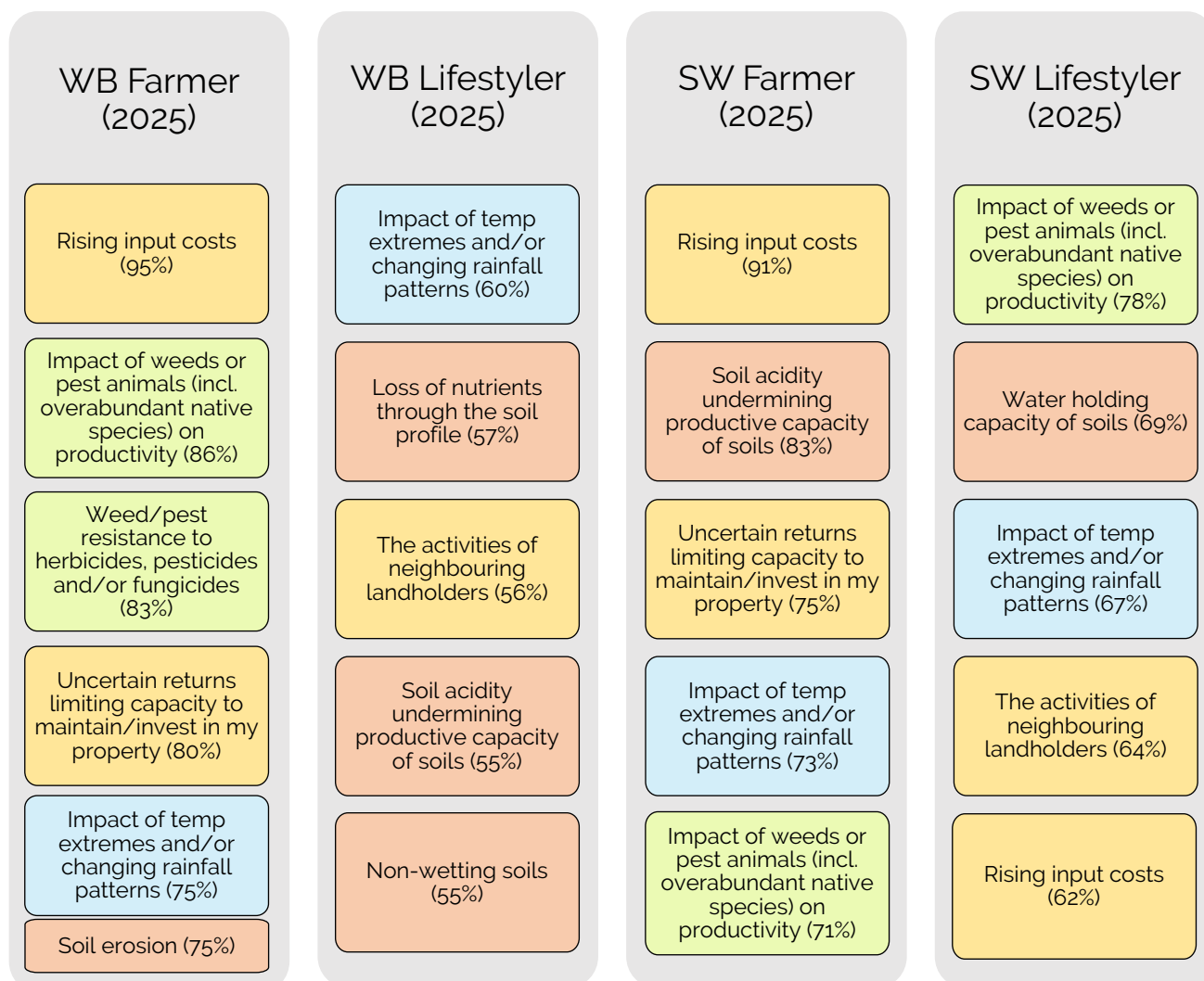


Figure 27. Top five most important/very important property-scale issues for Farmers (full-time and part-time combined) and Lifestylers (hobby and non-farmers combined) in the Wheatbelt (WB) region (Farmer n = 80–81, Lifestyler n = 42–44) and South-west (SW) of WA (Farmer n = 193–196, Lifestyler n = 63–67). Issues related to climate change in blue, soil issues in orange, social issues in yellow and environmental impacts in green.

5.2.1 Future challenges

The following presents landholder responses to the question 'In the next 10 years, what would you see as likely being your biggest challenge?'

Wheatbelt

In the WB region, the dominant challenges identified by both Farmers and Lifestylers over the next decade centred on the intersecting pressures of economic viability, climate change, and structural constraints within rural systems. Farmers consistently emphasised the cost–price squeeze, driven by rising input costs, machinery expenses, and limited returns for agricultural products, alongside restricted capacity to expand due to high land values. These economic

concerns were closely intertwined with environmental challenges, particularly declining rainfall, increasing temperatures, and soil degradation processes, such as salinity, non-wetting soils, and declining organic carbon. Governance also emerged as a prominent theme, with many respondents highlighting regulatory burden, policy uncertainty, and perceived external interference as limiting adaptive capacity. For Lifestylers, while economic pressures were less production-oriented, challenges were framed around maintaining properties under changing climatic conditions, affordability of water and living costs, and personal factors such as ageing, health, and access to services, reinforcing the broader vulnerability of non-commercial landholders in remote settings.

South-west of WA

In the SW of WA, challenges reflected a more complex interaction between environmental change, demographic transitions, and land-use pressures. Water security emerged as a critical concern, particularly in relation to declining rainfall, groundwater pressures, and competition from urbanisation and other industries. Farmers also highlighted rising input costs, profitability constraints, and increasing regulatory complexity, alongside the physical limitations associated with an ageing workforce and succession transitions. Environmental challenges remained central, including climate variability, soil health decline, weed and pest pressures, and loss of ecosystem function. For Lifestylers, climate change, manifested through hotter, drier conditions and increased weather variability, was the most consistently identified challenge, alongside land management issues such as weed control, maintaining soil condition, and protecting remnant vegetation. Additionally, external pressures, including urban encroachment, government policy, and limited infrastructure or market access, contributed to uncertainty about the long-term viability of both agricultural and lifestyle land uses in the region.

5.2.2 Future opportunities

The following presents landholder responses to the question 'In the next 10 years, what would you see as likely being your biggest opportunity?'

Wheatbelt

In the WB region, perceived opportunities over the next decade were strongly oriented towards technological advancement, market positioning, and land system improvement, alongside a parallel emphasis on transition and lifestyle outcomes among Lifestylers. Farmers frequently identified innovation, such as improved weather forecasting, precision agriculture, and enhanced spray technologies, as critical enablers of productivity gains and risk management under increasingly variable climatic conditions (Figure 28). Soil amelioration and regeneration strategies, including deep ripping, carbon building, and addressing salinity or non-wetting constraints, were also seen as central to unlocking future productivity and resilience. Market opportunities were evident in expectations of rising grain, wool, and livestock prices, as well as growing demand for 'clean and green' products and global food supply pressures, with some respondents highlighting value-adding, alternative income streams (e.g. agritourism, carbon farming), and business expansion. In contrast, WB Lifestylers more commonly framed opportunity in terms of lifestyle enhancement, retirement, property improvement, and environmental stewardship, including revegetation, biodiversity gains, and community-oriented land management (Figure 29). Collectively, this reflects a dual trajectory in the region: one focused on intensification and innovation in commercial agriculture, and the other on amenity, sustainability, and long-term land care.

South-west of WA



Figure 29. Word cloud representation of responses of Wheatbelt (WB) Lifestylers to the question: 'In the next 10 years, what would you see as likely being your biggest opportunity?' (n = 28). Each word is emphasised in relation to the number of responses. Source: wordclouds.com.



Figure 30. Word cloud representation of responses of Sout-west (SW) of WA Farmers to the question: 'In the next 10 years, what would you see as likely being your biggest opportunity?' (n = 145). Each word is emphasised in relation to the number of responses. Source: wordclouds.com.

standing out as the dominant issue (83%), substantially higher than all other concerns. Other moderately important issues for Farmers included water holding capacity (64%), nutrient loss (58%), and declining fertility (52%), suggesting a continued emphasis on maintaining soil productivity, albeit with less intensity and breadth than in the WB.

Lifestylers in the SW of WA exhibited a different profile again, with comparatively higher concern for water holding capacity (69%), soil erosion (55%), and soil biological activity (60%). In contrast, soil acidity was of much lower importance for this group (28%), representing a notable divergence from Farmers. Other issues, such as organic carbon (54%), nutrient loss (53%), and soil-borne diseases (49%), were of moderate concern. Overall, Lifestylers in the SW of WA appeared more focused on general soil conditions and ecological functioning, whereas Farmers prioritised specific production-limiting factors, particularly soil acidity.

Table 15. Importance of soil-related issues of landholders overall, Farmers (full-time and part-time combined) and Lifestylers (hobby and non-farmers combined) in the Wheatbelt (WB) region (n = 127–131) and South-west (SW) of WA (n = 266–273). Means (out of 5) are given in brackets and orange shading highlights the top three values by percentage, with the darkest shade reflecting the most important value.

Soil-related issue	% Important/very important					
	WB Overall 2025	WB Farmers 2025	WB Lifestylers 2025	SW Overall 2025	SW Farmers 2025	SW Lifestylers 2025
Soil erosion (e.g. due to wind or water)	66% (4.0)	75% (4.1)	52% (4.0)	50% (3.6)	48% (3.5)	55% (3.7)
Water holding capacity of soils	66% (4.1)	74% (4.2)	55% (4.0)	65% (3.9)	64% (3.8)	69% (3.9)
Soil acidity (lower pH) undermining productive capacity of soils	63% (4.0)	68% (4.3)	55% (3.4)	64% (3.8)	83% (3.9)	28% (3.7)
Declining fertility/nutrient status of soils over time, therefore increased inputs required	63% (4.0)	73% (4.1)	42% (3.9)	50% (3.6)	52% (3.6)	43% (3.6)
Soil (re)compaction	62% (3.8)	74% (4.0)	44% (3.7)	44% (3.3)	48% (3.4)	30% (3.1)
Loss of nutrients through the soil profile	62% (3.8)	67% (3.8)	57% (3.9)	55% (3.7)	58% (3.7)	53% (3.6)
Low level of biological activity in soils.	60% (3.8)	72% (3.9)	44% (3.7)	52% (3.6)	51% (3.5)	60% (3.7)
Low levels of organic carbon in soils	58% (3.8)	70% (3.9)	40% (3.7)	48% (3.5)	47% (3.5)	54% (3.7)
Non-wetting soils	58% (3.7)	59% (3.7)	55% (3.8)	42% (3.3)	44% (3.3)	42% (3.4)
Salinity (e.g. magnesias patches, Mallee seeps) undermining productive capacity of soils	57% (3.8)	69% (3.9)	36% (3.4)	34% (3.1)	33% (3.1)	37% (3.2)

Soil-related issue	% Important/very important					
	WB Overall 2025	WB Farmers 2025	WB Lifestylers 2025	SW Overall 2025	SW Farmers 2025	SW Lifestylers 2025
Soil-borne diseases	55% (3.8)	61% (3.8)	41% (3.7)	44% (3.3)	43% (3.3)	49% (3.5)
Chemical residue in soils	52% (3.6)	56% (3.6)	47% (3.7)	40% (3.2)	40% (3.2)	42% (3.4)
Soil sodicity undermining productive capacity of soils	48% (3.6)	60% (3.7)	28% (3.4)	44% (3.3)	47% (3.4)	38% (3.3)
Unintended or re-emerging impacts of previous soil amelioration strategies	42% (3.3)	45% (3.2)	38% (3.4)	26% (2.9)	26% (2.8)	31% (3.1)

5.2.4 Land lost to productivity

The following presents landholder responses to the question 'Is any part of your land presently lost to production due to soil problems? If yes, how many hectares have been lost due to soil?'

Wheatbelt

In the WB region in 2025, soil-related land loss remains a substantial issue, particularly among Farmers. A majority of Farmers (57%) reported that some proportion of their land is presently lost due to soil problems, compared to only 11% of Lifestylers, indicating a pronounced disparity likely linked to differences in production intensity and land-use objectives. The scale of impact was also markedly higher for Farmers, who reported an average of 225 hectares affected (7% of average property size), whereas Lifestylers reported an average of just 8 hectares (0.6% of average property size (n = 5)). This suggests that while soil degradation was less commonly reported among Lifestylers, its consequences for commercial farming operations in the WB were both more widespread and significantly larger in magnitude.

Landholders were asked to describe the reasons for this land being lost. For WB Farmers, salinity clearly dominated as the primary soil-related issue, referenced in approximately 65–70% of responses, often described in terms of salt scalds, rising water tables, and encroachment into productive land. Many Farmers emphasised that salinity was a long-standing and spatially extensive constraint, with management responses such as tree planting, saltbush establishment, and drainage interventions commonly noted. A second key issue raised related to soil water dynamics, cited in roughly 20–25% of responses, including both waterlogging in creek lines and floodways and non-wetting soils in sandy profiles, highlighting the challenge of managing highly variable moisture conditions. The third most common concern, appearing in around 15–20% of responses, involved broader soil conditions and fertility limitations, including acidity, low nutrient-holding capacity in deep sands, and susceptibility to wind and water erosion, all of which constrain productivity and require ongoing inputs, such as liming and soil amelioration.

South-west of WA

In the SW region in 2025, the prevalence and scale of land loss due to soil problems appeared comparatively lower, though notable differences between landholder types persisted. Only 19% of Farmers and 11% of Lifestylers reported experiencing land loss, indicating a narrower gap

between these groups than in the WB. However, among those affected, Farmers still reported a considerably larger average area impacted (95 hectares, 19% of total average property) compared to Lifestylers (8 hectares, 10% of average property size (n = 7)), reflecting the greater scale of farming enterprises. Overall, while soil issues in the SW seemed less pervasive, they continued to disproportionately affect Farmers in terms of land area, reinforcing the importance of targeted soil management strategies across different landholder types.

For SW Farmers, the most prominent soil-related issue was also salinity, reported in approximately 40–50% of responses, though typically at a smaller scale than in the WB. Farmers frequently linked salinity with localised problem areas, such as creek lines and low-lying zones, and they noted management responses, including drainage works, revegetation, and fencing to prevent further spread. The second major issue was waterlogging, identified in roughly 35–45% of responses, often associated with heavy clay soils, seasonal flooding, and poor drainage; in many cases, salinity and waterlogging were described together, reflecting their interconnected nature in the landscape. The third key issue, cited in around 20–25% of responses, related to soil condition and structural constraints, including acidity, compaction, and poor sandy soils with low productivity, alongside physical limitations such as rocky outcrops and legacy land uses (e.g. plantation stumps), all of which contribute to ongoing challenges in maintaining and improving agricultural productivity.

5.2.4 Soil amelioration practices

The following presents landholder responses to the question 'Have you had any notably successful or unsuccessful soil amelioration practices? Please provide an example.'

Wheatbelt

In the WB region in 2025, over half of Farmers (53%) reported having notably successful or unsuccessful soil amelioration practices, compared to 21% of Lifestylers, indicating greater engagement with and experience in soil management interventions among commercial producers. When asked to provide an example, the most commonly reported successful soil amelioration practice across the region was reported as liming, referenced in approximately 65–75% of responses, primarily to address soil acidity and improve pH, with many Farmers noting visible improvements in crop growth, yield, and soil test results following application. The second most prominent practice was deep soil intervention, cited in roughly 40–50% of responses, including deep ripping, spading, mouldboard ploughing, and soil mixing, often undertaken in combination with lime or gypsum to alleviate compaction and improve root penetration and nutrient availability. The third key group of practices, appearing in around 20–30% of responses, involved soil amendment and system-based approaches, such as gypsum application, claying, organic matter management (e.g. maintaining soil carbon), and perennial plantings or tree belts, reflecting efforts to address structural constraints, water dynamics, and longer-term soil function.

South-west of WA

In the SW region in 2025, a smaller proportion of Farmers (38%) reported having notably successful or unsuccessful soil amelioration outcomes, compared to 15% of Lifestylers, suggesting lower overall engagement or fewer perceived impacts of such practices across both groups relative to the WB. Among those who provided examples, liming was the most frequently cited practice (approximately 60–70% of responses), commonly associated with improvements in soil pH and pasture productivity despite some mixed results. This was followed by deep soil interventions (around 40–50%), such as deep ripping, claying, and mechanical renovation, often used in combination with lime or gypsum to address compaction, waterlogging, and salinity. A third group of practices (approximately 30–40%) reflected broader systems-based approaches,

including pasture diversification, rotational or cell grazing, organic amendments, and revegetation, indicating a notable emphasis on integrated and regenerative soil management alongside conventional amelioration techniques.

5.3 RELATIONSHIPS BETWEEN ISSUES AND PRACTICE

5.3.1 Issues and practice in the Wheatbelt

The following table uses the statistical pairwise comparisons to understand relationships between practices and issues.

Table 16. Relationships between soil-related issues and best practices implemented as mitigation interventions on the WA Wheatbelt (WB) in the past five years. Some of the correlations were positive (indicated by POS), and others negative (indicated by NEG).

Important issue	Management practice applied in past 5 years
Rising input costs	POS: fertiliser planning and application, and improved waste recirculation, e.g. composting. NEG: Planting trees and encouraging native grasses at scale.
Resistance to herbicides	NEG: Application of biological amendments.
Impact of temp extremes and/or changing rainfall patterns	POS: encouraging native grasses at scale. NEG: Applying synthetic fertiliser, removing trees and deep ripping.
Erosion	No significant correlation last 5 years.
Water holding capacity	POS: Regen practices, sowing perennial pastures, waste recirculation.
Soil acidity	POS: Soil testing and waste recirculation.
Declining fertility/nutrient status of soils over time, therefore increased inputs required	No significant correlation last 5 years.
Soil (re)compaction	POS: Regen farming and sowing perennial pastures.
Loss of nutrients through the soil profile	No significant correlation last 5 years.
Low level of biological activity in soils.	NEG: planting legumes, precision farming.

* Note: a negative relationship means that farmers are less likely to implement a practice as the issue increases in importance.

5.3.2 Issues and practice in south-west WA

The following table uses the statistical pairwise comparisons to understand relationships between practices and issues.

Table 17. Relationships between soil-related issues and best practices implemented as mitigation interventions in South-west (SW) WA in the past five years. Some of the correlations were positive (indicated by POS), and others negative (indicated by NEG).

Important issue	Management practice applied in past 5 years
Rising input costs	POS: synthetic fertiliser application, nutrient budgeting, waste recirculation. NEG: encouraging native grasses, planting trees.
Soil acidity	POS: Soil testing and waste recirculation, e.g. compost.
Uncertain returns limiting capacity to reinvest	No significant correlation last 5 years.
Impact of temp extremes and/or changing rainfall patterns	POS: Encouraging native grasses. NEG: synthetic fertiliser application, tree removal, deep ripping.
Water holding capacity of soils	POS: Regen practices, sowing perennial pastures, waste recirculation. NEG: historical fencing (prev. to 5 years).
Loss of nutrients through the soil profile	No significant correlation last 5 years.
Declining fertility/nutrient status of soils over time, therefore increased inputs required	No significant correlation last 5 years.
Low level of biological activity	POS: Waste recirculation. NEG: Planting legumes, precision farming.
Soil (re)compaction	POS: Soil testing, sowing perennial pastures.
Declining soil health and/or productivity	POS: Regen practices, waste recirculation. NEG: Precision farming, fertiliser budgeting, planting legumes, integrated pest management.

* Note: a negative relationship means that farmers are less likely to implement a practice as the issue increases in important.

5.4 CLIMATE CHANGE

5.4.1 Climate change challenges

Wheatbelt

In the WB region, climate change-related challenges at the local district scale were identified as important issues among landholders (Table 18). Water security was the most frequently reported concern for both Farmers (84%) and Lifestylers (95%), indicating strong awareness of the vulnerability of water resources in WA. Changes in weather patterns were also widely identified as a key issue (77% for Farmers; 83% for Lifestylers), alongside risk to life and property from bushfires and floods (72% for Farmers; 89% for Lifestylers). Together, these findings indicate broad recognition of climate-related hazards and the importance of disaster preparedness at the district level. For reference, rainfall and temperature averages are available in Figure 32.

At the property scale, uncertainty around financial returns was a prominent concern among Farmers (80%), reflecting constraints on capacity to maintain and invest in land management. Temperature extremes and changing rainfall patterns were also identified as important challenges (75% for Farmers; 60% for Lifestylers), highlighting ongoing concerns about climatic variability and its implications for farm operations. Overall, responses indicate that climate-related pressures were multifaceted, spanning both environmental risks and economic constraints at the property level.

South-west of WA

In the south-west of WA, climate change-related concerns at the district scale were similarly centred on water resources. Water security was identified as a key issue by both Farmers (88%) and Lifestylers (91%), alongside the availability of water for livestock, which was reported by 86% of both groups. Risk to life and property from bushfires and flooding was also consistently high (81% for both Farmers and Lifestylers), reinforcing the perceived importance of disaster preparedness across the region. Changes in weather patterns were additionally recognised as a significant concern (75% for Farmers; 82% for Lifestylers), further underscoring the prominence of climate variability in shaping perceived risks. For reference, rainfall and temperature averages are available in Figure 32.

At the property level, temperature extremes and changing rainfall patterns were identified as important challenges (73% for Farmers; 67% for Lifestylers), while uncertainty around returns limiting the capacity to maintain or invest in properties was also reported, particularly among Farmers (75% compared with 50% for Lifestylers). These findings indicate that climate-related concerns extended beyond environmental factors to include financial and operational considerations. Overall, responses highlight the prominence of water-related risks and broader climate variability as key challenges shaping landholder perceptions in the region.

Table 18. Importance of climate change-related issues at the local district-scale landholders overall, Farmers (full-time and part-time combined) and Lifestylers (hobby and non-farmers combined) in the Wheatbelt (WB) region (n = 130–135) and South-west (SW) of WA (n = 270–276). Means (out of 5) are given in brackets and orange shading highlights the top three values by percentage, with the darkest shade reflecting the most important value.

Climate change issue	% Important/very important					
	WB Overall 2025	WB Farmers 2025	WB Lifestylers 2025	SW Overall 2025	SW Farmers 2025	SW Lifestylers 2025
Water security	86% (4.4)	84% (4.4)	95% (4.7)	89% (4.6)	88% (4.5)	91% (4.6)
The availability of water for livestock	76% (4.3)	70% (4.2)	89% (4.6)	86% (4.4)	86% (4.4)	86% (4.4)
Risk to life and/or property from bushfires/wildfires and/or flooding	77% (4.1)	72% (4.0)	89% (4.3)	81% (4.3)	81% (4.3)	81% (4.3)
Changes in weather patterns	76% (4.1)	77% (4.2)	83% (4.2)	77% (4.2)	75% (4.2)	82% (4.2)
~ Impact of temperature extremes and/or changing rainfall patterns on management/productivity	69% (4.0)	75% (4.0)	60% (4.2)	72% (4.0)	73% (4.0)	67% (4.0)
~ Uncertain returns limiting capacity to maintain/ invest in my property	62% (4.0)	80% (4.2)	34% (3.6)	69% (4.0)	75% (4.2)	50% (3.6)

~ Question at the property scale.

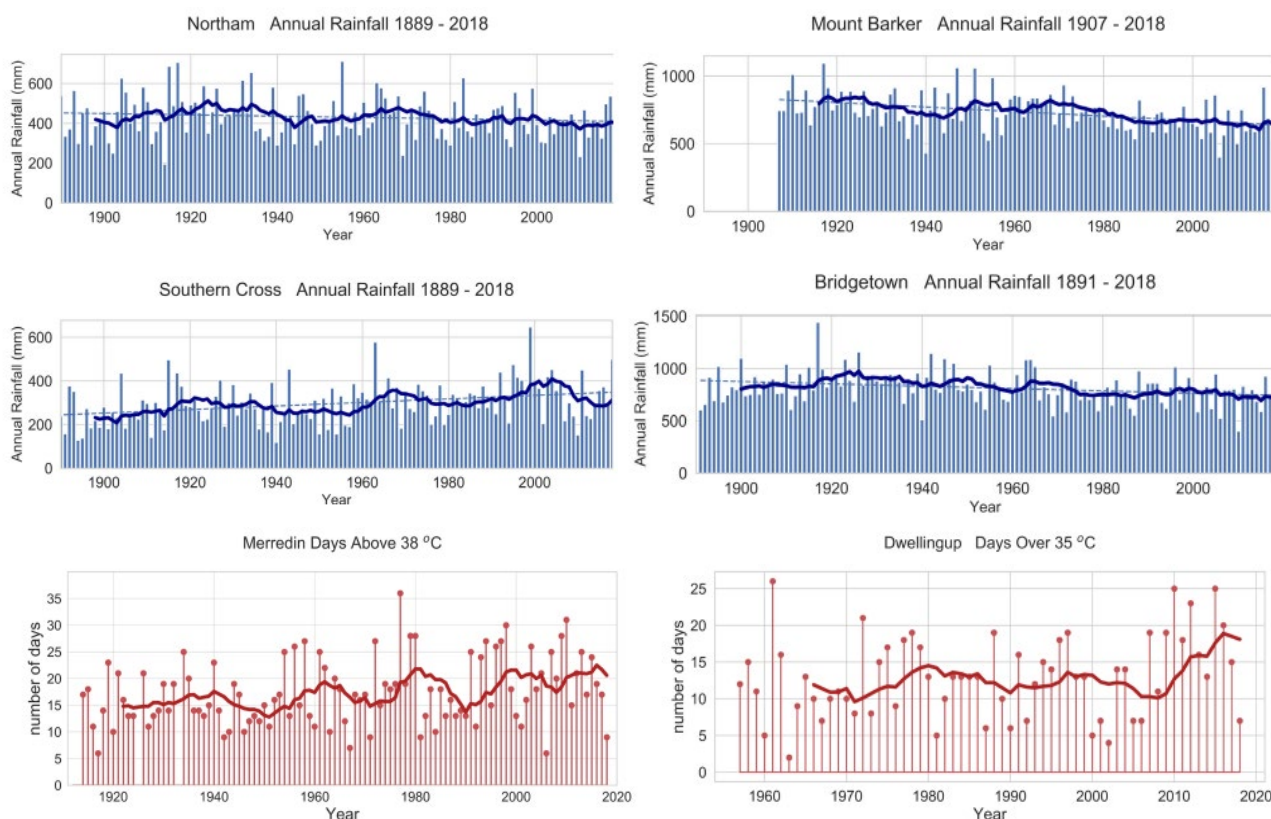


Figure 32. Trends in mean temperature and rainfall in the Wheatbelt (WB) region (left panels) and South-west (SW) of WA (right panels). In the top four graphs, the blue bars reflect the annual rainfall while the thick blue line represents a 10-year running average. The red bars in the bottom two graphs represent the number of days above 38°C (for Merredin) or 35°C (for Dwellingup) and the thick red line represents a 10-year running average. Graphs accessed from Bureau of Meteorology climate guides for the Wheatbelt, South Coast, South-west and Peel-Harvey areas - <https://www.bom.gov.au/climate/climate-guides/>

5.4.2 Beliefs about climate change

Wheatbelt region

In the WB, Lifestylers expressed the highest levels of concern for climate change in the region but were pessimistic about the capacity of the region to respond to changes. Lifestylers were concerned about the risk of climate change to the region (71%) and believed that climate change will have dire consequences for all living things (66%), attributing the activities of humans to influencing changes in climate (76%) (Table 19). In response to these challenges, Lifestylers believed that landholders should manage their properties in expectation of a highly variable climate (73%) and, to a lesser extent, believed that primary producers should do all they can to reduce carbon emissions (52%). However, only 49% were confident that landholders could adapt to expected changes, indicating a pessimistic outlook on the capacity of the region to adapt to forecasted risks. Despite this, 60% of Lifestylers believed it was not too late to take action to address climate change, with 51% expressing the need for fundamental changes to make the region more resilient. The findings suggest that Lifestylers were not highly confident that landholders could manage changes in climatic conditions and believed more action was needed to build resilience and overcome their concerns.

Compared to Lifestylers, WB Farmers were less concerned about climate change impacts and believed they could adapt to expected challenges. Farmers, while still concerned about the risk of climate change to the region (59%) and the role of humans in influencing changes (57%), were less inclined to believe that climate change would have dire consequences for living things (43%).

Compared to Lifestylers, fewer Farmers believed that it was not too late to take action to address climate change (53%) and only slightly fewer believed fundamental changes were required to build regional resilience (48%). Despite expressing lower concerns about the risk of climate change, WB Farmers strongly believed that landholders should manage their properties in expectation of a highly variable climate (82%) and expressed a high confidence that landholders could adapt to expected rainfall changes (78%). Yet only 38% of Farmers indicated that primary producers should do all they could to reduce carbon emissions, reflecting potential disparities in the role of landholders in climate mitigation

South-west of WA

Lifestylers in the SW of WA showed the greatest concerns for climate change across landholder groups in WA but were the most optimistic for addressing challenges. SW Lifestylers strongly believed that climate change poses a risk to the region (77%) and would have dire consequences for living things without intervention (72%), suggesting that human activities were influencing changes in climate (78%) (Table 19). Despite the concerns of SW Lifestylers, they were optimistic that it is not too late to take action to address climate change (66%). In response to their concerns, Lifestylers believed that landholders should manage their properties in expectation of a highly variable climate (78%) and that primary producers should aim to reduce carbon emissions from their activities (68%), highlighting the need for fundamental changes to farming systems in the region (62%). However, SW Lifestylers were less confident than Farmers that landholders could adapt to expected changes in rainfall patterns (53%). These findings suggest that, while Lifestylers were highly worried about climate change, greater support for landholders and fundamental changes to the food system make them optimistic about addressing climate change.

Like the WB, Farmers in the SW of WA were less concerned about the impacts of climate change in the region compared to Lifestylers. Farmers, while to a lesser extent than Lifestylers, believed that climate change posed a risk to the region (54%) and would have dire consequences for all living things without intervention (51%), attributing human activities as influences in changes in climate (64%). Farmers in the SW of WA were less optimistic than Lifestylers, with 53% believing it was not too late to take action to address climate change. In response to concerns, Farmers believed landholders should manage their properties in expectation of a highly variable climate (81%) but were less confident that landholders could adapt to changes in rainfall (64%) when compared to WB Farmers. Similar to the WB, fewer Farmers believed that primary producers should work to reduce carbon emissions from their activities (43%), reflecting differences in perceptions of the role of landholders in emissions reductions between the two landholder groups. Additionally, fewer Farmers believed that fundamental changes were needed (45%) compared to Lifestylers, which may reflect differences in perceptions of the scale and feasibility of change within the food system. Taken together, these findings reflect a group who were concerned about the risks of climate change but were not as optimistic as Lifestylers that they could adapt to climatic changes.

Table 19. Climate change beliefs of landholders overall, Farmers (full-time and part-time combined) and Lifestylers (hobby and non-farmers combined) in the Wheatbelt (WB) region (n = 116–125) and South-west (SW) of WA (n = 273–277). Means (out of 5) are given in brackets and orange shading highlights the top three values by percentage, with the darkest shade reflecting the most important value.

Climate change beliefs	% Agree/strongly agree					
	WB Overall 2025	WB Farmers 2025	WB Lifestylers 2025	SW Overall 2025	SW Farmers 2025	SW Lifestylers 2025

Landholders should manage their properties in expectation of a highly variable climate	79% (3.9)	82% (3.9)	73% (4.0)	79% (4.0)	81% (4.0)	78% (4.0)
I'm confident landholders in this region can adapt to expected changes in rainfall patterns	68% (3.9)	78% (4.0)	49% (3.5)	62% (3.7)	64% (3.7)	53% (3.4)
Human activities are influencing changes in climate	64% (3.6)	57% (3.5)	76% (3.9)	67% (3.8)	64% (3.7)	78% (4.2)
I feel confident managing my farm in the face of increasing change and uncertainty	59% (3.8)	76% (3.9)	29% (3.4)	61% (3.6)	70% (3.7)	34% (3.3)
Climate change poses a risk to the region	61% (3.7)	59% (3.6)	71% (3.9)	59% (3.6)	54% (3.5)	77% (4.0)
It is not too late to take action to address climate change	54% (3.4)	53% (3.4)	60% (3.4)	56% (3.5)	53% (3.5)	66% (3.7)
If we do nothing, climate change will have dire consequences for all living things, including humans	50% (3.3)	43% (3.1)	66% (3.8)	57% (3.6)	51% (3.4)	72% (4.0)
Fundamental changes are required to make farming systems in our region more resilient/sustainable	48% (3.4)	48% (3.3)	51% (3.6)	49% (3.4)	45% (3.3)	62% (3.8)
Primary producers should do all they can to reduce carbon emissions from their activities	43% (3.2)	38% (3.0)	52% (3.7)	48% (3.3)	43% (3.2)	68% (3.7)

5.4.3 Changes to make farming systems more resilient

The following presents landholder responses to the question 'Fundamental changes are required to make farming systems in our region more resilient/sustainable. What sort of changes do you suggest?'

Wheatbelt region

In the WB region in 2025, 48% of Farmers and 51% of Lifestylers agreed or strongly agreed that fundamental changes were required to make farming systems more resilient and sustainable. Among WB Farmers, suggested changes clustered around three main themes. The most prominent, representing approximately 40–50% of responses, focused on adaptation-oriented production strategies, including drought-tolerant crop species, improved crop varieties, water-efficient practices, livestock rotation systems, and increased use of perennial pastures to better manage rainfall variability. A second key theme (around 30–40%) centred on soil and ecological management, with emphasis on improving soil biology, enhancing vegetation cover in marginal areas, recognising natural capital, and reducing reliance on synthetic fertilisers and chemicals. The third theme (approximately 25–35%) related to structural and institutional factors, including

calls for more locally informed decision-making, improved and more accessible government support (particularly for soil amelioration), greater market stability, and recognition of existing Farmer innovation and effort, alongside some scepticism towards climate change framing and policy approaches.

South-west of WA

In the SW region in 2025, 45% of Farmers and a higher proportion of Lifestylers (62%) agreed or strongly agreed that fundamental changes were required to improve the resilience and sustainability of farming systems. Among Farmer responses to what these changes should involve, three dominant themes were evident. The most frequently cited area, representing approximately 40–45% of coded mentions, related to soil health and regenerative land management, including reduced synthetic inputs, improved soil biology, increased organic matter, rotational and mixed farming systems, and more holistic grazing and vegetation practices. A second key theme, accounting for roughly 25–30% of responses, focused on water security and drought resilience, particularly improved water storage, better landscape water retention, and strengthened drought preparedness in response to increasing climate variability. A third major theme, also comprising around 25–30% of responses, centred on broader structural and system-level changes, including diversification of farm enterprises, improved profitability and market conditions, reduced regulatory burden, and greater support for innovation and long-term farm viability. Collectively, these responses indicate that Farmers conceptualise resilience as requiring integrated biophysical restoration alongside adaptive water management and enabling economic and policy environments.

5.4.4 Responding to climate change

Wheatbelt region

In the WB, building soil carbon was the most important change to property management in response to climate change, especially for Farmers. In the past five years, 44% of Farmers had changed operations to increase soil carbon while only 24% of Lifestylers reported doing the same, reflecting differences in property goals and commercial scales (Table 20). To a lesser extent, Farmers reported having changed their operations as a result of considering changes in weather patterns (41%) and to reduce carbon emissions (18%). In comparison, fewer Lifestylers had changed their operations in response to seasonal changes in weather (14%), but a similar proportion had changed in response to reducing carbon emissions (17%).

South-west of WA

In the SW of WA, the most important changes to property management in response to climate change were aimed at increasing soil carbon, with 47% of Farmers having changed their operations to achieve this within the past five years (Table 20). To a lesser extent, Farmers had changed their operations in response to seasonal changes in weather patterns (29%) and to reduce carbon emissions from their activities (31%). Lifestylers also focused on improving soil carbon (35%), responding to seasonal changes in weather patterns (19%) and reducing emissions (22%) but to a lesser extent than Farmers in the region, reflecting differences in property goals and highlighting opportunities to support increased climate mitigation practices on properties.

Landholders in the SW of WA reported being more disaster ready than those in the WB, with Lifestylers in the SW of WA being the most prepared landholder group. In the SW of WA, 36% of Farmers and 41% of Lifestylers indicated that they had prepared a disaster response plan. Preparedness was lower in the WB, with only 26% of Farmers and 29% of Lifestylers having prepared a disaster response plan. Given the climate change projections for the region, there is an opportunity to support more landholders in both the SW and WB to prepare for disasters.

Table 20. Practice change views of landholders overall, Farmers (full-time and part-time combined) and Lifestylers (hobby and non-farmers combined) in the Wheatbelt (WB) region (n = 130–133) and South-west (SW) of WA (n = 283–287).

Climate change actions	% Indicating yes					
	WB Overall 2025	WB Farmers 2025	WB Lifestylers 2025	SW Overall 2025	SW Farmers 2025	SW Lifestylers 2025
In past 5 yrs, changed financial or on-property operations as a result of seasonal changes in weather patterns.	31%	41%	14%	25%	29%	19%
In past 5 yrs, changed operations to increase the soil carbon on your property	37%	44%	24%	44%	47%	35%
In past 5 yrs, changed on-property operations as a result of considering opportunities to reduce carbon emissions	16%	18%	17%	28%	31%	22%
Has a disaster response plan prepared	26%	26%	29%	40%	36%	41%

6. THE FUTURE OF FARMING IN WA

6.1 DIFFERENCES BY GENERATION

The following section presents data disaggregated by three generational cohorts to support interpretation of differences in land management approaches across age groups. Baby Boomers and older cohorts (BabyBoomers+) are defined as those born in and before 1964, Generation X includes those born between 1965 and 1980, and Generation Y and younger (Generation Y-) comprises those born from 1981 onwards. It should be noted that the sample size for Generation Y- is relatively small ($n < 30$), and results for this group should therefore be interpreted with caution due to reduced statistical reliability.

Wheatbelt region

In the WB region, generational differences in management practices reveal a mixed pattern of continuity and gradual transition. Core agronomic practices, such as soil testing, maintaining groundcover, and applying synthetic fertilisers, were widely adopted across all cohorts, with particularly strong uptake among Generation X and younger landholders (Figure 33). For example, soil testing was reported by 74% of Generation Y- respondents and 53% of Baby Boomers+, while synthetic fertiliser use was highest among younger cohorts (67%) compared to 51% of older landholders. Similarly, practices linked to production efficiency, such as lime application, minimum or no-tillage, and fertiliser planning, were more prevalent among Generation X and Generation Y-, suggesting a cohort effect associated with exposure to contemporary agronomic extension and training systems.

At the same time, there is evidence of selective uptake of more diverse or sustainability-oriented practices among younger WB landholders, though overall adoption remained moderate. Generation Y- respondents reported higher engagement in tree and shrub planting (67%), multi-species systems (28%), and biological inputs (22%) relative to older cohorts, indicating some alignment with regenerative or diversification principles. However, explicitly identified regenerative practices remained limited across all generations, with only 22–32% reporting implementation of these approaches. Notably, practices such as holistic grazing, soil moisture monitoring, and carbon farming were adopted at relatively low rates overall, suggesting structural, knowledge, or economic barriers to wider implementation despite generational shifts.

South-west of WA

In the SW region of WA, a stronger generational gradient was evident, particularly in the uptake of both conventional and regenerative-oriented practices. Generation X consistently reported the highest levels of adoption across a wide range of activities, including soil testing (81%), groundcover maintenance (79%), fertiliser use (69%), and minimum tillage (64%). In contrast, Baby Boomers+ showed lower uptake in several of these areas, particularly in minimum tillage (34%) and precision agriculture (10%), indicating potential differences in capital investment, enterprise scale, or management priorities. Generation Y- demonstrated strong engagement in selected practices, such as soil testing (73%), planting vegetation (64%), and multi-species systems (36%), although participation was more variable across the full suite of practices.

Importantly, the SW shows comparatively higher adoption of livestock and regenerative-oriented practices, particularly among younger and mid-aged cohorts. Time-controlled or holistic grazing was notably more common than in the WB, with 55–58% of Generation X and Generation Y- respondents reporting its use, compared to much lower rates in the WB. Similarly, practices such as biological inputs (36%), multi-species systems (49% among Generation X), and regenerative

farming approaches (41% among Generation Y-) were more widely reported, suggesting a regional context more conducive to diversification and mixed farming systems. Despite this, some practices, such as carbon farming, organic certification, and soil moisture monitoring, remained consistently low across all generations, reinforcing the persistence of broader structural and market constraints shaping landholder decision-making.

Appendix 1 has full data by generation for modes and sources.

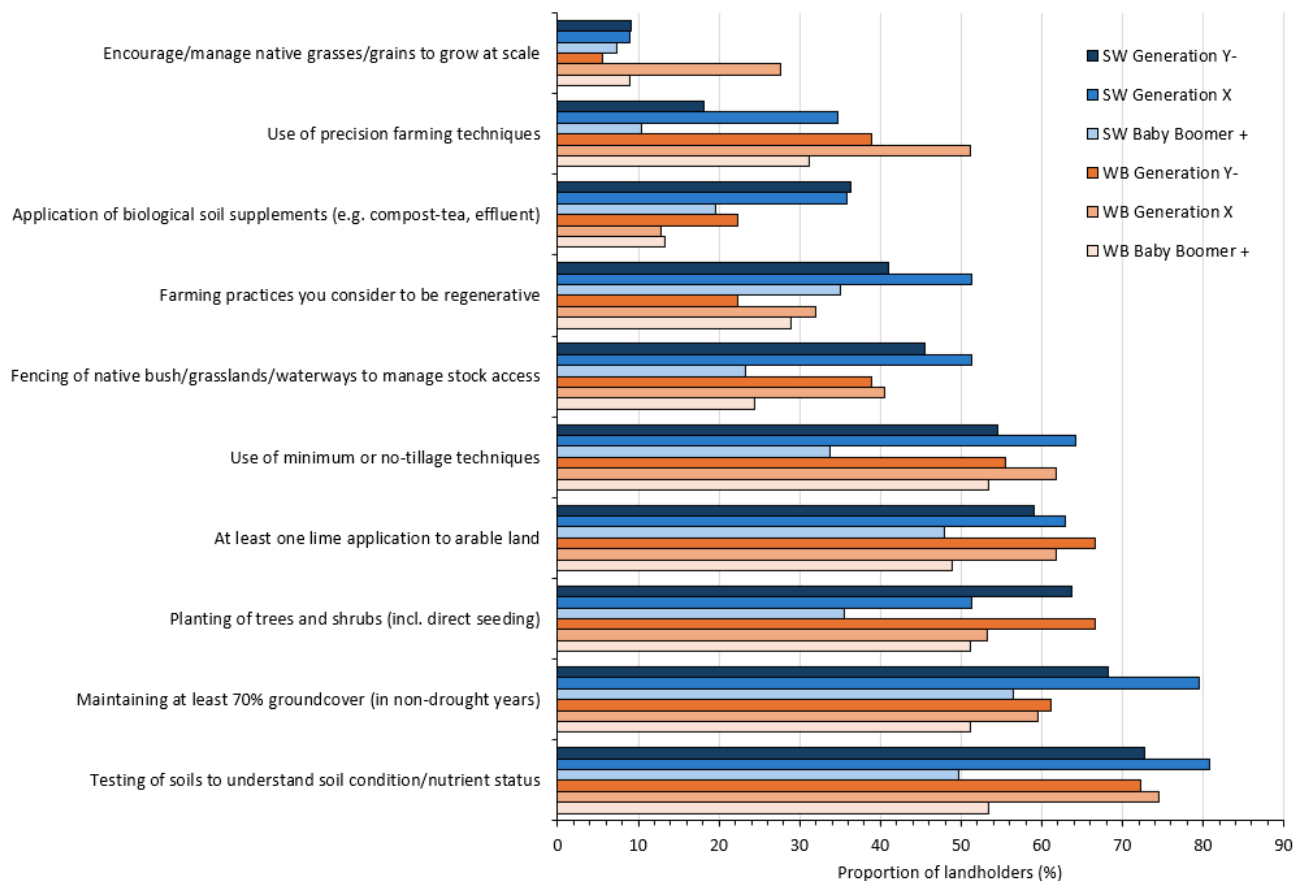


Figure 33. Management practices implemented in the past five years by generation for landholders in the Wheatbelt (WB) region (n = 110) and South-west (SW) of WA (n = 263). Note, Generation Y- values are low for the Wheatbelt (n = 18) and SW of WA (n = 22).

6.1.1 Knowledge levels

Wheatbelt region

In the WB region, knowledge levels across key land management topics displayed clear generational variation, with Generation X consistently reporting the highest levels of confidence. Foundational knowledge areas, such as strategies to maintain groundcover and the use of soil testing to inform productivity, were relatively well understood across all cohorts, with 68–76% of Baby Boomers+ and Generation X indicating sound or very sound knowledge (Figure 34). However, Generation X stands out in more technical or system-oriented domains, including reintroducing legumes (78%) and interpreting soil testing (72%), suggesting strong engagement with contemporary agronomic practices. In contrast, Generation Y- reported comparatively uneven knowledge, with moderate confidence in groundcover (72%) and soil testing (65%), but substantially lower levels in areas such as soil carbon (39%) and nutrient management frameworks like the '4Rs' (29%).

More complex or systems-based knowledge areas, particularly those aligned with regenerative agriculture, remained less well developed across all generations in the WB. Understanding of holistic grazing, regenerative agriculture, and perennial pasture systems was generally limited, with fewer than one-third of respondents in most cohorts reporting strong knowledge. Notably, Generation Y- reported the lowest confidence in holistic farm management and regenerative agriculture (12%), indicating a potential gap between interest in emerging practices and access to knowledge or training. Overall, while there was a solid base of knowledge in conventional agronomic practices, the transition towards more integrated and regenerative systems appeared constrained by limited understanding, particularly among younger landholders.

South-west of WA

In the SW, knowledge levels were generally higher and more evenly distributed across generations, with particularly strong performance among Generation X. Across most topics, Generation X reported the highest levels of sound knowledge, including groundcover management (73%), soil testing (74%), nutrient management (63%), and holistic grazing (62%) (Figure 34). The Baby Boomers+ also demonstrated relatively strong knowledge in core areas, such as groundcover (68%) and soil testing (52%), although their confidence was lower in more specialised domains. Generation Y- showed moderate-to-high knowledge in several areas, including soil carbon (64%) and reintroducing legumes (64%), suggesting growing familiarity with both productivity and sustainability-oriented practices.

The SW exhibited stronger reported knowledge in regenerative and livestock-integrated practices compared to the WB. Knowledge of holistic grazing, regenerative agriculture, and perennial pasture systems was notably higher across all cohorts, with up to 59–62% of Generation X and Generation Y- respondents reporting a sound understanding of grazing systems, and 50% of younger respondents indicating confidence in regenerative agriculture concepts. This pattern reflects the region's mixed farming systems and may indicate greater exposure to diverse management approaches. Nonetheless, some knowledge gaps persisted, particularly among younger cohorts in nutrient management (36%) and among older cohorts in more contemporary practices, highlighting the continued need for targeted extension and knowledge transfer across all generations.

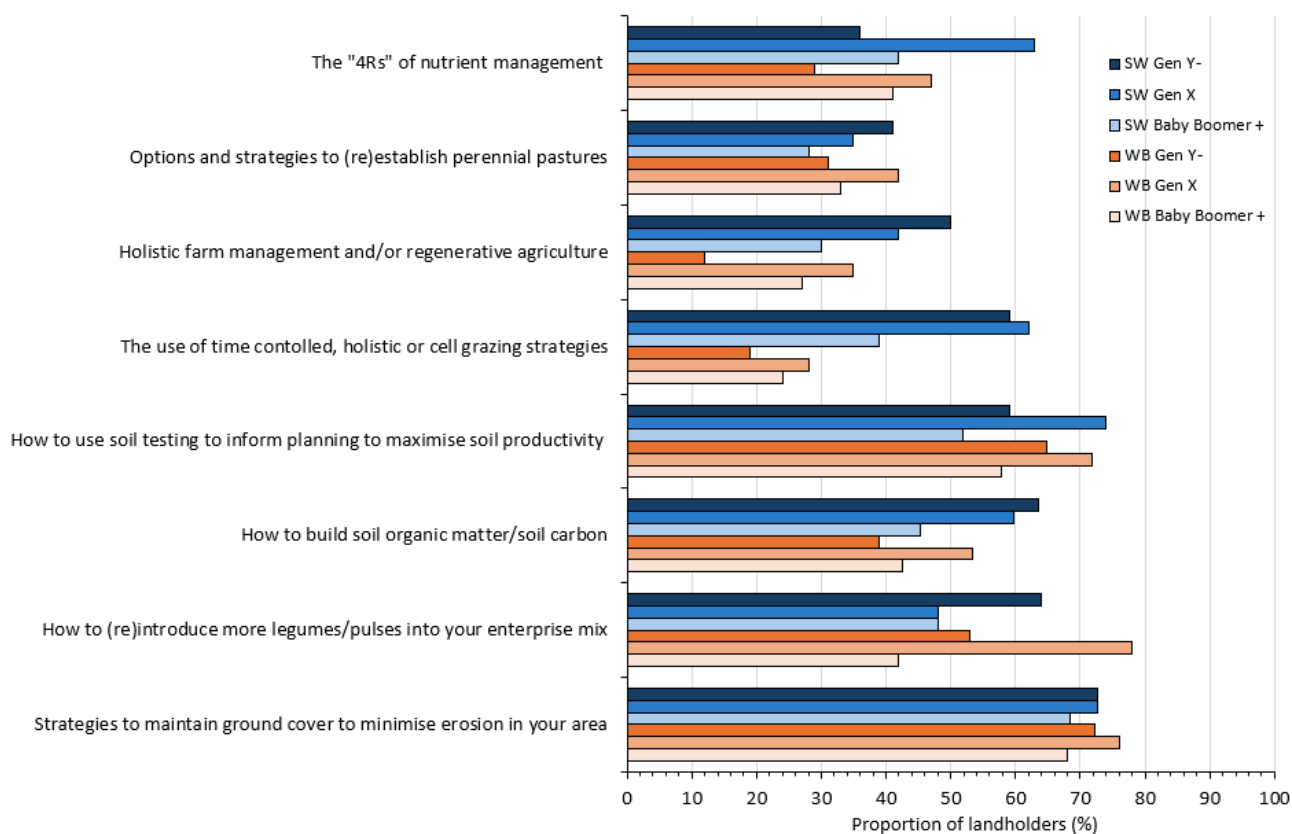


Figure 34. Self-assessed knowledge of management practices by generation of Farmers in the Wheatbelt (WB) region (n = 106–108) and South-west (SW) of WA (n = 257–259). Note, Generation Y- values are low for the Wheatbelt (n = 16–18) and South-west of WA (n = 22).

6.1.2 Sources of information

Wheatbelt region

In the WB, sources of information varied across generations, reflecting a blend of experiential knowledge and peer-to-peer learning, alongside increasing engagement with professional advice among younger cohorts. Personal experience remained a key foundation, particularly among Baby Boomers+ (61%), though reliance declined slightly among Generation X (54%) and Generation Y- (50%) (Figure 35). In contrast, other farmers represented a critical and increasingly important source of information, particularly for Generation X (72%) and Generation Y- (65%), highlighting the importance of informal networks and peer exchange. Engagement with independent agricultural consultants, agronomists, or stock agents also increased markedly among younger landholders (60% of Generation Y-), suggesting a shift towards more formalised and externalised knowledge sources. Meanwhile, use of institutional information, such as the Bureau of Meteorology, was more prominent among older cohorts (48%) and declined among younger groups, indicating generational differences in preferred information channels and trust in formal sources.

South-west of WA

In the SW region, information sourcing appeared more evenly distributed across generations, though some distinct patterns remained. As in the WB, personal experience continued to underpin decision-making, particularly among Baby Boomers+ (62%) and Generation X (57%), while younger landholders reported somewhat lower reliance (50%) (Figure 35). Notably, other farmers were a consistently important source across all cohorts, with particularly high engagement among Generation Y- (73%), reinforcing the role of local networks and social learning in the region. Use of independent consultants and agronomists was relatively consistent

across generations (approximately 32–39%), suggesting stable engagement with professional advice. Compared to the WB, reliance on the Bureau of Meteorology was more moderate and evenly spread (31–38%), while information from friends, neighbours, and relatives remained a secondary but still relevant source. Overall, the SW demonstrated a balanced mix of experiential, peer-based, and professional information pathways across generations.

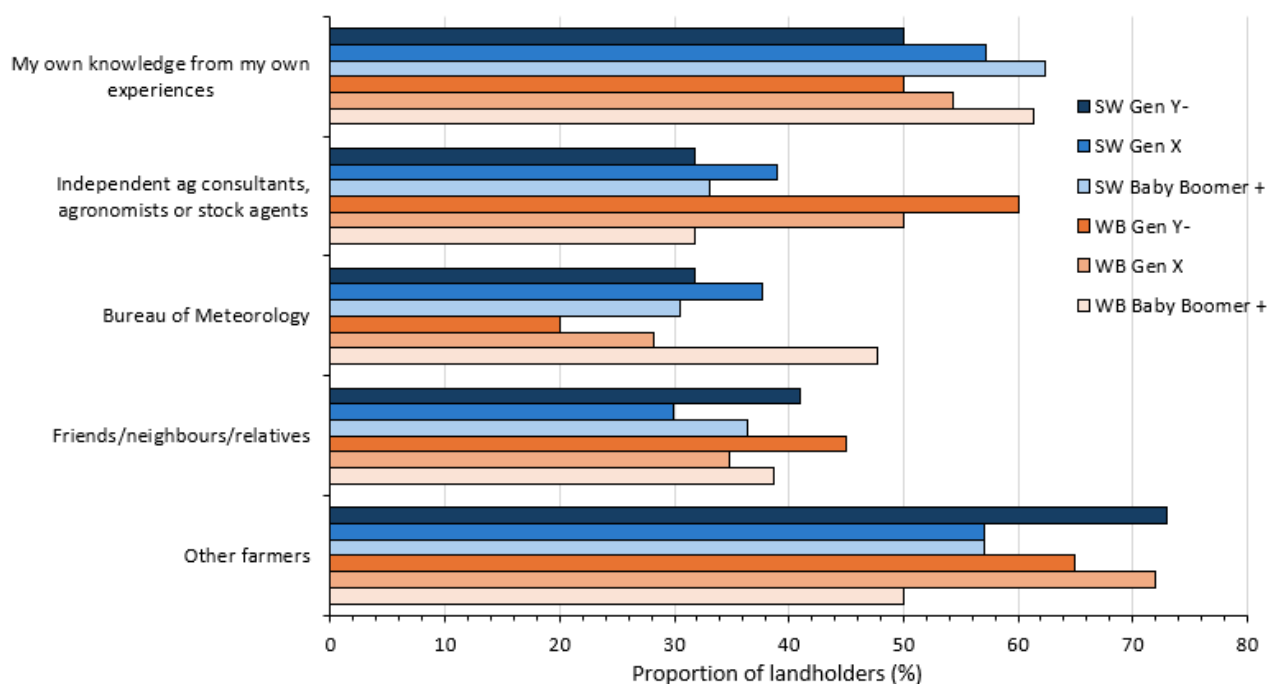


Figure 35. Top sources of information implemented in the past five years by generation for landholders in the Wheatbelt (WB) region ($n = 110$) and South-west (SW) of WA ($n = 253$ – 254). Note, Generation Y values are low for the Wheatbelt ($n = 20$) and South-west of WA ($n = 22$).

6.1.3 Modes of information

Wheatbelt region

In the WB, modes of information access showed a clear generational shift towards more interactive and digital channels, while still retaining some traditional formats. Field days and crop walks were particularly important for Generation X (57%) and Generation Y- (55%), compared to lower participation among Baby Boomers+ (39%), indicating the ongoing relevance of experiential and peer-based learning for mid- and younger cohorts (Figure 36). Websites were used relatively consistently across generations (35–43%), suggesting a baseline level of digital engagement, although not yet dominant. Emails and e-newsletters showed higher uptake among Generation X (39%) compared to other cohorts, while magazines remained a secondary source overall, with modest and relatively even use across generations (20–30%). These patterns suggest that while traditional media persists, younger and mid-aged landholders were more inclined towards interactive and digitally mediated learning environments.

South-west of WA

In the SW, information modes demonstrated stronger engagement with digital platforms alongside continued use of in-person learning, particularly among younger cohorts. Websites were the most widely used mode, especially among Generation X (57%) and Generation Y- (50%), indicating a higher level of digital integration compared to the WB (Figure 36). Field days and crop walks remained important, particularly for Generation Y- (55%), reinforcing the value of

experiential learning in mixed farming systems. Emails and e-newsletters were also widely used among Baby Boomers+ (36%) and Generation X (47%), though less so among younger respondents (23%), suggesting differing preferences in communication formats. Interestingly, magazines showed a more polarised pattern, with higher use among Generation Y- (41%) and Baby Boomers+ (34%), but lower uptake among Generation X (17%), highlighting variation in how different cohorts engage with more traditional, print-based media.

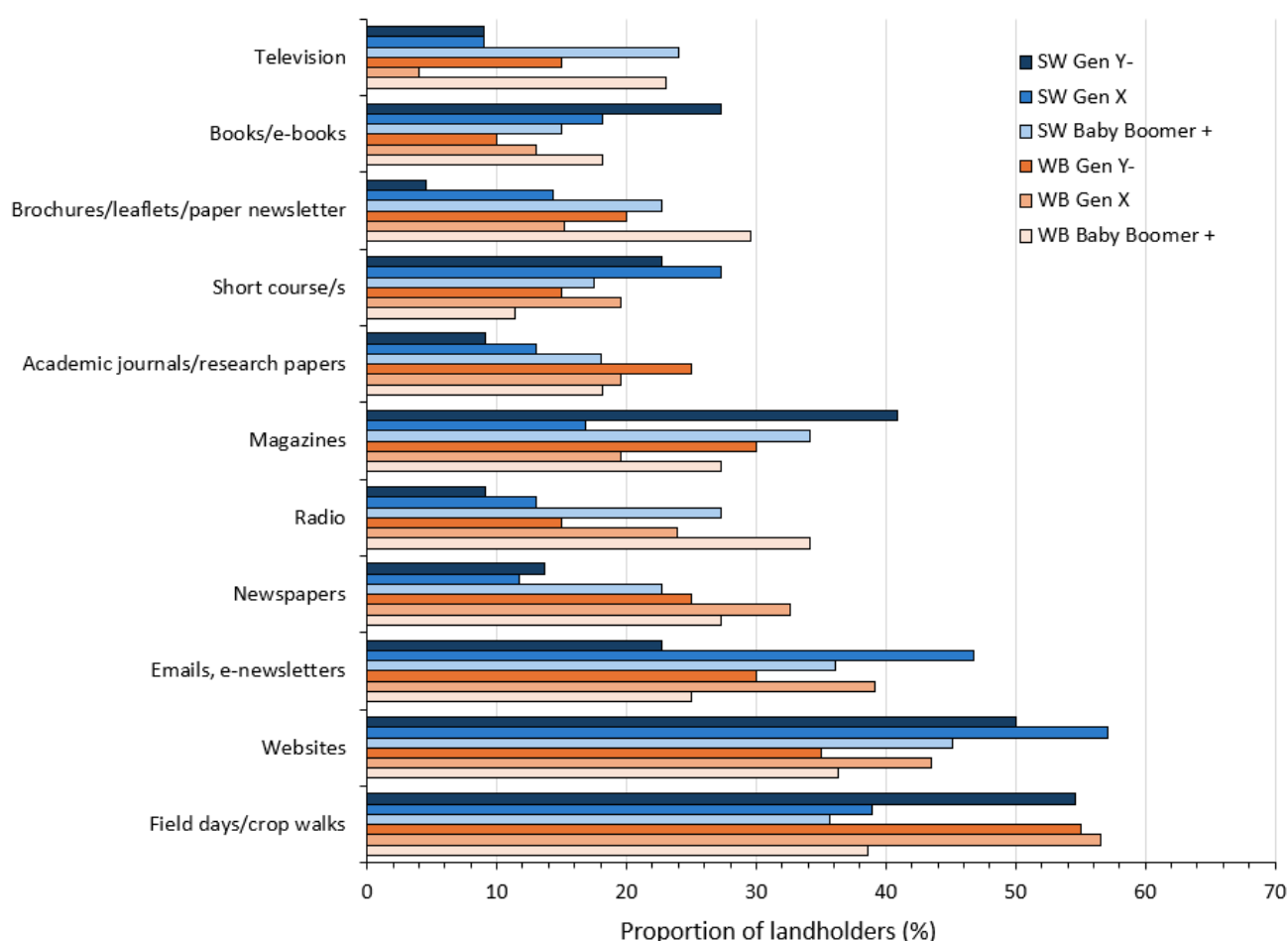


Figure 36. Top modes of information overall implemented in the past five years by generation for landholders in the Wheatbelt (WB) region ($n = 110$) and South-west (SW) of WA ($n = 253-254$). Note, Generation Y values are low for the Wheatbelt ($n = 20$) and South-west of WA ($n = 22$).

6.2 LONG-TERM PLANS

6.2.1 Long-term plans for the property

Wheatbelt region

In the WB, long-term planning was strongly oriented towards intergenerational continuity and farm expansion among Farmers, alongside more limited engagement from Lifestylers. The most prominent intention was to retain property ownership within the family (73% overall; 83% of Farmers), indicating a strong emphasis on succession and legacy (Table 21). Farmers also demonstrated a clear commitment to growth and productivity, with a high likelihood of investing in their land (84%), purchasing additional land (46%), and leasing or share farming further land (37%). In contrast, Lifestylers reported very low likelihood of pursuing expansionary or

productivity-focused strategies, particularly in relation to land acquisition (5%) and investment (21%). This divergence highlights fundamentally different orientations towards landholding, with Farmers prioritising commercial viability and scale, while Lifestylers adopted a more static or lifestyle-based approach.

At the same time, several transitional and exit-oriented pathways were evident in the WB, particularly among non-commercial landholders. A moderate proportion of respondents anticipated moving off the property at retirement (33%) or selling the property (15%), with these intentions more pronounced among Lifestylers (24% indicating likely sale). Diversification and enterprise change were relatively limited overall, though somewhat higher among Farmers, suggesting cautious adaptation rather than transformational change. Conservation-oriented land use remained a secondary priority (26%), with slightly higher interest among Lifestylers. Collectively, these findings suggest that while WB Farmers were focused on consolidation and expansion, there was also evidence of generational turnover and divergence in long-term trajectories across landholder types.

South-west of WA

In the SW, long-term plans reflected a more balanced and less expansion-driven outlook, with greater alignment between Farmers and Lifestylers. Retention of property within the family remained the most likely outcome (67% overall), though at lower levels than in the WB and with minimal difference between Farmers and Lifestylers (Table 21). Investment in farm productivity was also common (56% overall), but again less pronounced than in the WB, and with a narrower gap between Farmers (62%) and Lifestylers (40%). Notably, conservation intentions were higher in the south-west (35% overall), particularly among Lifestylers (45%), suggesting a stronger orientation towards environmental or amenity values within this region.

Patterns of expansion and structural change were more subdued in the SW compared to the WB. Fewer landholders intended to purchase additional land (16%) or lease further land (12%), even among Farmers, indicating more stable or constrained growth trajectories. Exit-related intentions, such as selling the property (18%) or moving off at retirement (18%), were present but less differentiated across landholder types. Lifestylers showed a relatively higher likelihood of leasing or share farming out their land (29%), suggesting alternative management arrangements rather than full divestment. Overall, the SW appears characterised by more moderate, diversified, and conservation-oriented planning, with less emphasis on expansion and stronger convergence between commercial and lifestyle landholders.

Table 21. Proportion of landholders overall, Farmers (full-time and part-time combined) and Lifestylers (hobby and non-farmers combined) in the Wheatbelt (WB) region (n = 123–131) and South-west (SW) of WA (n = 278–286) who indicate long-term plans as likely or highly likely in the next 10 years. Means (out of 5) are given in brackets and orange shading highlights the top three values by percentage, with the darkest shade reflecting the most likely plan.

Long-term plans	% Likely/highly likely in next 10 years					
	WB Overall 2025	WB Farmers 2025	WB Lifestylers 2025	SW Overall 2025	SW Farmers 2025	SW Lifestylers 2025
Ownership of the property will stay within the family	73% (3.9)	83% (4.2)	61% (3.9)	67% (3.9)	67% (3.9)	66% (3.8)
Investing in the farm to increase the productive potential of my current landholding	60% (3.3)	84% (4.0)	21% (2.1)	56% (3.2)	62% (3.4)	40% (2.5)
Some part of my property will be set aside for conservation purposes	26% (2.6)	25% (2.8)	31% (2.5)	35% (2.9)	33% (2.8)	45% (3.1)
A family member will seek additional off-property work to support the farm	26% (2.4)	28% (2.6)	28% (2.3)	23% (2.3)	25% (2.4)	18% (2.0)
The enterprise mix will be changed to diversify income sources	20% (2.5)	24% (2.7)	16% (2.1)	19% (2.4)	21% (2.5)	15% (2.0)
I will move off the property around/soon after reaching retirement age	33% (2.7)	37% (2.8)	21% (2.3)	18% (2.2)	21% (2.3)	11% (2.0)
The property will be sold	15% (2.1)	9% (1.9)	24% (2.5)	18% (2.3)	18% (2.3)	20% (2.4)
Additional land will be purchased	30% (2.5)	46% (3.0)	5% (1.6)	16% (2.0)	20% (2.2)	9% (1.6)
All or most of the property will be leased or share farmed	16% (2.1)	14% (2.1)	10% (1.8)	16% (2.1)	11% (2.0)	29% (2.5)
Additional land will be leased or share farmed	23% (2.3)	37% (2.8)	0% (1.4)	12% (1.9)	16% (2.1)	3% (1.5)
The enterprise mix will be changed to more intensive enterprises	17% (2.3)	25% (2.7)	5% (1.8)	10% (2.1)	10% (2.2)	9% (1.8)
A significant land use/enterprise change, e.g. from sheep to cattle	11% (2.0)	14% (2.2)	5% (1.6)	9% (1.9)	8% (1.9)	9% (1.9)
The property will be subdivided and a large part of the property sold	6% (1.6)	6% (1.6)	5% (1.7)	8% (1.8)	9% (1.8)	6% (1.7)
Buying property outside of my current area to mitigate increased seasonal variability	8% (1.9)	13% (2.2)	0% (1.4)	6% (1.6)	6% (1.7)	3% (1.5)

6.2.2 Area of remnant, restored or planted native vegetation or wetland

In the WB region, landholders generally reported limited proportions of remnant, restored, or planted native vegetation or wetland within their properties, particularly among Farmers. Among WB Farmers (n = 80), the vast majority indicated either no native vegetation (4%) or low coverage of 1–25% (85%), with only 10% reporting 26–50% coverage and very few indicating higher proportions (1% at 51–75% and none at 76–100%). In contrast, WB Lifestylers (n = 41) showed a more even distribution, with 44% reporting no native vegetation, 15% reporting 1–25%, and a comparatively higher proportion (29%) indicating 26–50%, alongside smaller shares reporting 51–75% (7%) and 76–100% (5%), suggesting greater variability and higher ecological amenity values among non-commercial properties.

South-west of WA

In the SW region, reported levels of native vegetation were generally higher and more evenly distributed, particularly among Farmers. SW Farmers (n = 192) most commonly reported 1–25% native vegetation coverage (77%), followed by 4% reporting none, 17% reporting 26–50%, 2% reporting 51–75%, and 1% reporting 76–100%, indicating a broader presence of remnant or restored vegetation compared with the WB. SW Lifestylers (n = 67) showed a more mixed pattern, with 13% reporting no native vegetation, 46% reporting 1–25%, 19% reporting 26–50%, 12% reporting 51–75%, and 9% reporting 76–100%, reflecting comparatively higher representation of properties with substantial native vegetation cover.

6.3 SUCCESSION PLANNING

6.3.1 Succession plan progress

Wheatbelt region

In the WB region, intergenerational succession showed a moderate level of potential. Overall, 40% of landholders reported that family members were interested in taking over the property (Figure 37). At the same time, around one-third of respondents remained uncertain about future succession arrangements, indicating that future ownership pathways were not yet clear for many properties. This suggests that while succession was a consideration for a substantial share of holdings, intentions and arrangements may still be evolving.

Despite this level of perceived succession potential, formal succession planning appeared to remain at an early stage across much of the region. In 2025, 42% of WB respondents reported that succession planning had not yet commenced, while smaller proportions indicated that planning was at a halfway point (5%), well advanced (13%), or completed or ongoing (16%) (Figure 38). These findings suggest that, although succession was on the agenda for some landholders, more formal planning processes were not yet common.

Among Farmers, succession intent appeared relatively stronger, and there was some evidence of greater progression in planning, including representation in early-stage planning (30%), well advanced arrangements (17%), and completed plans (21%). Taken together, these findings suggest that succession was an important issue for many Farmers, although the extent to which this had translated into formal planning varied across holdings.

South-west of WA

In the SW of WA, succession intentions appeared somewhat less pronounced than in the WB. Overall, 34% of respondents reported having an interested family member, while 30% reported no interested successor and a further 33% were either unsure or indicated it was too early to

determine succession outcomes (Figure 37). These findings suggest that future succession pathways were often still emerging and may remain uncertain for many properties.

This uncertainty in succession intent was reflected in the progression of formal succession planning across the region. While some landholders had moved beyond initial consideration, planning activity appeared to remain concentrated in the earlier stages (Figure 38). Among Farmers, 37% reported that succession planning had not yet commenced and a further 33% were in the early stages. Smaller proportions reported more advanced planning stages, with 6% halfway, 13% well advanced, and 11% completed, suggesting that more formalised arrangements were in place for some holdings but were not yet widespread.

Overall, these findings suggest that succession was an important issue in the SW, but that both intentions and preparedness varied considerably across properties. Compared with the WB, succession planning may be somewhat less advanced or less clearly defined, although a range of landholders appear to be at different points in considering future ownership and management transitions.

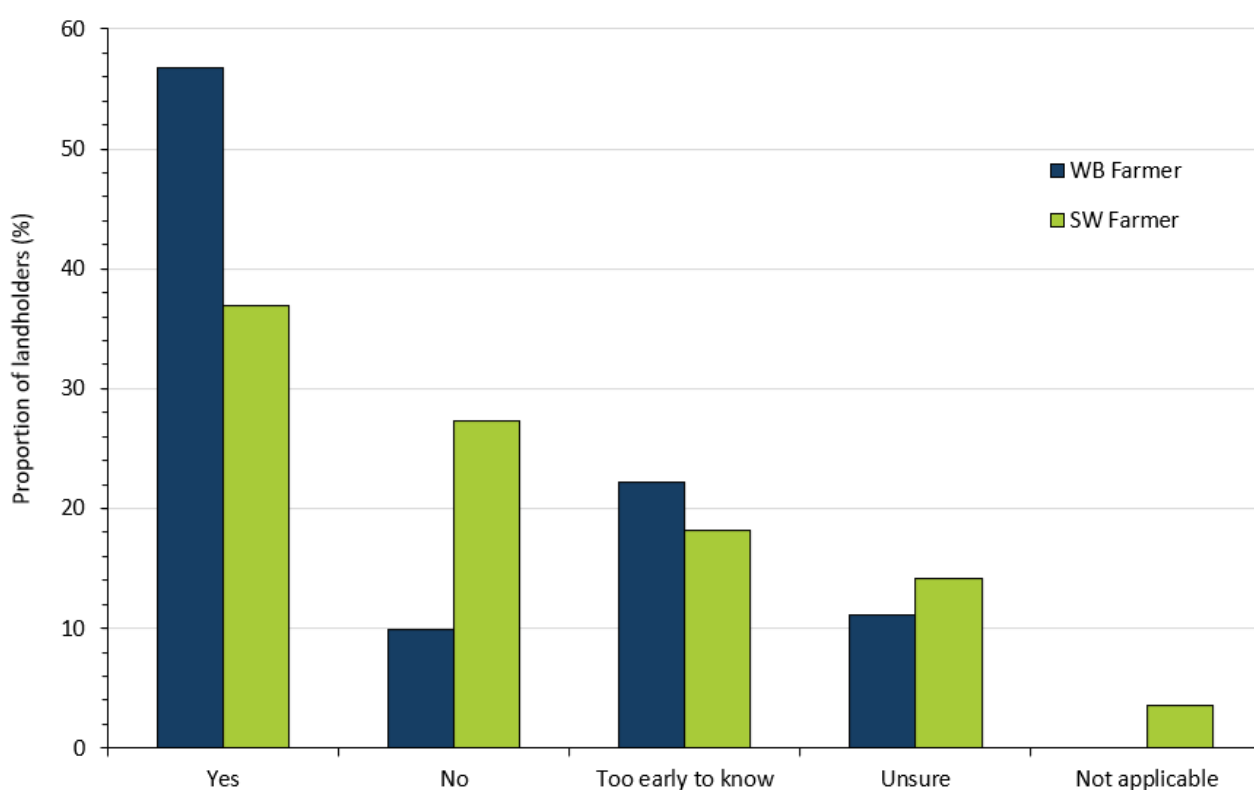


Figure 37. Farmers (full-time and part-time combined) in the Wheatbelt region ($n = 81$) and South-west (SW) of WA ($n = 198$) who have family members interested in taking on the property in the future.

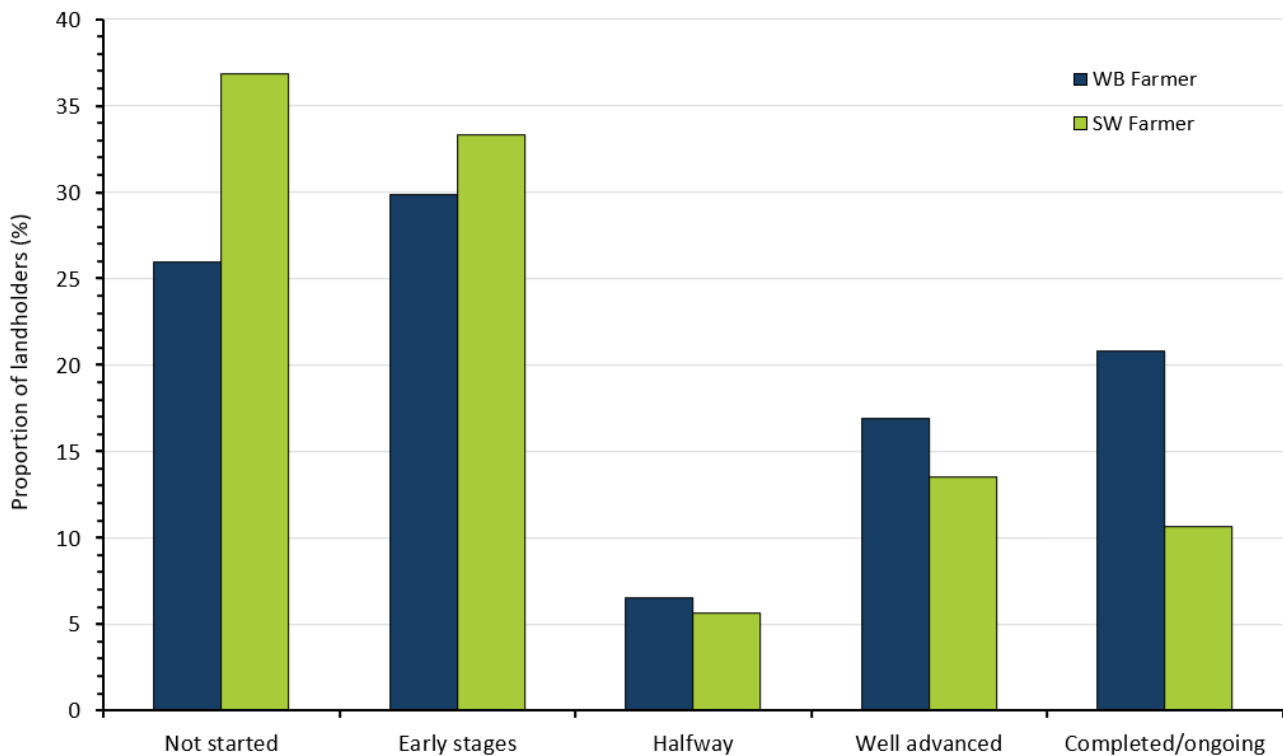


Figure 38. Progress of succession planning of Farmers (full-time and part-time combined) in the Wheatbelt (WB) region (n = 77) and South-west (SW) of WA (n = 141).

6.3.2 Family working on property

Figure 40 shows the succession planning pipeline, which depicts a national trend that shows, while around three-quarters of farmers intended to keep the farm in the family, a much lower percentage had a succession plan in place (38% on the WB and 24% in the SW). Because successful succession, family participation, longer-term planning and best-practice implementation show consistently strong links, family participation has been identified as a central driver of land stewardship outcomes. It is important to also consider this data with the decision-making team depicted in Figure 21, which shows that 30% of farmers included their children in decision-making, with another 40% including others in the farm team. Notably, partner/spouse participation was extremely low.

Wheatbelt region

In the WB region, farm labour remained strongly family-oriented among Farmers, with partners forming the backbone of regular involvement (65%), followed by children (43%) and, to a lesser extent, parents (18%) (Figure 39). Siblings (4%) and other contributors (7%) played only a minor role.

South-west of WA

In the SW of WA, a similar pattern was evident, although with slightly lower levels of family involvement overall. Farmers again relied most on partners (61%) but showed reduced participation from children (29%) and parents (10%) compared to the WB, suggesting either smaller family labour pools or differing enterprise structures (Figure 39). Sibling (7%) and other (4%) involvement remained minimal but slightly higher than in the WB.

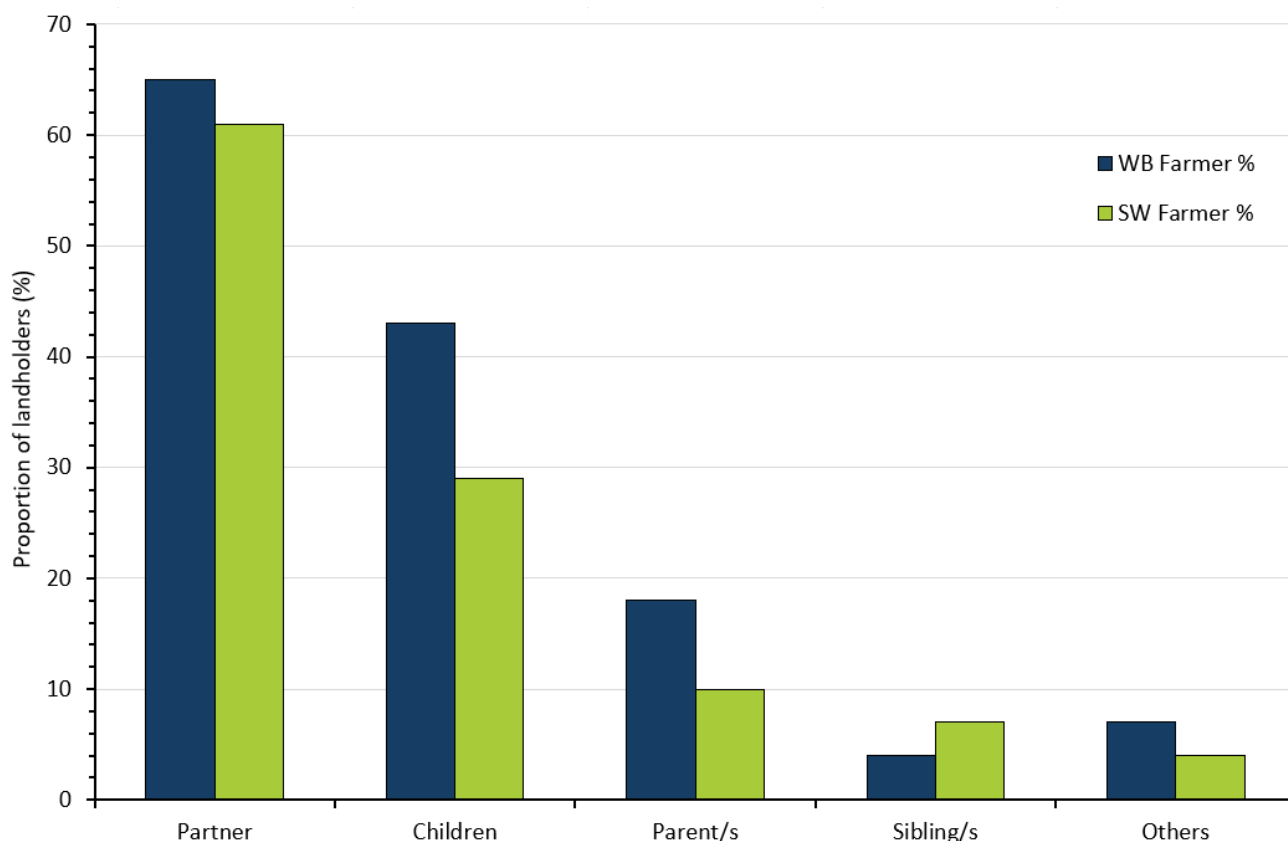


Figure 39. Proportion of Farmers (full-time and part-time combined) in the Wheatbelt (WB) region (n = 76) and South-west (SW) of WA (n = 168) who have family members working on property on a daily or weekly basis at the time of the survey.

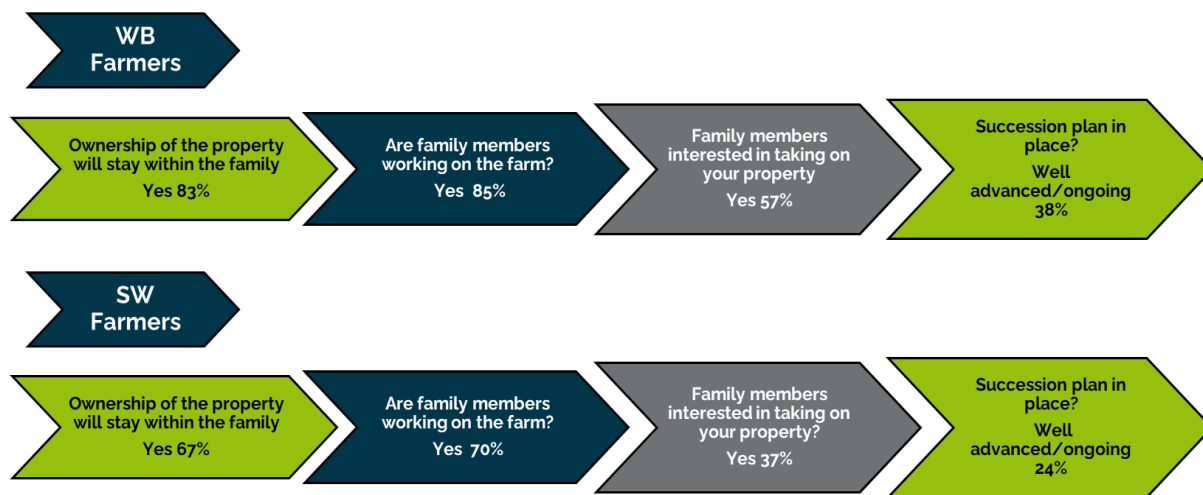


Figure 40. The succession-pipeline, which includes statistically linked items, on whether the property will stay in the family, family inclusion in decision-making, and succession plan progress for Farmers in the Wheatbelt (WB) region (n = 77–81) and South-west (SW) of WA (n = 141–198).

7. CONCLUSION

7.1 KEY RECOMMENDATIONS

The recommendations in this section summarise the key priorities emerging from the findings of the 2025 WA Social Benchmarking Report. They are intended to provide broad, strategic directions for consideration rather than detailed operational instructions. As such, they are designed to inform further discussion, refinement, and locally appropriate decision-making across regions and stakeholder groups. The focus is on areas where the findings indicate potential gaps in knowledge, capability, engagement, or support, while recognising that responses will need to be tailored to differing landholder contexts and management objectives.

7.1.1 Wheatbelt region

WB Farmers showed strong knowledge in core farm planning and soil management but had notable gaps in more complex and emerging areas. Lower levels of understanding were reported for holistic and regenerative agriculture (33%), cell grazing (32%), natural capital accounting (22%), and market-based environmental mechanisms (21%), alongside limited knowledge of Indigenous land management and pre-European land use (around 19–21%). In soil management, while foundational practices were well understood, fewer Farmers reported sound knowledge of building soil organic matter (54%), soil carbon and microbiology (49%), and biological soil amendments (34%), indicating a need to strengthen understanding of biological soil processes and longer-term system resilience. The following specific recommendations are put forward.

Strengthen succession planning and knowledge transfer

Succession planning remains a critical need in the WB, particularly given the ageing profile of many established farming operations and the strong emphasis on retaining farms within families. Targeted support should focus on moving landholders from informal intentions to structured arrangements, including facilitated workshops, practical succession templates, and peer learning opportunities. Building capability and confidence in succession planning will support smoother intergenerational transfer and longer-term stewardship of agricultural land.

Build capacity and tailored extension for diverse landholder types

Extension and knowledge-sharing activities should be differentiated to reflect varying levels of engagement and land management objectives. For Farmers, emphasis should be placed on advancing more complex and long-term practices, such as soil health improvement, regenerative systems, and data-informed decision-making. For Lifestylers, more accessible and practical entry points are required, including tree planting initiatives, low-intensity conservation options, and simplified regenerative practices. This approach ensures that extension remains relevant across different land use contexts within the region.

Support intergenerational farm continuity and expansion pathways

Strengthening pathways for land access, leasing, and investment is important to support both intergenerational transfer and farm consolidation. Policy and program settings should facilitate smoother transition of land between generations through emphasising early engagement with on-farm decision-making participation, while also supporting those transitioning out of farming through appropriate stewardship mechanisms. Options such as conservation covenants, revegetation programs, and biodiversity agreements can help maintain environmental outcomes following ownership change, while supporting orderly structural adjustment in the sector.

Adopt multichannel, landholder segmented communication

Communication strategies should reflect the diversity of information sources used by landholders, combining in-person engagement with digital platforms. Field days and crop-focused events remain important for Farmers, while digital channels such as newsletters and online platforms play a growing role for broader engagement. Tailoring content by audience, with more technical material for production-focused landholders and more accessible environmental content for Lifestylers, will improve relevance and uptake of information.

Strengthen grower-group-led and peer-based extension

Grower groups play a central role in knowledge exchange and should continue to be supported as key delivery mechanisms for extension. These networks are particularly effective for practical demonstrations and applied research in areas such as soil health, water use efficiency, and climate adaptation. Expanding opportunities for inclusive peer learning will also help ensure that Lifestylers are more effectively engaged in regional knowledge systems, reflecting their differing motivations and capacities.

Improve structural and financial support for sustainable land management

There is a need to strengthen financial and regulatory frameworks that enable sustainable land management across diverse landholder types. This includes reducing administrative burden, improving policy clarity, and developing incentives that better reflect climate variability and rising input costs. Co-designed programs supporting soil improvement, revegetation, and biodiversity outcomes can help ensure that both commercial and lifestyle landholders are better supported to implement sustainable practices.

7.1.2 South-west of WA

Farmers in the SW of WA demonstrated solid knowledge in production and environmental management but also showed gaps in emerging and systems-based areas. Knowledge of natural capital accounting (14%) and market mechanisms (10%) was low, and understanding of Indigenous land history and connections to land remained limited (around 15–19%). While moderate knowledge was reported for regenerative agriculture (41%) and cell grazing (56%), these areas still present opportunities for further development. In soil management, Farmers reported moderate understanding of soil organic matter (58%), soil carbon and microbiology (51%), and biological soil supplements (49%), suggesting a need to build deeper capability in biological and regenerative soil processes to complement existing strengths in managing soil constraints and productivity. The following specific recommendations are put forward.

Deepen integration of production, conservation, and lifestyle values

Programs can be designed to explicitly integrate economic, environmental, and lifestyle objectives within a single framework. This includes supporting mixed-enterprise systems, such as diversified grazing, agroforestry and small-scale horticulture, alongside conservation activities including revegetation, riparian restoration, and biodiversity enhancement. Bundling these outcomes into integrated initiatives can strengthen participation and deliver multiple co-benefits across different landholding types.

Advance planning and knowledge to support adaptive land management

Strengthening medium-term planning and evidence-based decision-making is a priority in the SW, supported by existing openness to change and engagement with land management practices. Practical support should include simplified planning tools, shared data platforms, and on-ground demonstration trials that link soil health, grazing management, and water quality outcomes. Clear, accessible, and place-based evidence will improve decision-making capacity across different landholder groups.

Grow opportunities in non-farm and value-added income streams

There is scope to expand diversified and value-added income opportunities, particularly given the prevalence of part-time and hobby landholders and reliance on off-farm income. This includes support for farm-based tourism, niche and premium agricultural products, carbon and biodiversity markets, and other nature-based enterprises. These opportunities can enhance economic viability while aligning with strong environmental and lifestyle values in the region.

Leverage NRM organisations and mixed-scale networks

Natural resource management organisations should play a central coordinating role in strengthening place-based land stewardship. Aligning NRM programs with priorities such as river health, pest management, and climate adaptation, and integrating them with grower groups, Landcare, and community initiatives, will strengthen collaboration. This will support broader engagement and more coordinated action across both commercial and lifestyle landholders.

Support integrated, place-based knowledge delivery

Extension approaches should integrate digital, in-person, and print-based communication channels to reflect how landholders access information. Combining online resources with on-farm demonstrations, monitoring programs, and practical guides will strengthen engagement and learning. Emphasis should be placed on soil health, adaptive grazing, pasture systems, and water quality, with simplified entry points to ensure accessibility for all landholder types.

Build on climate-awareness and disaster-preparedness gains

Existing awareness of climate risk and disaster preparedness provides a strong foundation for advancing climate-adaptive land management. Support should focus on soil carbon initiatives, water-efficient systems and diversified income opportunities. Because successful succession links with best-practice implementation, additional emphasis is needed on supporting ageing landholders and succession planning through flexible land use arrangements, including leasing, conservation covenants, and community-based stewardship models to support long-term landscape outcomes.

7.2 LIMITATIONS

This report should be interpreted in light of several important limitations. First, while the survey generated a substantial dataset across two regions of WA, response rates varied considerably and were lower in some areas, particularly in the WB. Some local governments did not participate, and landholder contact lists provided were not differentiated by size; therefore, some smaller landholders received the survey in error. As with most voluntary mail-out surveys, the sample is unlikely to represent all landholders equally, which is precisely why the sample is divided into the two landholder groupings (Farmers and Lifestylers). Respondents may have been more inclined to participate because they were already interested in farming, land management, or extension activities, and some groups may therefore be over-represented relative to their actual share of the broader landholder population. This means the findings are best understood as reflecting the views and experiences of those who responded, rather than as a statistically complete picture of all landholders in the surveyed regions.

A second limitation concerns the composition of respondent groups and the interpretation of subgroup comparisons. The report combines FTFs and PTFs into a broader 'Farmer' category and HFs and NFs into 'Lifestylers' to support clearer interpretation, but these categories still contain substantial internal diversity. In addition, some subgroup analyses involve small sample sizes, particularly when responses are split by generation, region, or landholder type. In these cases, apparent differences should be interpreted cautiously, as small numbers can magnify variation

and reduce confidence in the stability of patterns observed. This is especially relevant where narrative interpretation extends beyond descriptive reporting into possible explanations or implications.

A third limitation is that the survey is primarily descriptive and cross-sectional, capturing reported attitudes, knowledge, practices, and intentions at one point in time. Although the analysis identifies statistically significant relationships and uses modelling to explore factors associated with selected practices, these patterns should not be interpreted as evidence of causation. Self-reported responses are also subject to recall effects, differences in interpretation, and the possibility that respondents may overstate socially desirable practices or attitudes. For this reason, the report is strongest as a benchmarking and hypothesis-generating resource: it identifies important patterns, highlights areas for further investigation, and provides a useful foundation for more targeted qualitative work, longitudinal tracking, and deeper analysis of why different landholder groups think and act as they do.

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APPENDIX 1 – DATA TABLES

This Appendix includes data tables that have been divided up into sub-regions within the two main regions surveyed. These regions are illustrated in the figure below.

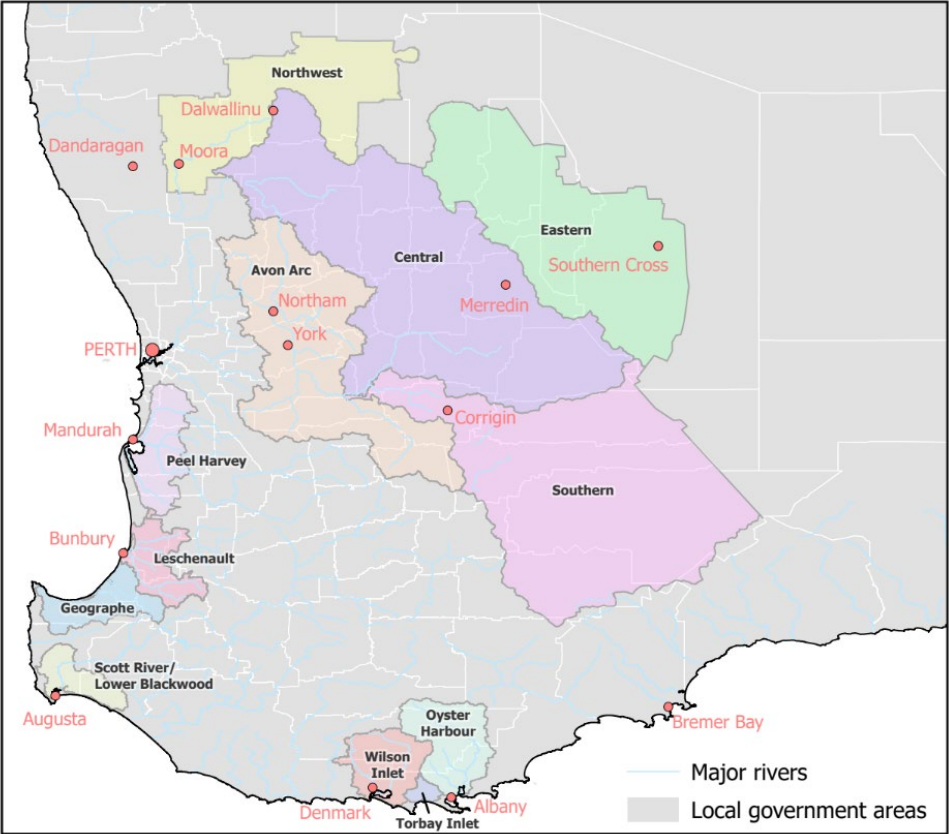


Figure 41. The sub-regions included in the sub-regional analysis in Appendix 1.

Table X1. Key attributes of landholders in the Wheatbelt (WB) subregions of Avon Arc, Central Wheatbelt, Eastern Wheatbelt, Southern Wheatbelt and the North-west region from the 2025 WA Landholder Survey. Overall values from the 2020 Northern Wheatbelt Survey are also given.

Key attributes	Northern Wheatbelt (2020) (n = 163)	Northern region (n = 31)	*Avon Arc (n = 29)	Central Wheatbelt (n = 45)	*Eastern Wheatbelt (n = 7)	*Southern Wheatbelt (n = 15)
RESPONDENT & FARM						
Farmer identity (% Full-time)	72% FTF	65% FTF	52% FTF	24% FTF	43% FTF	53% FTF
Mean age of respondent	70 yrs	57 yrs	61 yrs	59 yrs	49 yrs	59 yrs
% Female	8%	7%	32%	48%	17%	60%
Mean area owned in WA (ha)	4,712 ha	4,111 ha	2,518 ha	3,561 ha	2,450 ha	1,911 ha
Mean hours on-property work per week over last 12 months	46 hrs	48 hrs	46 hrs	41 hrs	25 hrs	46 hrs
Earnt income from agriculture on property in 2023–24 financial year (% Yes)	89% (2018-19)	91%	80%	44%	67%	50%
Received net profit from property in previous financial year (% Yes)	70%	58%	67%	29%	33%	50%
PROPERTY MANAGEMENT & DECISION-MAKING						
Enterprise mix	Cereals (73%), pasture (54%), legumes (46%)	Cereals (91%), oil seeds (64%)	Cereals (77%), legumes/pulses (57%)	Cereals (50%), legumes/pulses (40%)	Cereals (71%), sheep (29%)	Cereals (60%), other tree planting (60%)
Top management practice implemented in past 5 yrs	Testing of soils for nutrient status (71%)	Testing of soils to understand soil condition (76%)	Testing of soils to understand soil condition & application of synthetic fertilisers (63%)	Planting of trees and shrubs (54%)	Maintaining at least 70% groundcover (71%)	Planting of trees and shrubs (73%)

Key attributes	Northern Wheatbelt (2020) (n = 163)	Northern region (n = 31)	*Avon Arc (n = 29)	Central Wheatbelt (n = 45)	*Eastern Wheatbelt (n = 7)	*Southern Wheatbelt (n = 15)
Top knowledge topic	Strategies to maintain groundcover to minimise erosion in this area (80%)	How to use soil testing to inform planning to maximise soil productivity (90%)	Strategies to maintain groundcover to minimise erosion in your area (74%)	Strategies to maintain groundcover to minimise erosion in your area (56%)	Strategies to maintain groundcover to minimise erosion in your area & how to prepare farm and family for extreme weather event (83%)	Appropriate strategies and tools to address soil constraints on your property (86%)
Top time frame considered when making strategic decisions	NA	Approx. 5 years (48%)	Approx. 5 years (46%)	Approx. 5 years (40%)	Approx. 5 years & year-to-year (29%)	Approx. 20 years (54%)
Prepared/are preparing a property management or whole-farm plan (% Yes)	47%	69%	67%	52%	50%	83%
CHALLENGES						
Most important issue at the local district scale (% Important / very important)	Changes in weather patterns (85%)	Impact of government decision-making on farming in this region (90%)	Impact of government decision-making on farming in this region (92%)	Impact of government decision-making on farming in this region (95%)	Impact of government decision-making on farming in this region & support for new and young farmers (100%)	Impact of government decision-making on farming in this region & changes in weather patterns & water security (100%)
Most important issue for property owners (% Important / very important)	Impact of temperature extremes on-farm productivity (69%)	Rising input costs (93%)	Rising input costs & declining fertility/nutrient status of soils (78%)	The impact of weeds or pest animals on productivity (79%)	Uncertain returns limiting capacity to maintain/ invest in property & rising input costs & impact of weeds or pest animals on productivity & soil erosion (80%)	Rising input costs (92%)

Key attributes	Northern Wheatbelt (2020) (n = 163)	Northern region (n = 31)	*Avon Arc (n = 29)	Central Wheatbelt (n = 45)	*Eastern Wheatbelt (n = 7)	*Southern Wheatbelt (n = 15)
CLIMATE CHANGE BELIEFS & PREPAREDNESS						
Climate change poses a risk to the region (% Agree/strongly agree)	70%	57%	71%	61%	75%	46%
Landholders should manage their properties in expectation of a highly variable climate (% Agree/strongly agree)	NA	80%	92%	73%	50%	92%
Human activities are influencing changes in climate (% Agree/strongly agree)	61%	63%	75%	64%	75%	54%
Confident that landholders in this region can adapt to expected changes in rainfall patterns (% Agree/strongly agree)	66%	72%	72%	64%	83%	69%
Disaster response plan prepared (% Yes)	NA	13%	40%	19%	17%	50%
FUTURE OF FARMING						
Ownership of the property will stay in the family (% Yes)	72%	72%	63%	81%	67%	77%
Family members are interested in taking on the property (% Yes)	43%	50%	40%	26%	14%	54%
Succession plan stage	24% Well advanced	28% Not started	48% Not started	53% Not started	50% Early stages	36% Not started

* Denotes subregions where n < 30 – proceed with caution when interpreting data.

Table X2. Key attributes of Farmers (full-time and part-time combined) in the South-west (SW) region of WA Catchment Areas.

Key attributes	Vasse-Geographe (n = 36)	Leschenault (n = 57)	Oyster Harbour (n = 50)	Peel-Harvey (n = 45)	Scott River/ Lower Blackwood (n = 30)	*Torbay Inlet (n = 23)	Wilson Inlet (n = 46)
RESPONDENT & FARM							
Farmer identity (% Full-time)	47% FTF	32% FTF	52% FTF	47% FTF	47% FTF	57% FTF	46% FTF
Mean age of respondent	62 yrs	66 yrs	63 yrs	67 yrs	61 yrs	60 yrs	62 yrs
% Female	39%	35%	32%	44%	28%	29%	43%
Mean area owned in WA (ha)	230 ha	163 ha	1005 ha	260 ha	206 ha	256 ha	481 ha
Mean hours on-property work per week over last 12 months	33 hrs	27 hrs	37 hrs	35 hrs	38 hrs	36 hrs	35 hrs
Earnt income from agriculture on property in 2023/24 financial year (% Yes)	82%	83%	82%	76%	72%	100%	80%
Received net profit from property in previous financial year (% Yes)	53%	39%	46%	36%	54%	52%	39%
MANAGEMENT							
Enterprise mix	Beef cattle (78%), pasture (73%), sheep (27%)	Beef cattle (83%), pasture (39%), area of remnant native vegetation (25%)	Beef cattle (67%), pasture (60%), sheep (38%)	Beef cattle (73%), pasture (56%), area of remnant native vegetation (21%)	Beef cattle (60%), pasture (43%), sheep (27%)	Beef cattle (83%), pasture (50%), area of remnant native vegetation (33%)	Beef cattle (75%), pasture (50%), sheep (35%)

Key attributes	Vasse-Geographe (n = 36)	Leschenault (n = 57)	Oyster Harbour (n = 50)	Peel-Harvey (n = 45)	Scott River/ Lower Blackwood (n = 30)	*Torbay Inlet (n = 23)	Wilson Inlet (n = 46)
Top management practice implemented in past 5yrs	Testing of soils to understand soil condition/ nutrient status (76%)	Application of synthetic fertilisers (47%)	Application of synthetic fertilisers & maintaining at least 70% groundcover (68%)	Maintaining at least 70% groundcover (61%)	Maintaining at least 70% groundcover (65%)	Testing of soils to understand soil condition/ nutrient status (83%)	Maintaining at least 70% groundcover (68%)
Top knowledge topic	The influence of nutrient run-off on the quality of water in rivers/ wetlands (73%)	The influence of nutrient run-off on the quality of water in rivers/ wetlands (68%)	Strategies to maintain ground cover to minimise erosion (84%)	How to prepare my farm and family for an extreme weather event (84%)	How to prepare my farm and family for an extreme weather event (72%)	Strategies to maintain ground cover to minimise erosion (88%)	Strategies to maintain ground cover to minimise erosion (62%)
Top time frame considered when making strategic decisions	48% Approx. 5 years	36% Approx. 5 years	45% Approx. 5 years	41% Approx. 5 years	32% Approx. 5 years	43% Approx. 5 years	35% year-to-year
Prepared/are preparing a property management or whole-farm plan (% Yes)	55%	55%	67%	49%	64%	71%	50%
CHALLENGES							
Top issue at the local district scale (% Important/very important)	Impact of government decision-making on farming in this region (94%)	Water security (96%)	Risk to life/ property from fires/floods & impact of government decision-making on farming in this region (84%)	Water security (95%)	Water security & river health, including reduced flows and/or salinity/ nutrient run-off (96%)	Impact of government decision-making on farming in this region (91%)	Impact of government decision-making on farming in this region (94%)
Top issue for property owners (% Important/very important)	Rising input costs (88%)	Rising input costs (83%)	Rising input costs (81%)	Rising input costs (88%)	The impact of weeds or pest animals on	Rising input costs (82%)	Rising input costs (88%)

Key attributes	productivity (82%)						
	Vasse- Geographe (n = 36)	Leschenault (n = 57)	Oyster Harbour (n = 50)	Peel-Harvey (n = 45)	Scott River/ Lower Blackwood (n = 30)	*Torbay Inlet (n = 23)	Wilson Inlet (n = 46)
CLIMATE CHANGE BELIEFS & PREPAREDNESS							
Climate change poses a risk to the region (% Agree/strongly agree)	67%	65%	57%	54%	55%	64%	58%
Landholders should manage their properties in expectation of a highly variable climate (% Agree/strongly agree)	85%	76%	74%	78%	79%	86%	78%
Human activities are influencing changes in climate (% Agree/strongly agree)	70%	72%	57%	68%	69%	68%	70%
Confident that landholders in this region can adapt to expected changes in rainfall patterns (% Agree/strongly agree)	66%	43%	62%	62%	62%	74%	68%
Disaster response plan prepared (% Yes)	44%	38%	35%	49%	41%	30%	38%
FUTURE PLANS							
Ownership of the property will stay in the family (% Yes)	63%	69%	73%	62%	66%	61%	69%
Family members are interested in taking on the property (% Yes)	17%	36%	41%	39%	31%	39%	35%

Succession plan stage	52% Not started	51% Not started	34% Early stages	37% Early stages	64% Not started	45% Not started	46% Not started
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* Denotes subregions where n < 30 – proceed with caution when interpreting data

Table X3. Issue, confidence and practice data related to river health for landholders in the South-west (SW) of WA Catchment Areas.

River health statement	Vasse-Geogra phe (n = 36)	Leschenault (n = 57)	Oyster Harbour (n = 50)	Peel-Harvey (n = 45)	Scott River/ Lower Blackwood (n = 30)	*Torbay Inlet (n = 23)	Wilson Inlet (n = 46)
Issue: River health, including reduced flows and/or salinity/nutrient run-off threatening water quality (%Important/very important)	91%	94%	76%	85%	96%	85%	85%
Confidence: Fencing to manage stock access is an essential element of protecting waterways, soil and native vegetation (%Agree/strongly agree)	90%	84%	91%	85%	89%	100%	90%
Management practice: Fencing of native bush/grasslands/waterways to manage stock access (%Yes in past 5 years)	30%	24%	40%	35%	39%	35%	32%

Table X4. Land uses of landholders overall, Farmers and Lifestylers in the Wheatbelt (WB) region (n = 147–148) and South-west (SW) of WA (n = 312–313). Percentages reflect the proportion of landholders engaging with each land use or enterprise at the time of the survey.

Land use/enterprise mix	WB (2025)			SW (2025)		
	WB Overall	WB Farmers	WB Lifestylers	SW Overall	SW Farmers	SW Lifestylers
Cereals	66%	93%	21%	6%	9%	1%
Legumes/pulses	41%	61%	9%	4%	5%	1%
Oil seeds	40%	62%	4%	5%	6%	1%
Pasture	41%	55%	19%	51%	58%	34%
Dairying	1%	1%	0%	4%	5%	1%
Beef cattle	14%	20%	8%	73%	79%	55%
Cattle backgrounding	1%	1%	0%	8%	8%	4%
Sheep	44%	61%	19%	25%	25%	26%
Sheep likely destined for live export	20%	27%	9%	5%	5%	4%
Bee keeping	5%	5%	6%	9%	7%	12%
Other commercial livestock	2%	0%	6%	5%	4%	5%
Viticulture	1%	1%	0%	5%	5%	4%
Horticulture	3%	4%	2%	9%	7%	11%
Irrigated agriculture	0%	0%	0%	7%	6%	4%
Area of remnant native vegetation	36%	41%	26%	26%	22%	32%
Farm forestry	3%	5%	2%	8%	8%	7%
Trees/planting for carbon scheme	4%	7%	0%	1%	0%	3%
Other tree planting	35%	37%	28%	21%	20%	23%
Farm-based tourism	7%	8%	8%	3%	2%	5%
Heritage agreement/covenant	4%	4%	2%	2%	0%	5%

Table X5. Management practices implemented in the past five years by landholders overall, Farmers and Lifestylers in the Wheatbelt (WB) region (n = 136) and South-west (SW) of WA (n = 306).

Management practice	Wheatbelt region (2025)			SW (2025)		
	WB Overall	WB Farmers	WB Lifestylers	SW Overall	SW Farmers	SW Lifestylers
Planting of trees and shrubs (incl. direct seeding)	51%	54%	50%	41%	41%	42%
Removal of an area of trees and/or shrubs	17%	18%	15%	7%	6%	11%
Fencing of native bush/grasslands/waterways to manage stock access	31%	43%	13%	32%	36%	26%
Use of time-controlled, cell or holistic grazing	18%	27%	7%	42%	49%	25%
Sowing perennial pastures	19%	26%	7%	38%	45%	21%
Use of minimum or no-tillage techniques	44%	76%	17%	54%	52%	24%
Use of precision farming techniques	38%	59%	2%	18%	24%	6%
At least one lime application to arable land	52%	74%	15%	52%	61%	32%
Application of biological soil supplements (e.g. compost tea, effluent)	13%	16%	9%	25%	28%	18%
Maintaining at least 70% groundcover (in non-drought years)	51%	66%	28%	62%	68%	49%
Testing of soils to understand soil condition/nutrient status	60%	85%	17%	60%	68%	38%
Preparation of a fertiliser budget/plan for all/most of the property	53%	76%	13%	52%	63%	24%
Plant legumes (e.g. lucerne, clover, medics, pulses)	49%	68%	15%	44%	54%	15%
Carbon farming under Australian Carbon Credits scheme	4%	6%	0%	1%	2%	0%
Organic farming under an accredited scheme	2%	2%	0%	1%	1%	1%
Multi-species pastures and/or cropping (more than 3 species)	21%	28%	7%	34%	42%	14%
Integrated Pest Management	38%	51%	17%	29%	35%	15%

Management practice	WB (2025)			SW (2025)		
	WB Overall 2025	WB Farmers 2025	WB Lifestylers 2025	SW Overall 2025	SW Farmers 2025	SW Lifestylers 2025
Encourage/manage native grasses/grains to grow at scale	17%	18%	13%	7%	8%	4%
Improving waste management practices on my property	24%	29%	17%	20%	24%	11%
Deep ripping or other deep soil modification/amelioration methods	33%	46%	9%	15%	18%	8%
Use of soil moisture monitoring	9%	12%	2%	5%	5%	3%
Farming practices you consider to be regenerative	27%	37%	11%	38%	42%	29%
Application of synthetic fertilisers (e.g. N, P, K, S)	54%	78%	13%	58%	69%	26%
Use of the '4Rs' (Right Source, Rate, Time and Place) for fertiliser application	40%	54%	%	36%	52%	13%

Table X6. Management practices implemented overtime by Farmers in the Wheatbelt (WB) region (n = 82) and South-west (SW) of WA (n = 215).

Management practice	WB (2025)			SW (2025)		
	Previous to last 5 years %	Past 5 years %	Next 5 years %	Previous to last 5 years %	Past 5 years %	Next 5 years %
Planting of trees and shrubs (incl. direct seeding)	79%	54%	59%	47%	41%	41%
Removal of an area of trees and/or shrubs	24%	18%	13%	12%	6%	3%
Fencing of native bush/grasslands/waterways to manage stock access	65%	43%	35%	40%	36%	34%
Use of time-controlled, cell or holistic grazing	18%	27%	27%	28%	49%	41%
Sowing perennial pastures	32%	26%	22%	35%	45%	46%
Use of minimum or no-tillage techniques	74%	76%	72%	36%	52%	45%
Use of precision farming techniques	49%	59%	56%	12%	24%	27%
At least one lime application to arable land	81%	74%	72%	60%	61%	57%
Application of biological soil supplements (e.g. compost-tea, effluent)	13%	16%	21%	16%	28%	28%
Maintaining at least 70% groundcover (in non-drought years)	42%	66%	54%	48%	68%	60%
Testing of soils to understand soil condition/nutrient status	77%	85%	74%	57%	68%	66%
Preparation of a fertiliser budget/plan for all/most of the property	74%	76%	72%	41%	63%	56%
Plant legumes (e.g. lucerne, clover, medics, pulses)	65%	68%	60%	41%	54%	48%
Carbon farming under Australian Carbon Credits scheme	1%	6%	11%	1%	2%	5%
Organic farming under an accredited scheme	3%	2%	2%	3%	1%	1%
Multi-species pastures and/or cropping (more than 3 species)	21%	28%	28%	26%	42%	40%
Integrated Pest Management	38%	51%	39%	25%	35%	35%

Management practice	WB (2025)			SW (2025)		
	Previous to last 5 years %	Past 5 years %	Next 5 years %	Previous to last 5 years %	Past 5 years %	Next 5 years %
Encourage/manage native grasses/grains to grow at scale	10%	18%	13%	5%	8%	10%
Improving waste management practices on my property	21%	29%	32%	15%	24%	26%
Deep ripping or other deep soil modification/amelioration methods	43%	46%	51%	16%	18%	20%
Use of soil moisture monitoring	10%	12%	18%	3%	5%	9%
Farming practices you consider to be regenerative	32%	37%	35%	22%	42%	38%
Application of synthetic fertilisers (e.g. N, P, K, S)	79%	78%	71%	57%	69%	60%
Use of the "4Rs" (Right Source, Rate, Time and Place) for fertiliser application	48%	54%	52%	35%	52%	46%

Table X7. Issues at the local district scale for landholders overall, Farmers and Lifestylers in the Wheatbelt (WB) region (n = 127–136) and South-west (SW) of WA (n = 249–276). Means (out of 5) are given in brackets and percentages reflect the proportion of landholders engaging with each land use or enterprise at the time of the survey.

Issues	WB (2025)			SW (2025)		
	WB Overall	WB Farmers	WB Lifestylers	SW Overall	SW Farmers	SW Lifestylers
Absence of important services and sufficient infrastructure	81% (4.4)	85% (4.5)	75% (4.3)	59% (3.8)	61% (3.9)	53% (3.6)
Non-agricultural/ conflicting land use impacting/ encroaching on farmland	50% (3.5)	50% (3.5)	55% (3.7)	60% (3.9)	64% (4.0)	56% (3.7)
Long-term negative impacts of properties purchased by absentees	55% (3.6)	56% (3.7)	56% (3.6)	62% (3.8)	65% (3.8)	55% (3.5)
Public opposition for agricultural practices (e.g. GMs, animal welfare, pesticide use)	64% (3.9)	77% (4.3)	47% (3.5)	64% (3.9)	69% (4.0)	52% (3.6)
Loss of native plants and animals in the landscape	71% (4.1)	64% (3.9)	89% (4.5)	69% (4.0)	68% (4.0)	78% (4.2)
Declining soil health and/or soil productivity	81% (4.3)	85% (4.3)	76% (4.2)	75% (4.1)	74% (4.1)	83% (4.2)
Water security	86% (4.4)	84% (4.4)	95% (4.7)	89% (4.6)	88% (4.5)	91% (4.6)
Changes in weather patterns	76% (4.1)	77% (4.2)	83% (4.2)	77% (4.2)	75% (4.2)	82% (4.2)
Risk to life and/or property from bushfires/wildfires and/or flooding	77% (4.1)	72% (4.0)	89% (4.3)	81% (4.3)	81% (4.3)	81% (4.3)
The impact of pest plants and/or animals on native plants and animals	75% (4.1)	69% (3.9)	89% (4.4)	84% (4.3)	81% (4.2)	92% (4.6)
Support for new and/or young farmers	82% (4.4)	86% (4.4)	79% (4.3)	79% (4.2)	81% (4.3)	72% (4.0)
The availability of water for livestock	76% (4.3)	70% (4.2)	89% (4.6)	86% (4.4)	86% (4.4)	86% (4.4)
River health, including reduced flows and/or salinity/nutrient run-off threatening water quality	71% (4.2)	68% (4.0)	79% (4.6)	86% (4.5)	84% (4.4)	94% (4.6)
Impact of government decision-making on farming in this region	94% (4.7)	95% (4.8)	96% (4.7)	91% (4.6)	92% (4.7)	91% (4.5)
Access to veterinarians	60% (3.7)	56% (3.6)	72% (4.1)	70% (4.0)	71% (4.1)	66% (3.8)

Table X8. Issues at the property scale for landholders overall, Farmers and Lifestylers in the Wheatbelt (WB) region (n = 125–131) and South-west (SW) of WA (n = 265–276). Means (out of 5) are given in brackets and percentages reflect the proportion of landholders engaging with each land use or enterprise at the time of the survey.

Issues	WB (2025)			SW (2025)		
	WB Overall	WB Farmers	WB Lifestylers	SW Overall	SW Farmers	SW Lifestylers
Uncertain returns limiting capacity to maintain/invest in my property	62% (4.0)	80% (4.2)	34% (3.6)	69% (4.0)	75% (4.2)	50% (3.6)
Rising input costs	80% (4.4)	95% (4.7)	50% (3.8)	84% (4.4)	91% (4.6)	62% (3.9)
Impact of temperature extremes and/or changing rainfall patterns on management/productivity	69% (4.0)	75% (4.0)	60% (4.2)	72% (4.0)	73% (4.0)	67% (4.0)
The impact of weeds or pest animals (including overabundant native species) on productivity	75% (4.1)	86% (4.2)	54% (4.1)	73% (4.1)	71% (4.0)	78% (4.2)
The activities of neighbouring landholders (e.g. overspray, upstream impacts (building dams), neglect)	47% (3.5)	41% (3.3)	56% (4.0)	52% (3.6)	49% (3.5)	64% (3.7)
Weed/pest resistance to herbicides, pesticides and/or fungicides	70% (4.0)	83% (4.3)	50% (3.7)	55% (3.6)	58% (3.6)	50% (3.4)
Lack of skilled labour to undertake on-property work	65% (4.0)	73% (4.1)	48% (3.9)	37% (3.2)	39% (3.2)	33% (2.9)
Succession planning	60% (3.9)	73% (4.1)	33% (3.2)	47% (3.5)	53% (3.6)	32% (3.0)
Soil erosion (e.g. due to wind or water)	66% (4.0)	75% (4.1)	52% (4.0)	50% (3.6)	48% (3.5)	55% (3.7)
Declining fertility/nutrient status of soils over time, therefore increased inputs required	63% (4.0)	73% (4.1)	42% (3.9)	50% (3.6)	52% (3.6)	43% (3.6)
Salinity (e.g. magnesias patches, Mallee seeps) undermining productive capacity of soils	57% (3.8)	69% (3.9)	36% (3.4)	34% (3.1)	33% (3.1)	37% (3.2)
Soil acidity (lower pH) undermining productive capacity of soils	63% (4.0)	68% (4.3)	55% (3.4)	64% (3.8)	83% (3.9)	28% (3.7)
Soil sodicity undermining productive capacity of soils	48% (3.6)	60% (3.7)	28% (3.4)	44% (3.3)	47% (3.4)	38% (3.3)

Issues	WB (2025)			SW (2025)		
	WB Overall	WB Farmers	WB Lifestylers	SW Overall	SW Farmers	SW Lifestylers
Low levels of organic carbon in soils	58% (3.8)	70% (3.9)	40% (3.7)	48% (3.5)	47% (3.5)	54% (3.7)
Low level of biological activity in soils.	60% (3.8)	72% (3.9)	44% (3.7)	52% (3.6)	51% (3.5)	60% (3.7)
Soil-borne diseases	55% (3.8)	61% (3.8)	41% (3.7)	44% (3.3)	43% (3.3)	49% (3.5)
Water holding capacity of soils	66% (4.1)	74% (4.2)	55% (4.0)	65% (3.9)	64% (3.8)	69% (3.9)
Chemical residue in soils	52% (3.6)	56% (3.6)	47% (3.7)	40% (3.2)	40% (3.2)	42% (3.4)
Loss of nutrients through the soil profile	62% (3.8)	67% (3.8)	57% (3.9)	55% (3.7)	58% (3.7)	53% (3.6)
Unintended or re-emerging impacts of previous soil amelioration strategies	42% (3.3)	45% (3.2)	38% (3.4)	26% (2.9)	26% (2.8)	31% (3.1)
Non-wetting soils	58% (3.7)	59% (3.7)	55% (3.8)	42% (3.3)	44% (3.3)	42% (3.4)
Soil (re)compaction	62% (3.8)	74% (4.0)	44% (3.7)	44% (3.3)	48% (3.4)	30% (3.1)

Table X9. The 'modes or ways in which landholders overall, Farmers and Lifestylers access information in the Wheatbelt (WB) region (n = 125–127) and South-west (SW) of WA (n = 275–277). Percentages reflect the proportion of each group who have used each mode in the past 12 months.

Modes of information	WB (2025)			SW (2025)		
	WB Overall	WB Farmers	WB Lifestylers	SW Overall	SW Farmers	SW Lifestylers
Television	17%	9%	26%	19%	15%	23%
Books/e-books	16%	12%	26%	20%	18%	23%
Magazines	24%	27%	19%	29%	34%	15%
Newspapers	28%	34%	16%	19%	17%	20%
Radio	25%	23%	28%	21%	22%	17%
Field days/crop walks	47%	67%	9%	39%	48%	14%
Brochures/leaflets/ paper newsletter	24%	25%	23%	18%	19%	15%
Academic journals/ research papers	20%	27%	12%	17%	19%	11%
Emails, e-newsletters	33%	34%	28%	38%	39%	39%
Websites	40%	35%	47%	48%	46%	58%
Twitter/X	8%	13%	0%	1%	2%	0%
Instagram	3%	3%	5%	2%	3%	0%
YouTube	12%	10%	16%	12%	13%	12%
Podcasts	12%	13%	12%	9%	11%	3%
Facebook	14%	8%	28%	9%	9%	11%
WhatsApp or Messenger Groups	19%	26%	9%	6%	6%	5%
Extension officers (face-to-face contact)	18%	22%	7%	9%	10%	6%
Short course/s	16%	13%	19%	22%	23%	23%
Other Formal Training	5%	6%	2%	7%	8%	3%

Table X10. Organisational sources of information used by landholders in the Wheatbelt (WB) region (n = 119–121) and South-west (SW) of WA (n = 257–260). Percentages reflect the proportion of each group who have used each source in the last 12 months.

Source of information	WB (2025)			SW (2025)		
	WB Overall	WB Farmers	WB Lifestylers	SW Overall	SW Farmers	SW Lifestylers
Other farmers	61%	76%	30%	59%	60%	55%
West Midlands Group (WMG)	2%	3%	2%	0%	0%	0%
Other grower groups e.g. Liebe, Facey, CFGI, GGA	29%	42%	2%	6%	8%	0%
NRM or catchment groups	19%	21%	16%	32%	35%	25%
Landcare	14%	10%	19%	16%	15%	17%
Local Council	10%	5%	19%	4%	4%	5%
DPIRD/DWER	16%	21%	9%	23%	26%	17%
Soil CRC	3%	4%	2%	3%	3%	3%
Rural R&D corporations (e.g. GRDC, RDA, MLA)	29%	41%	5%	16%	20%	5%
Environmental organisations (e.g. Greening Australia)	6%	3%	12%	7%	4%	17%
Commodity groups e.g. Western Dairy/Beef	5%	4%	5%	17%	22%	3%
Friends/ neighbours/ relatives	36%	39%	33%	36%	35%	34%
Universities/CSIRO	13%	10%	14%	12%	13%	8%
Bureau of Meteorology	34%	32%	35%	33%	37%	22%
Independent agricultural consultants, agronomists or stock agents	41%	60%	5%	36%	42%	14%
Commercial agricultural consultants, agronomists or stock agents	31%	42%	7%	28%	34%	12%
WANTFA	9%	12%	0%	0%	1%	0%
Soils West	4%	5%	2%	1%	1%	0%
My own knowledge from my own experiences	55%	62%	44%	60%	65%	43%

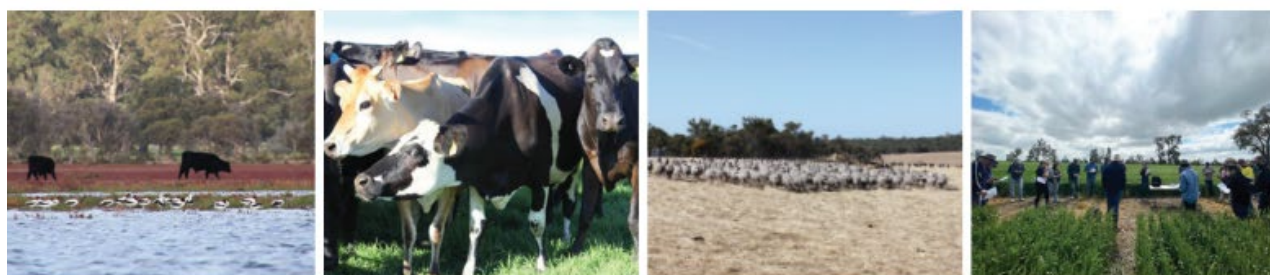
APPENDIX 2 – SURVEY QUESTIONNAIRE



SURVEY NO. _____

LAND MANAGERS OF WESTERN AUSTRALIA

WA RURAL LANDHOLDER SURVEY 2025



Department of Water and Environmental Regulation
Department of Primary Industries and Regional Development



wheatbelt
natural resource
management

WEST AUSTRALIAN RURAL LANDHOLDER SURVEY 2025

This comprehensive survey is a vital part of efforts to understand the important social and economic factors shaping landholder decision making in Western Australia (WA), on the Wheatbelt and in high rainfall catchments of the south-west. This follows-up and extends a Soil CRC landholder survey undertaken in 2020, giving some insights into practice changes and trends property managers are experiencing.

Your participation is incredibly valuable and will help shape future research and policy. Information you provide will influence how funding is used in your region and how information is shared by the West Midlands Group, Wheatbelt Natural Resource Management (NRM) and the Department of Water and Environmental Regulation, key organisations working to support landholders to achieve viable futures in the region. Information collected will also be used to inform future activities of the Australian Cooperative Research Centre for High Performance Soils (Soil CRC).

Surveys are being sent to a random sample of landholders with properties in this region, identified via ratepayer lists provided by local councils or DWER. We are seeking the views of the person/s primarily responsible for managing the property. If more than one, you may fill it in together. If you are not involved in the management of the property, please forward this on to the property manager or return it in the postage-paid return envelope. We ask that you only provide information for your property/s in WA.

Each survey has a serial number that links to the property, enabling us to spatially reference our survey results with soil and weather data. Information is published at the regional scale and individual data is never published.

No specific property or person will ever be identifiable in our reporting.

This voluntary survey should take approximately 30-60 minutes to complete. There are no right or wrong answers and there is no need to think at great length about your responses. You are assured of complete confidentiality. Your name will never be placed on the survey or used in any of the reports. No group outside the research team to have access to the survey data, which we must store for a minimum of five years.

Should you experience any stress completing the survey please contact Beyond Blue on 1300 22 4636. If you have any questions about the survey, please contact Associate Professor Hanabeth Luke on (08) 93607472 or by email at Hanabeth.Luke@murdoch.edu.au. Please direct any complaints to Murdoch Ethics on Tel. 08 9360 6677 or e-mail human.ethics@murdoch.edu.au.

Thank you for your assistance,



Associate Professor Hanabeth Luke
Soil CRC Project Leader



1. YOUR ROLE

Which of the following best describes **your role** in relation to this land?

- ☐ Land owner
- ☐ Farm/land manager
- ☐ Leasee
- ☐ Retired farmer

Please **tick** the descriptor/term that best describes you:

- ☐ Full-time farmer
- ☐ Part-time farmer
- ☐ Hobby farmer
- ☐ Non-farmer

2. ENTERPRISE / LAND USE MIX IN 2025

This topic is seeking **information about your current land use/enterprise mix on your WA property.**
Please place a tick besides any correct response in the 'tick relevant' column.

ENTERPRISES / LAND USE ON YOUR PROPERTY IN 2025	TICK RELEVANT	ENTERPRISES / LAND USE ON YOUR PROPERTY IN 2025	TICK RELEVANT
Cereals	☐	Viticulture	☐
Legumes/pulses	☐	Horticulture	☐
Oil seeds	☐	Irrigated agriculture	☐
Pasture	☐	Area of remnant native vegetation (e.g. trees, grasslands, wetlands)	☐
Dairying	☐	Farm forestry	☐
Beef cattle	☐	Trees/planting for carbon scheme	☐
Cattle backgrounding	☐	Other tree planting (e.g. shelter, habitat, erosion or recharge control)	☐
Sheep	☐	Farm-based tourism (e.g. farm stays, B&B)	☐
Sheep likely destined for live export	☐	Heritage agreement/covenant	☐
Bee keeping	☐	Other (please specify):	☐
Other commercial livestock enterprises (e.g. poultry, goats, pigs, deer, horses)	☐		
			

Please outline/list your main goal/s in relation to your property/farm:

.....

.....

3. MANAGEMENT PRACTICES ON YOUR PROPERTY

This section asks about **practices undertaken** on your WA property prior to 2020, within the last 5 years, and your future plans. *Tick all relevant.* Please ignore topics not relevant to you (they will be counted as N/A).

PRACTICES IMPLEMENTED ON YOUR WA PROPERTY	PRIOR TO 2020	2020 TO PRESENT	NEXT 5 YEARS
Planting of trees and shrubs (incl. direct seeding)	☐	☐	☐
Removal of an area of trees and/or shrubs	☐	☐	☐
Fencing of native bush/grasslands/waterways to manage stock access	☐	☐	☐
Use of time-controlled, cell, or holistic grazing	☐	☐	☐
Sowing perennial pastures	☐	☐	☐
Use of minimum or no-tillage techniques	☐	☐	☐
Use of precision farming techniques	☐	☐	☐
At least one lime application to arable land	☐	☐	☐
Application of biological soil supplements (eg. compost-tea, effluent)	☐	☐	☐
Maintaining at least 70% groundcover (in non-drought years)	☐	☐	☐
Testing of soils to understand soil condition/nutrient status	☐	☐	☐
Preparation of a fertiliser budget/plan for all/most of the property	☐	☐	☐
Plant legumes (e.g. lucerne, clover, medics, pulses)	☐	☐	☐
Carbon farming under Australian Carbon Credits scheme	☐	☐	☐
Organic farming under an accredited scheme	☐	☐	☐
Multi-species pastures and/or cropping (more than 3 species)	☐	☐	☐
Integrated Pest Management	☐	☐	☐
Encourage/manage native grasses/grains to grow at scale	☐	☐	☐
Improving waste management practices on my property	☐	☐	☐
Deep ripping or other deep soil modification/amelioration methods	☐	☐	☐
Use of soil moisture monitoring	☐	☐	☐
Farming practices you consider to be regenerative	☐	☐	☐
Application of synthetic fertilisers (e.g. N, P, K, S)	☐	☐	☐
Use the "4Rs" (Right Source, Rate, Time and Place) for fertiliser application	☐	☐	☐

4. YOUR KNOWLEDGE OF DIFFERENT TOPICS

In this section we would like you to provide an assessment of your knowledge for a number of topics.

Examine the response options. For each item, place the number of your response in the 'Knowledge' column.

RESPONSE OPTIONS:

NO KNOWLEDGE	VERY LITTLE KNOWLEDGE	SOME KNOWLEDGE	SUFFICIENT KNOWLEDGE TO ACT	VERY SOUND, DETAILED KNOWLEDGE	NOT APPLICABLE N/A
1	2	3	4	5	6

YOUR KNOWLEDGE OF DIFFERENT TOPICS	KNOWLEDGE
Preparing a farm/property plan, allocating land use according to land class/soil characteristics	
Market mechanisms providing funds to support the building of carbon and/or biodiversity	
How to use soil testing to inform planning to maximise soil productivity (e.g. a nutrient budget)	
The processes leading to declining soil health or structure in your area	
How to identify the main constraints to soil productivity on your property	
Appropriate strategies and tools to address soil constraints on your property	
The role of soil carbon/microbiology (e.g. bacteria & fungi) in soil health	
How to build soil organic matter/soil carbon	
The benefits of applying biological soil supplements (e.g. compost, manure, microbial inoculants)	
Strategies to maintain ground cover to minimise erosion in your area	
The Aboriginal group/s who are connected to the area where your property is located	
How land in your district was used and managed before European settlement	
The role of on-farm biodiversity for supporting soil and landscape health	
The role of remnant vegetation/understorey plants in supporting the natural ecosystem	
The role of wetlands and native vegetation for filtering water entering rivers, lakes or streams	
How to (re)introduce more legumes/pulses into your enterprise mix	
Options and strategies to (re)establish perennial pastures (e.g. Lucerne/native grasses) in this area	
The use of time controlled, holistic or cell grazing strategies	
Holistic farm management and/or regenerative agriculture	
How to support the persistence of native grasses in this area	
How to prepare my farm and family for an extreme weather event such as fire, flood or drought	
Natural capital accounting/environmental, social and governance (ESG) reporting	
The influence of nutrient run-off on the quality of water in rivers/wetlands	
The "4Rs" of nutrient management, e.g. Right Source, Rate, Time and Place of fertiliser application	

5. YOUR ASSESSMENT OF ISSUES

This set of statements seeks **your views** about the importance of a range of issues that may be affecting your local district and your property. **Examine each statement in the table individually, then place the number of your response option in each space provided for 'Your view'.**

RESPONSE OPTIONS:

NOT IMPORTANT	MINIMAL IMPORTANCE	SOME IMPORTANCE	IMPORTANT	VERY IMPORTANT	NOT APPLICABLE
1	2	3	4	5	6

IMPORTANCE OF ISSUES AFFECTING YOUR LOCAL DISTRICT	YOUR VIEW
Absence of important services and sufficient infrastructure (phone, schools, internet, childcare, healthcare, roads, BOM radar, other). Circle relevant issue.	
Non-agricultural /conflicting land use impacting/encroaching on farmland (e.g. wind farms, solar, gas, mining, residential, carbon farming, other). Circle relevant issue.	
Long-term negative impacts of properties purchased by absentees	
Public opposition for agricultural practices (e.g. GMs, animal welfare, pesticide use)	
Loss of native plants and animals in the landscape	
Declining soil health and/or soil productivity	
Water security	
Changes in weather patterns	
Risk to life and/or property from bushfires/wildfires and/or flooding	
The impact of pest plants and/or animals on native plants and animals	
Support for new and/or young farmers	
The availability of water for livestock	
River health, including reduced flows and/or salinity/nutrient runoff threatening water quality	
Impact of government decision-making on farming in this region	

IMPORTANCE OF ISSUES ON YOUR FARM/PROPERTY	YOUR VIEW
Uncertain returns limiting capacity to maintain/invest in my property	
Rising input costs	
Impact of temperature extremes and/or changing rainfall patterns on management/productivity	
The impact of weeds or pest animals (including overabundant native species) on productivity	
The activities of neighbouring landholders (eg. overspray, upstream impacts (building dams), neglect)	
Weed/pest resistance to herbicides, pesticides and/or fungicides	
Lack of skilled labour to undertake on-property work	
Succession planning	

IMPORTANCE OF SOIL ISSUES ON YOUR PROPERTY	YOUR VIEW
Soil erosion (e.g. due to wind or water)	
Declining fertility/nutrient status of soils over time, therefore increased inputs required	
Salinity (e.g. magnesias patches, Mallee seeps) undermining productive capacity of soils	
Soil acidity (lower pH) undermining productive capacity of soils	
Soil sodicity undermining productive capacity of soils	
Low levels of organic carbon in soils	
Low level of biological activity in soils	
Soil-borne diseases	
Water holding capacity of soils	
Chemical residue in soils	
Loss of nutrients through the soil profile	
Unintended or re-emerging impacts of previous soil amelioration strategies	
Non-wetting soils	
Soil (re)compaction	

OPEN QUESTIONS

In the **next 10 years**, what would you see as likely being your **biggest challenge**?

.....

In the **next 10 years**, what would you see as likely being your **biggest opportunity**?

.....

6. THE PRINCIPLES THAT GUIDE YOUR LIFE

The next set of statements seeks information about the **principles that guide your life**. *Please number each.*

RESPONSE OPTIONS:

NOT IMPORTANT	MINIMAL IMPORTANCE	SOME IMPORTANCE	IMPORTANT	VERY IMPORTANT
1	2	3	4	5

THE PRINCIPLES THAT GUIDE YOUR LIFE	YOUR VIEW
Being influential and having an impact on people and events	
Respecting the earth and living in harmony with nature	
Caring for vulnerable people and correcting social injustice	
Creating wealth and striving for a financially profitable business	

7. YOUR VIEWS & EXPERIENCE

We would like to know **how closely the statements presented below reflect your views/experience**. Examine each statement in the table, then place the number for your response in the space provided for **'Your view'**.

RESPONSE OPTIONS:

STRONGLY DISAGREE	DISAGREE	NEUTRAL/ DON'T KNOW	AGREE	STRONGLY AGREE	NOT APPLICABLE
1	2	3	4	5	6

STATEMENTS	YOUR VIEW
The benefits of stubble retention outweigh problems arising from the practice	
The cost of deep-tillage and subsoil modification are justified by the benefits	
Soil testing is an essential step in understanding soil condition /nutrient status	
The costs of applying lime to balance soil acidity is justified by increased production	
The costs of establishing perennial pastures are justified by the returns	
Biological activity is an important indicator of the productive capacity of soils	
Fencing to manage stock access is an essential element of protecting waterways, soil and native vegetation	
Intensive grazing for short periods is usually better than set stocking	
I feel a personal responsibility to maintain the productive capacity of my soil	
I feel a personal responsibility to be part of a local grower group (for research and development)	
There is adequate compensation or support provided for good land/soil stewardship	
I feel confident managing my farm in the face of increasing change and uncertainty	
Decision-making needs to be strongly influenced by data/scientific evidence	
I have good systems in place to manage my farm data	
Internet or mobile phone access is a barrier to finding/using information for my farm management	
Most years I'm satisfied with my farm's profitability given the seasonal conditions experienced	
I am coping well with the associated stresses and challenges of managing my farm	
I feel adequately supported to conduct farming and land management activities on my property	
I'm confident that adopting regenerative/holistic farming practices is justified by the benefits	
I am interested in learning more about regenerative/holistic farming approaches	
Engaging in biodiversity/carbon markets is justified by the returns	
I'm confident that my land is in a better condition than when I took on the management of this farm	
I'm confident that landholders in this region can adapt to expected changes in rainfall patterns	
Reduced production in the short-term is justified where there are long term benefits	

STATEMENTS	YOUR VIEW
Overall, I am decreasing my use of synthetic fertiliser inputs per hectare	
Overall, I am decreasing my use of pesticide/herbicide/fungicide inputs per hectare	
Grower groups are the best way to drive and direct local research, development and extension	
Pathway to market for my produce is clear	
My approach to farming/land management is generally well accepted by others in my local community	

OPEN QUESTIONS

What sort of support would enhance your agricultural and land management activities?

What is the most important influence on your soil health?

What testing/indicators do you use to assess soil/land health and/or productivity?

Approximately, how often are your soils tested? ☐ At least annually ☐ Every 3-5 years ☐ Infrequently ☐ Never

Where are they tested? ☐ Whole farm ☐ Systematically across paddocks ☐ Systematically in 1 paddock ☐ As needed

To a depth of (tick one only): ☐ 10 cm ☐ 30cm ☐ 60cm ☐ to deepest possible depth

Who collects the samples? ☐ My team ☐ Commercial advisor ☐ Independent advisor ☐ Government/catchment advisor

Have you been involved in a government led whole-farm soil testing program? ☐ No ☐ Yes ☐ Unsure

If you don't soil-test, why not?

Are you in a Grower Group? (note group) ☐ No ☐ Yes ☐ I was previously

Are you connected with an NRM/catchment group? ☐ No ☐ Yes ☐ I was previously

Please use the following response options to respond to the statements below:

STRONGLY DISAGREE	DISAGREE	NEUTRAL/ DON'T KNOW	AGREE	STRONGLY AGREE	NOT APPLICABLE
1	2	3	4	5	6

STATEMENTS (indicate the extent to which you agree with the following)	Grower Group	NRM/Catchment Group
Provides valuable information about soil, agronomy, farm management and/or natural resource management		
Can be relied on to keep landholders' interests in mind when making decisions about priorities in research, development and extension (R, D & E)		
They should play an advocacy role/lobby on behalf of my community's needs in regard to research, development & extension (R, D & E)		

8. PREFERRED SOURCES OF INFORMATION & DECISION MAKING

In the past 12 months, what have been **your top sources** of information about topics related to the management of your property in this region? *Please place a tick besides your key sources in the table below.*

MODE OF INFORMATION		ORGANISATION/PERSONS	
Television	☐	Other farmers	☐
Books/e-books	☐	West Midlands Group (WMG)	☐
Magazines	☐	Other grower groups, e.g. Liebe, Facey CFG, GGA	☐
Newspapers	☐	NRM or catchment groups	☐
Radio	☐	Landcare	☐
Field days/crop walks	☐	Local Council	☐
Brochures/leaflets/ paper newsletter	☐	DPIRD/DWER	☐
Academic journals/research papers	☐	Soil CRC	☐
Emails, e-newsletters	☐	Rural R&D corporations (e.g. GRDC, RDA, MLA)	☐
Websites	☐	Environmental organisations (e.g. Greening Australia)	☐
Twitter/X	☐	Commodity groups, e.g. Western Dairy/Beef	☐
Instagram	☐	Friends/neighbours/relatives	☐
YouTube	☐	Universities/CSIRO	☐
Podcasts	☐	Bureau of Meteorology	☐
Facebook	☐	Independent agricultural consultants, agronomists or stock agents	☐
WhatsApp or Messenger Groups	☐	Commercial agricultural consultants, agronomists or stock agents	☐
Extension officers (face to face contact)	☐	WANTFA	☐
Short course/s	☐	Soils West	☐
Other Formal Training	☐	My own knowledge from my own experiences	☐

Please indicate the name of your preferred top source (e.g. name of newspaper)

Who plays a key role in **decision-making** for this property? (please tick all that apply) ☐ Owner ☐ Board ☐ Spouse

☐ Child/ren ☐ Other family members ☐ Property manager ☐ Ag consultant ☐ Finance advisor/accountant
Other:

Do you have a structured process in place to make decisions about farm/land management? ☐ No ☐ Yes

If yes, please note:

9. YOUR VIEWS ABOUT RISK, TRUST AND CLIMATE

In this section, we would like to explore **your views** about taking risks, trusting others and climate change. For each statement in the table, place the number of your response in the **'Your view'** column.

RESPONSE OPTIONS:

STRONGLY DISAGREE	DISAGREE	NEUTRAL/ DON'T KNOW	AGREE	STRONGLY AGREE
1	2	3	4	5

STATEMENTS	YOUR VIEW
Most people are trustworthy	
People are almost always interested only in their own welfare	
I am usually an early adopter of new agricultural practices and technologies	
This may not be the best farm around, but I see no reason to change	
I prefer to see evidence of local success before trying a new practice	
I prefer to avoid risks	
I usually view risks as a challenge to embrace	
I am open to new ideas about farming and land management	
Financially, I can afford to take a few risks and experiment with new ideas	
I have sufficient time available to take a few risks and experiment with new ideas	
CLIMATE	
Climate change poses a risk to the region	
Human activities are influencing changes in climate	
It is not too late to take action to address climate change	
If we do nothing, climate change will have dire consequences for all living things, including humans	
Primary producers should do all they can to reduce carbon emissions from their activities	
Landholders should manage their properties in expectation of a highly variable climate	
Fundamental changes are required to make farming systems in our region more resilient/sustainable	
What sort of changes do you suggest?	
.....	
.....	

10. WHY YOUR PROPERTY IS IMPORTANT TO YOU

The next set of statements seeks information about the **reasons your property is important to you**.
Examine each statement in the table and place the number for your response in each space provided for 'Your View'.

RESPONSE OPTIONS:

NOT IMPORTANT	MINIMAL IMPORTANCE	SOME IMPORTANCE	IMPORTANT	VERY IMPORTANT
1	2	3	4	5

WHY YOUR PROPERTY IS IMPORTANT TO YOU	YOUR VIEW
Sense of accomplishment from producing food and fibre for others	
Having a healthy landscape that grows food of the highest quality	
Ability to pass on a healthier environment for future generations	
Sense of accomplishment from building/maintaining a viable business	
Provides opportunities to learn new things	
A place or base for recreation	
An asset that will fund my retirement	
A great place to raise a family	
Its native vegetation provides habitat for birds and animals	
An important source of household income	
An attractive place/area to live	
Provides a sense of belonging to a community	
Provides a sense of belonging to a place	
My property is an important part of who I am	
The productive value of the soil on my property	
Native plants and animals make the property an attractive place to live	
An asset that is an important part of family wealth	
A sense of accomplishment from being a part of positive change in farming	

11. YOUR PROPERTY AND YOU

BACKGROUND INFORMATION	PLEASE TICK OR FILL IN YOUR RESPONSE
What is the total area of land you own/manage in WA? (excluding land you manage but do not own)	 total Ha owned
Is this property your principal place of residence?	☐ No ☐ Yes
What area of additional land do you manage (lease/sharefarm/agist from others) in WA? (additional to the figure you provided above)?	 additional Ha managed
How long have you or your family owned or managed all/some part of your property?	 years
How many rural properties do you own in WA?	 No. of properties
What area of your property is leased, share farmed or agisted by others?	 Ha

INFORMATION ABOUT YOU AND YOUR MAIN OR 'HOME' PROPERTY	PLEASE TICK OR FILL IN YOUR RESPONSE
Has this enterprise bought additional land in this region in the past 20 years?	☐ No ☐ Yes
Have you subdivided or sold part of your property in this region over the past 20 years?	☐ No ☐ Yes
Estimate the number of hours per week that you worked on farming/property related activities (average over the past 12 months).	 hrs/week
What is your age?	 years
What is your gender?	☐ Male ☐ Female ☐ Non-binary
Do you identify as Aboriginal and/or Torres Strait Islander?	☐ No ☐ Yes
What is your main occupation (e.g., farmer, teacher, investor, retiree)?	
What is the highest level of formal education you have completed?	☐ Trained in life but no formal quals ☐ Year 10 ☐ Year 12 ☐ Vocational Certificate ☐ Tertiary/Uni
Are family members working on your property on a daily or weekly basis? (tick as relevant) If yes, please indicate who they are:	☐ No ☐ Yes
☐ Partner ☐ Child/ren ☐ Parent/s ☐ Sibling/s ☐ Other/s	
Have you prepared/are you preparing a property management or whole farm plan that involves a map or other documents that address the existing property situation and include future management and development plans?	☐ No ☐ Yes
Is any proportion of your land presently lost to production due to soil problems? If yes, how many hectares have been lost due to soil? Please specify the issue:	☐ No ☐ Yes
.....	 Ha

11. YOUR PROPERTY AND YOU (CONT)

INFORMATION ABOUT YOU AND YOUR MAIN OR 'HOME' PROPERTY	PLEASE TICK OR FILL IN YOUR RESPONSE
In the past 5 years, have you changed your financial or on-property operations as a result of seasonal changes in weather patterns? (e.g. investment changes, practice changes) Please note any relevant changes:	☐ No ☐ Yes
In the past 5 years, have you changed your operations to increase the soil carbon on your property (e.g. by revegetation, soil management)	☐ No ☐ Yes
In the past 5 years, have you changed your on-property operations as a result of considering opportunities to reduce carbon emissions (e.g. generating wind power, improved grazing practices)	☐ No ☐ Yes
Did you earn income from agriculture on your WA property during 2023/2024 financial year?	☐ No ☐ Yes
Did your WA property return a net profit during the 2023/2024 financial year? (i.e. income exceeded all expenses before tax)	☐ No ☐ Yes
Has your WA property returned a net profit over the last 5 years? (i.e. income exceeded all expenses before tax, on balance, over the 5-year period)	☐ No ☐ Yes
Does your family rely on off-farm income and investments?	☐ No ☐ Yes
Did you or your spouse/partner receive a net off-property income (after expenses and before tax) in the financial year (2023/2024)?	☐ No ☐ Yes, me ☐ Yes, my partner
In the 2023/2024 financial year, what percentage of you (and your spouse's) income was earned off farm? (eg. from shares, rental income, employment, other business)	 %
In the last 12 months, did you attend field days, farm walks and demonstrations focused on soil health and productivity?	☐ No ☐ Yes
Do you have a disaster response plan prepared? (e.g. a written flood or bushfire plan)	☐ No ☐ Yes
Have you had any notably successful or unsuccessful soil amelioration practices? Please provide an example:	☐ No ☐ Yes

What is the **longest** time-frame you often consider when making strategic decisions about the farm/land?

☐ Opportunistic ☐ Seasonal ☐ Year to year ☐ Approx. 5 years ☐ Approx. 20 years ☐ 100 years or longer

Over the **last 5 years**, what **management decision** was the most important influence on your **profitability**?

.....

.....

Over the **last 5 years**, what **management decision** had the greatest impact on **landscape health**?

.....

.....

12. LONG-TERM PLANS FOR YOUR PROPERTY

Please indicate the possibility that your long-term plans for your property in the next **10 years** will involve each of the choices in the table below. Examine the response options underneath this paragraph. For each choice in the table, place the number of your response option in the '**Your view**' column.

RESPONSE OPTIONS:

HIGHLY UNLIKELY	UNLIKELY	UNSURE	LIKELY	HIGHLY LIKELY
1	2	3	4	5

LONG TERM PLAN OPTIONS	YOUR VIEW
Ownership of the property will stay within the family	
The property will be sold	
The property will be subdivided and a large part of the property sold	
I will move off the property around/soon after reaching retirement age	
All or most of the property will be leased or share farmed	
Additional land will be purchased	
Additional land will be leased or share farmed	
The enterprise mix will be changed to diversify income sources	
The enterprise mix will be changed to more intensive enterprises	
A family member will seek additional off-property work to support the farm	
Some part of my property will be set aside for conservation purposes	
Buying property outside of my current area to mitigate increased seasonal variability	
Investing in the farm to increase the productive potential of my current landholding	
A significant land use/enterprise change, e.g. from sheep to cattle, note change	

Is this a corporate owned farm? (please tick your answer) ☐ No ☐ Yes

What proportion of your property contains an area of remnant, restored or planted native vegetation or wetland?

☐ 0% ☐ 1-25% ☐ 26-50% ☐ 51-75% ☐ 76-100%

Do you have **family members interested in taking on your property in the future?**

☐ No ☐ Yes ☐ Too early to know ☐ Unsure ☐ Not applicable

If Yes, has your family agreed to a succession plan?

☐ Not started ☐ Early stages ☐ Halfway ☐ Well advanced ☐ Completed/Ongoing

OTHER COMMENTS...and thank you for your time

Do you have any other comments about any of the topics covered in the survey, or other aspects of land and water management in Western Australia? Please use the space provided to write your comments or attach additional sheets. Your comments will be recorded by the research team.

.....

.....

.....

We sincerely appreciate the time you have spent answering the questions. Please return the completed survey in the postage-paid envelope provided.

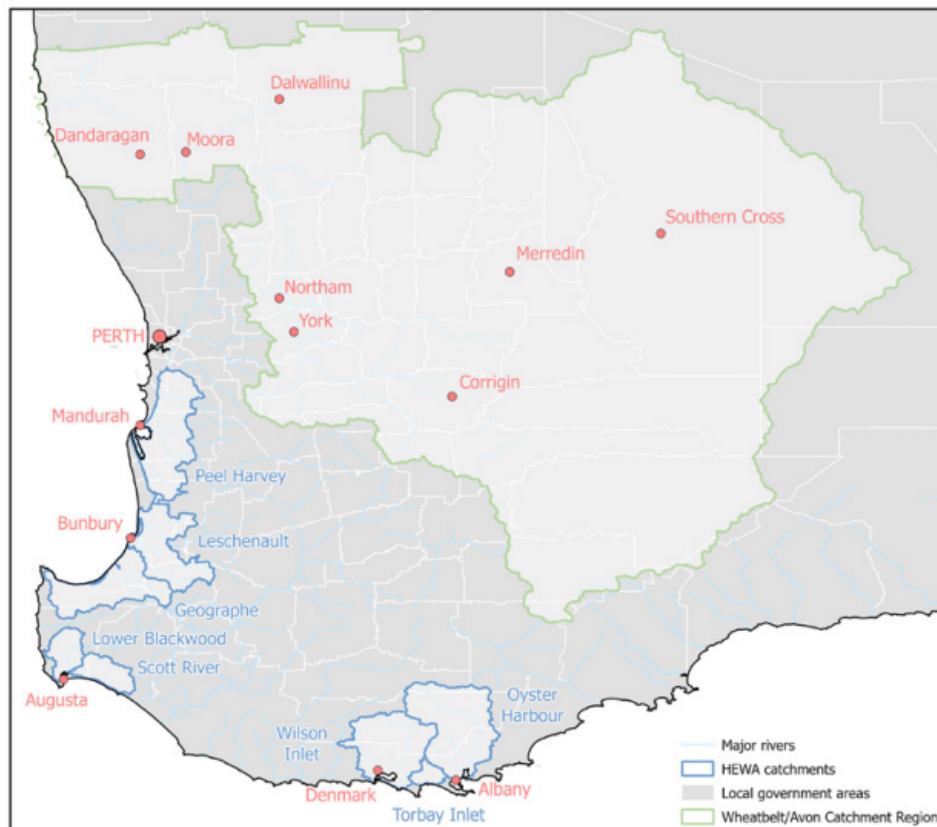
If you need assistance with the survey, wish to make specific comments about it, or receive a copy of results, please contact A.Professor Hanabeth Luke via (08) 93607472

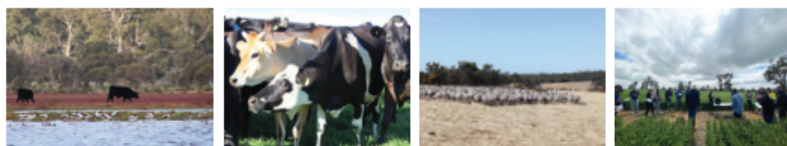
If you would like to be contacted as a part of further research, please write your email address or other contact here:

.....

To be contacted about discounted soil testing opportunities that may be available in your area, please write your email here:

.....





SOUTH WEST WA SUPPLEMENTARY SURVEY 2025

Requesting ten minutes more of your time, this supplementary section will help us understand fertiliser management strategies among grazing farmers in the high rainfall areas of south-west Western Australia. The results will help guide government investment, supporting and improving programs engaging with farmers on best-practice nutrient management. No specific property or person will ever be identifiable in our reporting.

We value your insights—**please return this survey along with the main survey.**

FERTILISER DECISIONS

When you make decisions about your farming practices, to what extent are the following correct for your farm?

Examine the response options. For each item, place the number of your response in the 'Your View' column.

RESPONSE OPTIONS:

STRONGLY DISAGREE	DISAGREE	NEUTRAL/ DON'T KNOW	AGREE	STRONGLY AGREE	NOT APPLICABLE
1	2	3	4	5	6

STATEMENTS	YOUR VIEW
I have undertaken systematic soil testing across almost all of my farm in the past 3 years	
I have used tissue testing to guide my nutrient/fertiliser application strategies	
I use an agricultural consultant to interpret soil tests and guide nutrient/fertiliser strategies	
I use tools and apps to help me interpret my own soil test data (e.g. the DPIRD nutrient calculator)	
I rely on my own observations of yield and conditions to choose the type and amount of fertiliser to apply	
I do my best to see that variable rates of fertiliser are applied, based on the needs of each paddock	
The fertiliser spreader used on my farm is well maintained and tested before use	
I avoid applying fertiliser when conditions are likely to be wet or windy	
I use soil amendments other than fertiliser and lime (e.g. clay, biochar) to improve my soil	
I always use the same commercial supplier / fertiliser company	

What are your main considerations when buying fertiliser? [tick most important]

- ☐ N/A ☐ Familiarity (trusted product) ☐ Convenience/availability ☐ How well it works
☐ Price/budget ☐ Advice from friends/neighbours ☐ Advice from commercial supplier
☐ Minimal environmental impact ☐ Advice from independent ag advisor
☐ Other (please write) _____

What buffer (fertiliser free zone) do you usually set around waterways? [select one only]

- ☐ N/A ☐ No buffer zones ☐ Around 5 meters ☐ 6 to 20 meters ☐ More than 20 meters

What nutrient/s do you apply? ☐ N/A ☐ N ☐ P ☐ K ☐ S ☐ Ca/Mg ☐ trace elements ☐ Other

Which form/s do you usually apply? ☐ Inorganic/synthetic ☐ Granulated ☐ Liquid ☐ Foliar ☐ Organic

Which is most correct in regards to the rate of fertiliser you apply? [tick most important]

- ☐ N/A ☐ I use **more** than recommended (by my advisor) ☐ I use the **same** rate as other farmers in my area
☐ I apply **similar** to last year (no formal advisor) ☐ I use **exactly** as recommended
 I use **less** than recommended.... ☐ to reduce costs ☐ to protect the environment

When do you apply phosphate fertiliser ? [select one only]

- ☐ N/A – I do not apply phosphate fertiliser ☐ Spring ☐ Autumn ☐ Split application in Spring and Autumn
☐ Other (please write) _____

Are you aware of any discounted soil testing programs run by catchment groups available in your region?

- ☐ No, I'm not interested ☐ No, but I am interested ☐ Yes, but I'm not interested ☐ Yes, I have participated
☐ If you are not interested, why not? _____

OPEN QUESTIONS

What are your most important considerations when planning fertiliser strategies?

If you undertake regular soil-testing, what motivates you to soil-test regularly? e.g. what benefits do you experience?

Thanks again for your time - do you have any further comments about soil-testing or fertiliser strategies?

APPENDIX 3 – NUTRIENT MANAGEMENT IN THE SOUTH-WEST OF WA: SUPPLEMENTARY REPORT



Performance through collaboration

Nutrient Management in the South-West of WA

Supplement to the 2026 WA Rural Landholder Social Benchmarking Report



Project 1.2.010

**Soil CRC Social Benchmarking of Rural Landholders
Rural Landholders Across Australia**

RESEARCH COMMISSIONED BY: THE COOPERATIVE RESEARCH CENTRE FOR HIGH PERFORMANCE SOILS (SOIL CRC), Department of Water and Environmental Regulation (DWER) and the Department of Primary Industries and Regional Development, Western Australia (DPIRD).

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DISCLAIMER

The views expressed in this report are solely the authors', and do not necessarily reflect the views of Murdoch University, the Soil CRC or the people consulted during the research project.

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LIST OF ACRONYMS

BMP – Best Management Practice

CSU – Charles Sturt University

DPIRD – Department of Primary Industries and Regional Development

DWER – Department of Water and Environmental Regulation

Farmer – Full-time and Part-time farmers combined

FTF – Full-time farmer

HF – Hobby farmer

Lifestyler – Hobby farmers and non-farmers combined

Livestockers – landholders in the south-west of WA engaging with one or more of the following enterprises: pasture, dairying, beef cattle, cattle backgrounding, sheep and sheep for export.

LGA – Local Government Area

NF – Non-farmer

NRM – Natural Resource Management

PTF – Part-time farmer

Soil CRC – Cooperative Research Centre for High Performance Soils

SW – south-west area of WA. For the purpose of the 2025 survey, the SW area of WA includes the Healthy Estuaries WA Catchment Areas of Peel-Harvey, Leschenault, Vasse-Geographe, Scott River/Lower Blackwood, Wilson Inlet, Torbay Inlet and Oyster Harbour.

1. INTRODUCTION

This supplementary report follows on from the *2026 Western Australia Rural Landholder Social Benchmarking Report*, focusing on nutrient management attributes of landholders in the SW of WA in the high rainfall zones (greater than 550 mm average annual rainfall). The data in this report is drawn largely from the supplementary survey sent to landholders in the Healthy Estuaries WA catchment areas of Peel-Harvey, Leschenault, Vasse-Geographe, Scott River/Lower Blackwood, Wilson Inlet, Torbay Inlet and Oyster Harbour (Figure 1), following the mail-out survey methodology described in Alexanderson et al. (2026), with responses received from 336 rural landholders in these regions.

The survey included questions on fertiliser use (including sources, rates, timing and location of application), fertiliser considerations and soil and plant tissue testing, with many questions linking to the key recommendations in the [Nutrient Best Management Practices Guideline](#) provided by the Healthy Estuaries WA program (DWER & DPIRD, 2026). In addition to analysis by landholder typologies (full-time, part-time, hobby and non-farmers), this section also presents data for landholders engaged in one or more livestock-based enterprises in the SW of WA (pasture production, dairying, beef cattle, cattle backgrounding, sheep production, and live export). For the purposes of this report, these landholders are collectively referred to as 'Livestockers'. Within this group FTFs accounted for 51% of respondents, followed by PTFs at 28%, HF's at 16% and NFs at 6%. A full breakdown of landholder responses by catchment area can be found in Appendix 1.

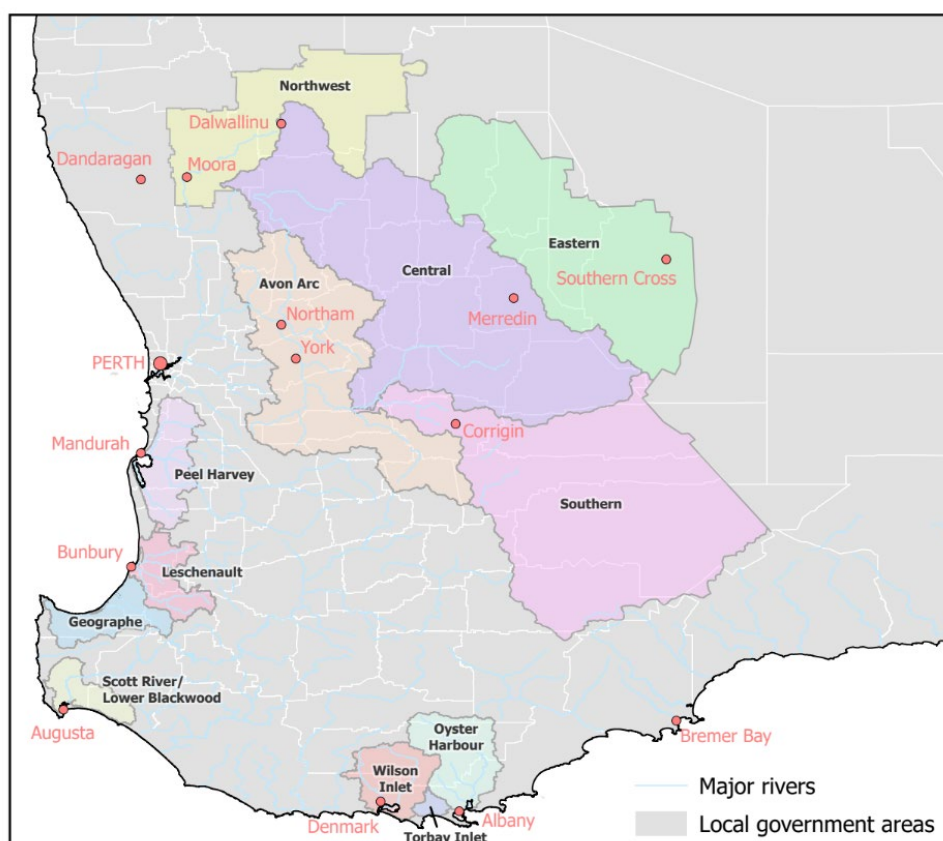


Figure 1. Map illustrating the location of subregions drawn for the 2026 WA Landholder Survey, with the Healthy Estuaries WA catchment areas of Peel-Harvey, Leschenault, Vasse-Geographe, Scott River/Lower Blackwood, Wilson Inlet, Torbay Inlet and Oyster Harbour being the focus of this supplementary report. Image supplied by Simon McDonald.

2. NUTRIENT MANAGEMENT IN THE SOUTH-WEST OF WESTERN AUSTRALIA

2.1 FERTILISER DECISIONS

The data indicate that fertiliser decision-making of Livestockers in the SW of WA is strongly influenced by risk management and paddock-specific optimisation. Across all respondents, the most widely adopted practices included avoiding fertiliser application under unfavourable weather conditions (74%), implementing variable-rate application (70%), and undertaking systematic soil testing (66%) (Table 1). These findings suggest a broadly precautionary and efficiency-oriented approach to nutrient management, reflecting both economic considerations and awareness of environmental risk. A substantial proportion of landholders also engaged agricultural consultants (64%) and maintained equipment to a high standard (61%), indicating the importance of both expert advice and operational reliability in fertiliser use decisions and a high integration of recommended best practices in property management.

However, variation across landholder types reveals important structural differences in capacity, intensity, and engagement with nutrient management practices. FTFs consistently reported the highest levels of adoption across most practices, particularly in avoiding poor application conditions (85%), maintaining equipment (73%), and conducting soil testing (72%), suggesting a more professionalised and systematised approach. PTFs demonstrated comparable or even higher engagement in certain technical practices, such as soil testing (78%) and use of decision-support tools (48%), but lower reliance on self-managed application. In contrast, HFs and NFs exhibited substantially lower participation across most measures, particularly in systematic soil testing (52% and 16%, respectively) and use of consultants (56% and 26%). These differences suggest a gradient in capability, investment capacity, and eligibility for government-led programs, with more intensive operators adopting a broader suite of best-practice nutrient management strategies, while less commercial landholders tend to rely on simpler or less frequent interventions.

Table 1. Fertiliser decisions of Livestockers, landholders overall and full-time, part-time, hobby and non-farmers in south-west of WA from the 2025 WA Landholder Survey (n=193-197). Means (out of 5) are given in brackets and orange shading highlights the top three statements by percentage, with the darkest shade reflecting the highest proportion.

Fertiliser decisions	% Agree/strongly agree					
	Live-stockers	Overall SW	FTF	PTF	*HF	*NF
I avoid applying fertiliser when conditions are likely to be wet or windy	79%	74%	85%	67%	67%	47%
I do my best to see that variable rates of fertiliser are applied, based on the needs of each paddock	72%	70%	75%	76%	58%	37%
I have undertaken systematic soil testing across almost all of my farm in the past 3 years	69%	66%	72%	78%	52%	16%
I use an agricultural consultant to interpret soil tests and guide nutrient/fertiliser strategies	67%	64%	71%	68%	56%	26%

Fertiliser decisions	% Agree/strongly agree					
	Live-stockers	Overall SW	FTF	PTF	*HF	*NF
The fertiliser spreader used on my farm is well maintained and tested before use	64%	61%	73%	58%	38%	32%
Myself or my team usually spread fertiliser, rather than a contractor	58%	56%	69%	51%	37%	28%
I rely on my own observations of yield and conditions to choose the type and amount of fertiliser to apply	52%	52%	61%	49%	27%	28%
I use soil amendments other than fertiliser and lime (e.g. clay, biochar) to improve my soil	48%	45%	51%	46%	27%	37%
I always use the same commercial supplier/fertiliser company	47%	45%	55%	41%	27%	21%
I have used tissue testing to guide my nutrient/fertiliser application strategies	44%	41%	53%	34%	33%	11%
I use tools and apps to help me interpret my own soil test data (e.g. the DPIRD nutrient calculator)	37%	36%	37%	48%	37%	0%

* n for hobby (n = 26–27) and non-farmers (n = 18–19) is low – interpret with caution.

The data indicate that nutrient management among Livestockers in the SW of WA is strongly centred on the application of key macronutrients, particularly phosphorus (81%), potassium (79%), and nitrogen (71%), with comparatively lower attention to secondary nutrients such as sulphur (62%) and calcium/magnesium (49%) (Table 2). FTFs consistently reported higher use across all major nutrients, including sulphur (78%) and phosphorus (90%), suggesting a more intensive and comprehensive nutrient management approach. Trace element application was also relatively common (62%), though less differentiated across landholder types. In contrast, HF and NFs demonstrated substantially lower engagement across most nutrient categories, indicating reduced input intensity and potentially lower production demands.

Fertiliser practices are largely standardised around granulated products, which dominate usage (84%), with liquid, foliar, and organic forms used less frequently. Fertiliser rates were aligned with advisory recommendations by 49% of respondents, indicating that just under half were guided by formal advice, while a further 18% relied on previous application rates. Around half (51%) reported adhering to recommended rates, with smaller proportions adjusting based on environmental considerations (9%), cost pressures (8%), or peer comparison (5%), and minimal use of rates above recommendations. A notable share of Lifestylers (21%) indicated fertiliser rate questions were not applicable, suggesting lower engagement with active nutrient management.

Buffer zones set around waterways most commonly fell within the 6–20 m category, indicating some level of environmental consideration in line with recommended best practice. Fertiliser timing was skewed towards autumn application (39% overall), particularly among FTFs (47%), with a secondary approach involving split applications across autumn and spring (27% overall). Collectively, these findings suggest a broadly standardised yet variably intensive approach to

fertiliser management, with higher-capacity producers adopting more structured and nutrient-diverse strategies.

Table 2. Summary of fertiliser management attributes of Livestockers (n = 181–191) as well as South-west (SW) landholders overall (n = 196–213) and by full-time (FTF), part-time (PTF), hobby (HF) and non-farmer (NF) typologies from the 2025 WA Landholder Survey.

Nutrient management	Live-stockers	Overall SW	FTF	PTF	*HF	*NF
NUTRIENTS						
Nitrogen (N)	73%	71%	80%	72%	48%	47%
Phosphorus (P)	83%	81%	90%	83%	61%	40%
Potassium (K)	81%	79%	89%	79%	61%	40%
Sulphur (S)	64%	62%	78%	58%	30%	20%
Calcium (Ca)/Magnesium (Mg)	50%	49%	60%	38%	43%	33%
Trace elements	63%	62%	68%	60%	52%	40%
FERTILISER FORM						
Inorganic/synthetic	17%	17%	23%	13%	4%	29%
Granulated	86%	84%	88%	82%	78%	64%
Liquid	17%	17%	22%	13%	13%	7%
Foliar	16%	17%	20%	25%	0%	0%
Organic	16%	17%	19%	16%	13%	14%
FERTILISER RATES						
Use more than recommended	2%	2%	4%	0%	0%	0%
Use the same rate as other farmers in my area	6%	5%	4%	6%	0%	6%
Apply similar to last year (no formal adviser)	17%	18%	18%	20%	9%	12%
Use exactly as recommended	49%	48%	48%	55%	68%	24%
Use less than recommended	10%	8%	10%	4%	14%	18%
BUFFER ZONE						
No buffer zone	10%	10%	10%	10%	5%	12%
Around 5 m	29%	28%	31%	33%	21%	18%
6–20 m	36%	36%	38%	31%	47%	24%
More than 20 m	11%	11%	11%	13%	5%	0%
TIMING OF PHOSPHATE APPLICATION						
Spring	12%	12%	10%	16%	13%	17%
Autumn	40%	39%	47%	33%	33%	11%
Split Spring and Autumn	28%	27%	32%	25%	21%	11%

* n for hobby (n = 19–26) and non-farmers (n = 14–18) is low – interpret with caution.

2.2 FERTILISER CONSIDERATIONS

Considerations of Farmers in the SW of WA when planning fertiliser strategies can be grouped into several key themes, with soil and plant needs, productivity goals, and economic constraints forming the core decision-making framework. Soil and plant diagnostics were the most frequently referenced basis for decision-making, with approximately 30–35% of responses explicitly highlighting soil test results, plant tissue testing, or nutrient status as the primary guide for fertiliser planning. Around 25–30% emphasised production objectives, such as pasture growth, crop yield, and livestock performance, while a similar proportion (around 20–25%) highlighted the importance of tailoring applications to seasonal conditions, rainfall, soil type, and crop or pasture requirements. A smaller but consistent share (around 10–15%) focused on operational efficiency, including application timing, fertiliser type selection, and avoiding over-application or nutrient loss.

Economic and environmental factors were also strongly represented, with approximately 30–35% of responses referring to cost, profitability, or return on investment as a key constraint or driver of fertiliser decisions. Around 20–25% explicitly referenced environmental considerations, such as protecting waterways, reducing nutrient leaching, or maintaining soil biological health. A further 10–15% indicated interest in reducing synthetic inputs or adopting regenerative or alternative fertiliser approaches, while advisory input and agronomist guidance featured in roughly 10–15% of responses. Overall, the data indicates a decision-making system that was strongly evidence-based but simultaneously constrained and shaped by financial considerations and increasing attention to environmental outcomes and long-term soil function.

Results suggest that fertiliser purchasing decisions among livestock Farmers were primarily influenced by economic considerations and advisory input, with price or budget (21%) and advice from independent agricultural advisers (23%) emerging as the most important factors overall (Figure 2). FTFs placed an emphasis on price (26%), product performance (16%), and independent advice (21%), reflecting a commercially oriented and information-driven approach, while PTFs demonstrated a more mixed focus, including convenience, supplier advice, and cost. HFJs relied heavily on independent advice (69%), with limited consideration of other factors, whereas NFJs showed more variable responses, including some emphasis on environmental impact (13%) and a high proportion indicating fertiliser purchasing is not applicable (38%). Overall, these patterns highlight the central role of cost and trusted advisory networks in shaping fertiliser decisions, alongside clear differences in priorities linked to levels of production engagement.

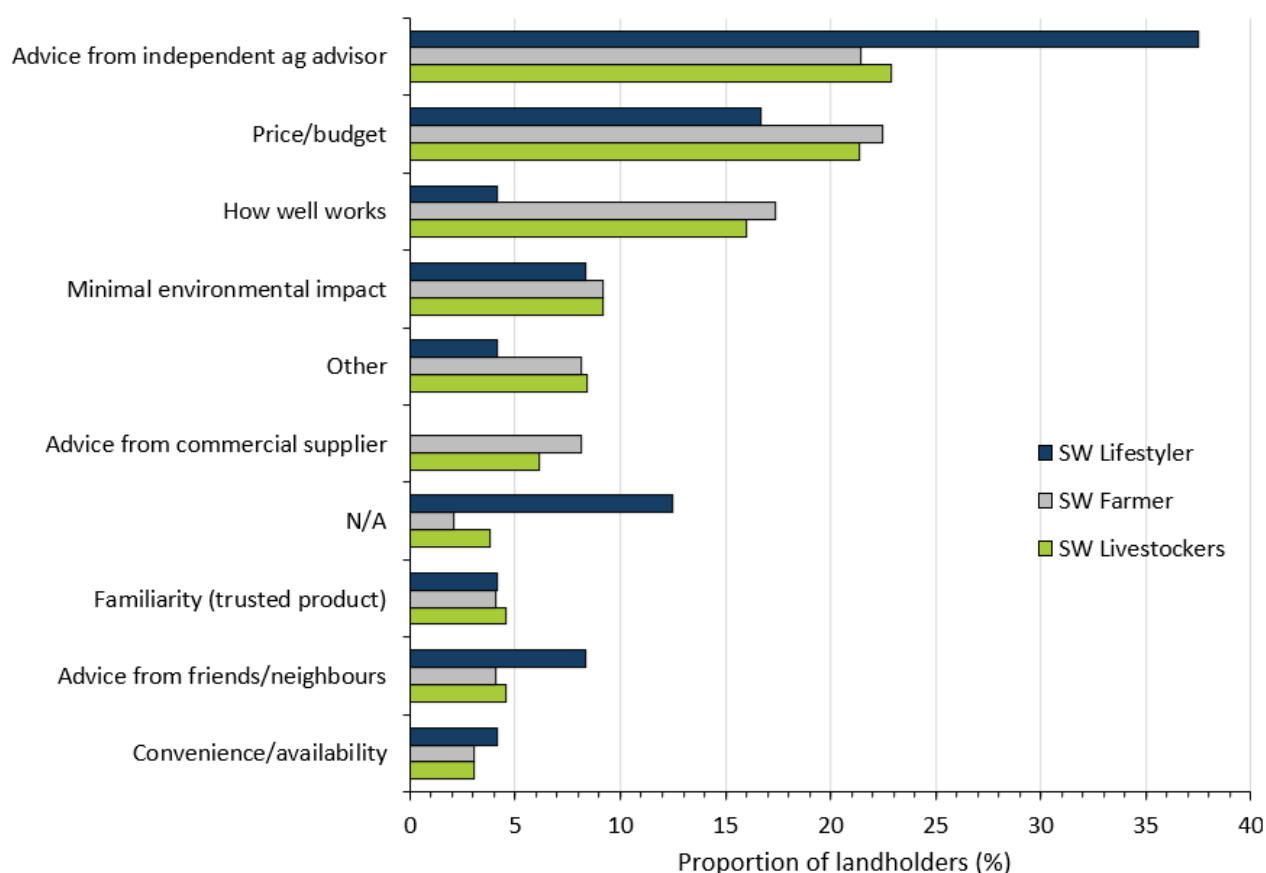


Figure 2. Main considerations when buying fertiliser of Farmers (full-time and part-time combined; $n = 98$), Lifestylers (hobby and non-farmers combined; $n = 24$) and Livestockers ($n = 131$) in the South-west (SW) of WA from the 2025 WA Landholder Survey. Note: n is low for SW of WA Lifestylers ($n = 24$).

2.3 FARMER ENGAGEMENT WITH BEST MANAGEMENT PRACTICES

Healthy Estuaries WA is a state government-funded program to improve the health of seven at-risk estuaries in the SW of WA. Its Sustainable Agriculture Strategy focuses on protecting the health of waterways through on-farm nutrient management practices. The [Nutrient Best Management Practices Guideline](#) (DWER & DPIRD, 2026) includes the following guidance on best management practices (BMPs) for beef, sheep and dairy grazing enterprises in the SW of WA:

1. Create a detailed farm map
2. Develop a nutrient plan/budget for the whole farm
3. Undertake and record soil testing results
4. Undertake and record plant tissue testing results
5. Use an agricultural consultant to help interpret soil test results and provide agronomic advice
6. Determine production targets
7. Soil test the whole farm at least every three years
8. Follow recommended rates of fertiliser application
9. Maintain soil pH
10. Spread fertiliser away from waterways
11. Use variable-rate application to spread fertiliser

12. Calibrate fertiliser spreader annually
13. Do not apply fertiliser on wet and windy days
14. Install stock exclusion fencing at least 10 m from waterways
15. Maintain riparian zone to at least 10 m
16. Implement an appropriate grazing rotation
17. Maintain ground cover of at least 70%.

Survey questions from the 2026 WA Rural Landholder Survey and Supplementary Survey correspond closely with the best-practice guidance provided by Healthy Estuaries WA, although a question was not posed on production targets.

The data indicate that Farmer engagement with soil, fertiliser and whole-farm planning BMPs was consistently higher among those involved in a government-led soil testing program. For Farmers involved in a program, twice as many had created a property plan (32%), used tissue testing to guide nutrient management (32%) and implemented rotational grazing (36%) compared to Farmers not in a program (Table 3). These Farmers were also more engaged with analysing soils and maintaining soil health, having soil-tested their property at least every three years (48%), utilised a consultant to interpret results (43%), limed soil to maintain pH (36%) and maintained at least 70% groundcover (41%) at consistently higher proportions than those not in a program. BMPs related to the 4Rs of fertiliser application (right source, right rate, right time and right place) were also implemented to a greater extent by Farmers involved in a government-led soil testing program. Compared to those not in a program, these Farmers had developed a fertiliser plan (40%), followed recommended rates of fertiliser (32%), used variable-rate applications (45%), calibrated spreaders (37%) and avoided applying fertiliser in unfavourable conditions (45%) at consistently higher proportions, supporting a more cost-effective and environmentally conscious nutrient management plan. Collectively, these findings suggest the value of engagement with government-led soil testing programs in supporting the integration of the Healthy Estuaries WA BMPs into farm management in the SW of WA.

Table 3. Engagement of Farmers who are (n = 77–99) or are not (n = 60–85) involved in a government-led soil testing program with the recommended best practices outlined in the Nutrient Best Management Practices Guideline.

Best Management Practices	Survey question	Farmers in gov program	Farmers not in gov program
Create a detailed farm map (e.g. whole-farm plan)	Prepared/preparing a property management or whole-farm plan (%Yes)	32%	16%
Develop a nutrient plan/budget for the whole farm	Preparation of a fertiliser budget/plan (% in the past 5 years)	40%	28%
Undertake and record soil testing results	Undertaken systematic soil testing across almost all of farm in past 3 years (%Agree/strongly agree)	48%	27%
Undertake and record plant tissue testing results (% agree/strongly agree)	Used tissue testing to guide nutrient/ fertiliser application (%Agree/strongly agree)	32%	16%

Best Management Practices	Survey question	Farmers in gov program	Farmers not in gov program
Use an agricultural consultant to help interpret soil test results and provide agronomic advice	Use an agricultural consultant to interpret soil tests and guide nutrient/ fertiliser strategies (%Agree/strongly agree) Use tools and apps to help interpret my own soil test data (e.g. DPIRD nutrient calculator) (%Agree/strongly agree)	43% use a consultant (23% use independent & 17% use commercial) 31% use tools	29% use a consultant (21% use independent & 18% use commercial) 12% use tools
Soil test your whole farm at least every three years	Approximately, how often are your soils tested? Where are they tested?	32% test every 3–5 years 22% test whole farm	20% test every 3–5 years 9% test whole farm
Follow recommended rates of fertiliser application	I use exactly as recommended (%Agree/strongly agree)	32%	20%
Maintain soil pH	At least one lime application to arable land (%Yes in the past 5 years)	36%	27%
Use variable-rate application to spread fertiliser	Variable rates of fertiliser are applied, based on the needs of each paddock (%Agree/strongly agree)	45%	32%
Calibrate fertiliser spreader annually	The fertiliser spreader is well maintained and tested before use (%Agree/strongly agree)	37%	31%
Do not apply fertiliser on wet and windy days	I avoid applying fertiliser when conditions are likely to be wet or windy (%Agree/strongly agree)	45%	35%
Install stock exclusion fencing at least 10m from waterways	Fencing of native bush/grasslands/waterways to manage stock access (%Yes in the past 5 years)	23%	15%
Maintain riparian zone to at least 10m	What buffer do you usually set around waterways?	6–20 m (25%) > 20 m (7%)	6–20 m (12%) > 20 m (4%)
Implement an appropriate grazing rotation	Use of time-controlled, cell, or holistic grazing (%Yes in past 5 years)	36%	18%
Maintain ground cover of at least 70%	Maintaining at least 70% ground cover (in non-drought years) (%Yes in past 5 years)	41%	29%

2.4 NUTRIENT MANAGEMENT PRACTICES, KNOWLEDGE AND VIEWS

The data reveal moderate but uneven adoption of nutrient management practices among Livestockers (respondents who selected any of the following enterprises: pasture, dairying, beef cattle, cattle backgrounding, sheep and sheep for export) in the SW of WA, with clear distinctions by level of farming engagement. Core practices such as soil testing (60%), lime application (52%), and preparation of fertiliser budgets (52%) are relatively widespread, particularly among FTFs,

who consistently reported the highest levels of implementation (e.g. 70% for soil testing and 67% for fertiliser planning) (Table 4). The use of synthetic fertilisers remains common (58%), while more advanced or efficiency-oriented approaches, such as precision agriculture (18%) and application of the '4Rs' framework (40%), were less widely adopted. HF and NFs demonstrated notably lower uptake across most practices, especially in planning and strategic nutrient management, indicating more limited engagement with formalised or intensive systems.

Patterns of knowledge broadly aligned with these practice gaps, with higher levels of self-reported understanding among FTFs and PTFs. Knowledge of soil testing for planning purposes (60%) and awareness of nutrient run-off impacts on water quality (67%) were relatively strong overall, though understanding of specific frameworks such as the '4Rs' (49%) and the benefits of biological soil amendments (46%) was more variable. HF and NFs consistently reported lower knowledge levels, particularly in technical areas such as nutrient budgeting and fertiliser management principles. This suggests that while foundational awareness existed across the cohort, more specialised or system-based knowledge was concentrated among more commercially oriented producers.

Despite these differences in practice and knowledge, attitudes towards nutrient management were broadly aligned across landholder types. There was strong agreement that soil testing was essential (88%) and that lime application was economically justified (78%), indicating widespread recognition of the importance of soil health. Collectively, these findings point to a sector that valued improved nutrient management but exhibited varying levels of capacity and adoption, particularly in relation to more advanced or integrated practices.

Table 4. Nutrient management practices, knowledge and views of Livestockers (n = 230–266) as well as South-west (SW) of WA landholders overall (n = 266–306) and by full-time (FTF), part-time (PTF), hobby (HF) and non-farmers (NF) typologies from the 2025 WA Landholder Survey.

Nutrient management attributes	Live-stocker	Overall SW	FTF	PTF	HF	*NF
Management practices (% Yes in past 5 years)						
Maintaining at least 70% groundcover	65%	65%	65%	73%	58%	33%
Testing of soils to understand soil condition/nutrient status	65%	60%	70%	69%	51%	15%
Application of synthetic fertilisers (e.g. N, P, K, S)	62%	58%	73%	61%	31%	19%
Preparation of a fertiliser budget/plan for all/most of the property	57%	52%	67%	57%	33%	7%
At least one lime application to arable land	56%	52%	64%	57%	44%	11%
Use of the "4Rs" (Right Source, Rate, Time and Place) for fertiliser application	44%	40%	50%	54%	16%	7%
Planting of trees and shrubs (incl. direct seeding)	41%	41%	40%	42%	42%	41%
Farming practices you consider to be regenerative	41%	38%	39%	46%	33%	22%
Fencing of native bush/grasslands/waterways to manage stock access	35%	32%	34%	39%	27%	26%

Nutrient management attributes	Live-stocker	Overall SW	FTF	PTF	HF	*NF
Application of biological soil supplements (e.g. compost-tea, effluent)	24%	25%	30%	25%	16%	22%
Use of precision farming techniques	20%	18%	27%	19%	7%	4%
Removal of an area of trees and/or shrubs	5%	7%	5%	8%	7%	19%
Knowledge (% Sound/very sound)						
The influence of nutrient run-off on the quality of water in rivers/wetlands	70% (3.9)	67% (3.8)	76% (4.0)	68% (3.8)	57% (3.7)	32% (3.1)
How to use soil testing to inform planning to maximise soil productivity (e.g. a nutrient budget)	64% (3.8)	60% (3.7)	76% (4.1)	65% (3.8)	35% (3.2)	20% (2.5)
Preparing a farm/property plan, allocating land use according to land class/soil characteristics	61% (3.7)	57% (3.7)	67% (3.9)	66% (3.8)	40% (3.2)	20% (2.9)
The "4Rs" of nutrient management e.g. Right Source, Rate, Time and Place of fertiliser applications	52% (3.5)	49% (3.4)	60% (3.7)	59% (3.6)	22% (2.7)	8% (2.3)
The benefits of applying biological soil supplements (e.g. compost, manure, microbial inoculants)	44% (3.3)	46% (3.3)	57% (3.5)	38% (3.3)	32% (2.9)	44% (3.5)
Views (% Agree/strongly agree)						
Soil testing is an essential step in understanding soil condition/nutrient status	91% (4.5)	88% (4.5)	91% (4.5)	88% (4.6)	90% (4.4)	73% (4.4)
The costs of applying lime to balance soil acidity is justified by increased production	81% (4.2)	78% (4.2)	87% (4.3)	81% (4.2)	67% (3.9)	42% (4.1)
Overall, I am decreasing my use of synthetic fertiliser inputs per hectare	39% (3.2)	37% (3.2)	37% (3.1)	41% (3.3)	44% (3.5)	24% (3.4)

* n for non-farmers (n = 24–27) is low – interpret with caution.

2.5 SOIL TESTING

In the SW of WA, soil testing frequency was relatively consistent between Livestockers and the overall landholder population, with 24% of Livestockers and 24% overall testing at least annually (Table 5). The most common interval is every three-to-five years, undertaken by 49% of Livestockers and 45% overall, indicating a moderate but not highly intensive testing cycle. A smaller proportion tested infrequently (18% Livestockers; 19% overall), while 10–12% reported never undertaking soil testing.

In terms of spatial and methodological approaches, soil testing in the SW was predominantly systematic rather than purely reactive. Nearly half of Livestockers (48%) and 46% overall undertook systematic sampling across paddocks, while around a quarter (29% Livestockers; 27% overall) sampled the whole farm. 'As needed' testing was more common at the broader regional level (23%) than among Livestockers (20%), indicating slightly more structured monitoring within

livestock systems. Depth of sampling was strongly concentrated at shallow levels, with 67% of Livestockers and 65% overall sampling at 10 cm, while approximately 28–29% extended to 30 cm and only small proportions sampled at 60 cm or deeper (2–3%). Responsibility for soil sampling was predominantly internal, with around 61–62% conducted by farm teams, followed by commercial advisers (19%) and smaller but consistent input from independent (13–14%) and government or catchment advisers (11–12%), reflecting a mixed but largely self-managed approach to soil testing.

Table 5. Frequency, location and depth attributes of soil testing undertaken overall and by Livestockers (n = 212–242) and landholders in South-west (SW) of WA overall (n = 234–272) from the 2025 WA Landholder Survey.

Soil testing attributes	Livestockers	South-west overall
FREQUENCY		
At least annually	24%	24%
Every 3–5 years	49%	45%
Infrequently	18%	19%
Never	10%	12%
LOCATION		
Whole farm	29%	27%
Systematically across paddock	48%	46%
Systematically in one paddock	3%	3%
As needed	20%	23%
DEPTH		
10 cm	67%	65%
30 cm	28%	29%
60 cm	2%	3%
Deepest possible depth	3%	3%
WHO COLLECTS?		
My team	62%	61%
Commercial adviser	19%	19%
Independent adviser	13%	14%
Gov/catchment adviser	12%	11%

2.5.1 Discounted soil testing programs run by catchment groups

Awareness and engagement with discounted soil testing programs among SW landholders varied markedly by landholder type, with Farmers (FTFs and PTFs) demonstrating substantially higher levels of participation than Lifestylers (HFs and NFs). Approximately 64% of Farmers reported having participated in such programs, with a further 22% not aware but interested, indicating both strong uptake and continued potential for expansion. Only small proportions were disengaged, with around 11% aware but not interested and 4% neither aware nor interested. In contrast, Lifestylers showed much lower participation (approximately 27%), alongside higher proportions lacking awareness (around 37% not aware but interested) and limited interest (nearly 20% neither aware nor interested), highlighting a clear gap in both reach and engagement among non-commercial landholders.

Qualitative insights, drawn from Farmers only, help explain patterns of participation and non-participation. Among Farmers, those who were not interested despite awareness commonly cited concerns about program relevance, flexibility, and reliability, including perceptions that programs were overly simplistic, not tailored to specific enterprise needs, or less trusted than private agronomic services. Time commitments, administrative burden, and preferences for established testing providers also emerged as contributing factors (a full list of responses is available in Appendix 2). While equivalent qualitative data are not available for Lifestylers, their lower participation and awareness levels suggest different or additional barriers, likely related to eligibility, perceived need, scale of operations, and alignment with program objectives, indicating that targeted engagement strategies may be required for this group.

2.5.2 Motivations for soil testing

The motivations of Farmers in the SW region of WA for undertaking regular soil testing were primarily centred on optimising productivity, reducing input costs, and improving soil health through more precise nutrient management. Around one-third of responses (approximately 30–35%) explicitly emphasised applying only what the soil required, avoiding over-fertilisation, and improving fertiliser targeting, while a similar proportion (around 30%) focused on productivity gains, such as improved pasture growth, crop yield, and overall farm output. Approximately 20–25% highlighted soil balance and correction of key constraints, such as pH and nutrient deficiencies, particularly through lime application and nutrient fine-tuning, while about 15–20% emphasised improving decision-making accuracy, monitoring change over time, and tailoring inputs to paddock-specific conditions. A smaller but consistent share (around 10–15%) also referenced diagnosing problems, improving grazing or pasture performance, and increasing feed availability for livestock systems.

Economic and environmental considerations were also strongly represented, with roughly 35–40% of responses referring to cost savings, return on investment, or fertiliser being a major farm expense requiring careful management. Around 20–25% explicitly linked soil testing to reducing waste, avoiding unnecessary applications, and improving efficiency, while approximately 15–20% highlighted environmental motivations such as reducing nutrient loss and protecting waterways. A further 10–15% focused on tracking long-term soil health trends or maintaining historical records to assess whether management practices were improving outcomes. Overall, around half of all responses collectively emphasised either financial efficiency or environmental protection as key motivations, reinforcing soil testing as a tool for both profitable and responsible land management.

2.6 MODELLING NUTRIENT MANAGEMENT IN THE SW OF WA

Statistical modelling explored drivers of farmer decision-making regarding using the 'Four Rs' when applying fertiliser, being 'the right source, right rate, right place, and the right time'.

2.6.1 Applying the 4Rs in the SW of WA

The pairwise analysis showed that just under two-thirds of farmers applying synthetic fertilisers were following the 4R approach. The statistics showed that farmers applying the 4Rs were confident in their knowledge of how to do so and with their planning of fertiliser strategies, and more likely to be undertaking turning a profit. They were also more likely to be undertaking whole-farm planning, changing practice in response to changing weather patterns, diversifying their enterprise, and have succession plans in place compared with those not using the 4Rs. In terms of practices, they were more likely to also be planting legumes, maintaining groundcover, and liming. They were slightly more likely to be undertaking time-controlled grazing and no-till. They had higher reported knowledge levels on a broad range of topics, from soil health and

management to river health and the role of wetlands and remnant vegetation in supporting on-farm ecological health. They were more likely to test their soils often and systematically across their property. Socially, they felt better supported in their farming and had greater financial capacity to trial new approaches to farming. Engaging with government departments linked with a higher likelihood of applying the 4Rs strategy. Brought together, the modelling identified that the five most important influencing factors were knowledge of how to do so, having the financial capacity to try new things, using tools to inform fertiliser decisions, having a larger buffer zone around riparian areas, and having a succession plan in place ($R^2 = 0.64$).

2.6.2 Being involved in the soil testing program in the SW of WA

The modelling identified that the strongest co-influencing factors, with an R^2 of 0.58, were: seeing erosion as an issue, undertaking time-controlled grazing, regular tissue testing, using a commercial consultant to take the soil samples, and having high trust for their natural resource management agency.

The pairwise analysis showed that those involved in a government-led soil testing program were far more likely to have recently undertaken systematic soil testing across their farm, as well as using online tools and tissue tests to support their fertiliser decision-making. They were less likely to report erosion as an on-farm issue.

Associated practices recently implemented were: using the 4Rs, planting legumes, supporting perennial pastures, and encouraging native grasses to grow at scale. They were likely to consider their approach to farming to be regenerative agriculture. Further, they had been investing in fencing and tree-planting for some time over their period of management. Those involved in the program were far more likely to be applying potassium and nitrogen, although application of magnesium and/or calcium was a negligible increase. Those involved in the program were far more likely to have riparian buffer zones larger than six metres and over 20 metres.

In terms of demographics, male landholders were a third more likely than female landholders or couples to be participating in the program. Those participating were twice more likely to be concerned about secondary impacts of previous soil amelioration strategies. Those involved in subsidised soil testing programs were extremely likely to be linked in with an NRM or catchment group, and slightly more likely to be linked in with a grower group. Their trust levels for NRM organisations were also higher. Interestingly, those not involved in such programs were more likely to be concerned about absence of rural services and the impact of absentee landholders in the region.

In terms of knowledge and education, landholders participating in government-led soil testing programs had higher reported knowledge of time-controlled grazing and nutrient budgeting. They were most likely to rely on short courses and emails as information modes, with NRM groups and DPIRD/DWER as key information-providing organisations. Those not engaged in programs were more likely to use TV and radio as key information sources. They were a third more likely to have attended a workshop focused on soil health and productivity in the previous 12 months. An interesting correlation was that farmers involved in the program were almost three times more likely to have a disaster management plan in place, although there was little difference in regard to farm planning more generally. People living on their properties were far more likely to be involved in such a program. Agricultural consultants were deemed as less likely to play an important role in farm decision-making for farmers engaged in government soil testing programs. Those not involved in the program were substantially more likely to be using their own observations over soil test results to discern their fertiliser strategies.

3. CONCLUSION

In the SW of WA, there was a strong awareness of best practice regarding nutrient management; however, adoption was uneven and closely tied to farming intensity, capacity, and access to support. FTFs and PTFs were more likely to use soil testing, fertiliser planning, variable-rate application, advisory support, and other practices that improve both productivity and environmental outcomes. HF and NFs generally showed lower engagement, suggesting that current approaches were less relevant or less accessible for lower-intensity landholders.

Participation in government-led soil testing programs is associated with stronger uptake of Healthy Estuaries WA best management practices, including whole-farm planning, soil and tissue testing, fertiliser budgeting, and the 4Rs. Soil testing also appears to act as a gateway to better decision-making, with respondents linking it to improved input efficiency, cost control, soil health, and reduced nutrient loss. These findings indicate that the program is not only supporting technical change but also reinforcing a more strategic approach to nutrient management.

3.1 KEY RECOMMENDATIONS

Expand soil testing support

Continue promoting regular soil testing as the foundation for nutrient management, with a particular focus on whole-farm and systematic sampling. Prioritise support for landholders who are not yet engaged in formal testing, including HF and NFs. To achieve this, reframe soil testing as a decision gateway rather than a standalone practice

While soil testing is widely recognised as important, this report shows that participation in structured programs clearly drives uptake of a broader suite of best management practices. Programs should therefore position soil testing not as an end goal, but as a gateway to improved whole-farm decision-making. This can be achieved by bundling soil testing with follow-up interpretation, benchmarking, and action planning. Providing personalised, paddock-level feedback and linking results directly to cost savings, productivity gains and risk reduction will increase relevance, particularly for commercial farmers. For HF and NFs, simplified reporting formats and basic 'what to do next' guidance can help bridge the gap between awareness and action.

Maintain focus on the best practices to improve knowledge and planning capacity

Continue to support the increased uptake of fertiliser budgets, whole-farm nutrient plans and paddock-specific decision-making. These tools can be positioned as practical ways to improve productivity, reduce waste, and better match inputs to soil needs. Build extension around the 'right source, right rate, right time, and right place' framework, with emphasis placed on practical application, including calibrating spreaders, using variable-rate methods, and avoiding application in wet or windy conditions.

Encourage wider buffer zones around waterways, stock exclusion fencing, and practices that reduce nutrient loss. These measures should be linked clearly to both farm management benefits and waterway protection outcomes to link with two different types of highly motivated farmers, those orienting more towards precision farming systems, and those orienting towards regenerative farming systems.

Link recommendations to practical outcomes

To maintain participation and encourage broader uptake of best management practices, frame nutrient management improvements in terms of profitability, soil health, risk management and

ease of implementation, as well as ecological benefit. The 4Rs, fertiliser budgeting, soil testing, and buffer zones should be framed in terms of cost savings, input efficiency and risk reduction rather than environmental compliance alone, with messaging that clearly demonstrates how improved nutrient management can reduce wasted fertiliser, improve response rates, and increase resilience to seasonal variability in order to maintain engagement among commercially oriented producers.

Target advisory and extension efforts

Tailor communication and support to different landholder types rather than using a one-size-fits-all approach. Commercial farmers may benefit from advanced decision support, while lower-intensity landholders may need simpler, more relevant messages and examples.

A segmented extension strategy may look like this:

- ◇ FTFs respond to profitability, efficiency, and technical optimisation → provide advanced tools, benchmarking, and decision-support systems.
- ◇ PTFs respond to practicality and flexibility → provide modular tools and simple planning templates.
- ◇ HF and NFs require relevance → focus on simplified guidance, environmental stewardship, and low-effort practices (e.g. buffer zones, timing).

Reduce structural barriers to program participation

Non-participation is often linked to perceived irrelevance, lack of flexibility, administrative burden, or preference for existing providers. To address this:

- ◇ Simplify program processes and minimise time commitments.
- ◇ Offer flexible participation models (e.g. partial engagement, modular options).
- ◇ Align programs with existing farmer practices rather than replacing them.
- ◇ Clearly differentiate program value from private services.

Change moves at the speed of trust

Engagement is higher where farmers trust NRM organisations and where advice is perceived as credible and relevant. Information should therefore be delivered through trusted and preferred channels, such as trusted local advisers, catchment groups and through practical demonstrations.

Farmers engaged in programs relied on NRM groups, email, and short courses, whereas non-participants were more likely to use TV and radio, suggesting that expanding outreach through multiple media channels will broaden reach.

Programs should:

- ◇ Invest in locally embedded advisers and catchment groups as trusted brokers.
- ◇ Use peer-to-peer learning, including farmer champions and demonstration sites.
- ◇ Reduce reliance on generic messaging, instead using locally contextualised examples and case studies.
- ◇ Where possible, co-design program elements with farmers to improve relevance and trust.

Demonstration farms and peer networks are particularly effective in bridging the gap between knowledge and practice by showing how BMPs work under real conditions.

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APPENDIX 1 – CATCHMENT RESPONSES

Table A1. Responses to supplementary questions of landholders in Peel-Harvey, Leschenault, Vasse-Geographe, Scott River/Lower Blackwood, Wilson Inlet, Torbay Inlet and Oyster Harbour.

Supplementary survey questions	Peel-Harvey (n = 21–34)	Leschenault (n = 26–40)	*Vasse-Geographe (n = 16–27)	*Scott River/Lower Blackwood (n = 12–21)	Wilson Inlet (n = 32–41)	*Torbay Inlet (n = 12–21)	Oyster Harbour (n = 26–36)
Fertiliser decisions (%Agree/strongly agree)							
I have undertaken systematic soil testing across almost all of my farm in the past 3 years	73%	53%	74%	62%	59%	71%	71%
I have used tissue testing to guide my nutrient/fertiliser application strategies	34%	30%	52%	43%	32%	55%	52%
I use an agricultural consultant to interpret soil tests and guide nutrient/fertiliser strategies	59%	65%	89%	62%	44%	67%	71%
I use tools and apps to help me interpret my own soil test data (e.g. the DPIRD nutrient calculator)	42%	28%	30%	43%	28%	65%	26%
I rely on my own observations of yield and conditions to choose the type and amount of fertiliser to apply	47%	55%	48%	29%	48%	60%	66%
I do my best to see that variable rates of fertiliser are applied, based on the needs of each paddock	79%	60%	63%	76%	59%	80%	77%
The fertiliser spreader used on my farm is well maintained and tested before use	70%	33%	67%	62%	53%	75%	83%
I avoid applying fertiliser when conditions are likely to be wet or windy	71%	73%	67%	76%	73%	75%	83%
I use soil amendments other than fertiliser and lime (e.g. clay, biochar) to improve my soil	47%	28%	56%	33%	43%	58%	54%
I always use the same commercial supplier / fertiliser company	47%	45%	41%	48%	40%	40%	49%

Myself or my team usually spread fertiliser, rather than a contractor	64%	43%	56%	65%	53%	42%	69%
Supplementary survey questions	Peel-Harvey (n = 21–34)	Leschenault (n = 26–40)	*Vasse-Georgraphe (n = 16–27)	*Scott River/Lower Blackwood (n = 12–21)	Wilson Inlet (n = 32–41)	*Torbay Inlet (n = 12–21)	Oyster Harbour (n = 26–36)
Considerations when buying fertiliser (%Yes)							
Familiarity (trusted product)	*5%	*8%	0%	8%	6%	0%	*4%
Convenience/availability	*0%	*4%	6%	0%	3%	0%	*4%
How well works	*10%	*0%	13%	25%	19%	25%	*23%
Price/budget	*43%	*12%	19%	0%	13%	42%	*23%
Advice from friends/neighbours	*0%	*12%	6%	8%	3%	0%	*0%
Advice from commercial supplier	*10%	*8%	6%	0%	9%	0%	*12%
Minimal environmental impact	*14%	*15%	13%	17%	3%	0%	*0%
Advice from independent ag adviser	*10%	*27%	19%	17%	28%	25%	*27%
Buffer zone used (%Yes)							
No buffer zone	*3%	9%	9%	10%	15%	12%	12%
Around 5 m	*31%	27%	43%	25%	30%	18%	18%
6–20 m	*41%	39%	22%	35%	25%	53%	42%
More than 20 m	*10%	6%	4%	10%	10%	6%	21%
Nutrients applied (%Yes)							
Nitrogen (N)	*68%	73%	71%	80%	63%	67%	80%
Phosphorus (P)	*86%	70%	75%	85%	75%	94%	89%
Potassium (K)	*86%	73%	79%	75%	70%	94%	80%
Sulphur (S)	*64%	48%	63%	60%	53%	83%	69%
Calcium (Ca)/Magnesium (Mg)	*46%	42%	63%	35%	45%	67%	51%
Trace elements	*19%	52%	83%	70%	65%	83%	71%
Form of fertiliser used (%Yes)							
Inorganic/synthetic	7%	12%	29%	16%	16%	24%	22%
Granulated	87%	82%	79%	89%	79%	86%	89%
Liquid	10%	15%	21%	21%	16%	5%	22%
Foliar	7%	12%	17%	26%	11%	29%	22%
Organic	17%	16%	17%	11%	16%	29%	17%
Rate of fertiliser applied (%Yes)							

Use more than recommended (by my adviser)	*0%	0%	0%	0%	6%	0%	6%
Use the same rate as other farmers in my area	*10%	3%	0%	0%	8%	0%	9%
Supplementary survey questions	Peel-Harvey (n = 21–34)	Leschenault (n = 26–40)	*Vasse-Georgraphe (n = 16–27)	*Scott River/Lower Blackwood (n = 12–21)	Wilson Inlet (n = 32–41)	*Torbay Inlet (n = 12–21)	Oyster Harbour (n = 26–36)
Apply similar to last year (no formal adviser)	*17%	18%	13%	18%	17%	21%	23%
Use exactly as recommended	*45%	53%	46%	59%	39%	53%	49%
Use less than recommended to;							
1. Reduce costs	*1. 7%	1. 9%	1. 17%	1. 6%	1. 11%	1. 0%	1. 9%
2. Protect the environment	*2. 0%	2. 0%	2. 0%	2. 0%	2. 0%	2. 0%	2. 0%
N/A	*14%	12%	17%	12%	11%	5%	0%
Timing of phosphate application applied (%Yes)							
Spring	10%	21%	13%	5%	5%	11%	20%
Autumn	43%	32%	42%	25%	39%	37%	46%
Split application in Spring and Autumn	23%	16%	25%	40%	32%	32%	29%
Other	3%	3%	4%	5%	2%	11%	3%
Awareness of discounted soil testing programs run by catchment groups (%Yes)							
No, I'm not interested	6%	5%	8%	10%	10%	11%	0%
No, but I am interested	42%	35%	21%	19%	20%	11%	23%
Yes, but I'm not interested	3%	11%	29%	14%	10%	11%	17%
Yes, I have participated	48%	49%	42%	57%	60%	68%	60%
Supplementary survey questions	*Vasse-Georgraphe (n = 16–27)	Leschenault (n = 26–40)	Oyster Harbour (n = 26–36)	Peel-Harvey (n = 21–34)	*Scott River/Lower Blackwood (n = 12–21)	*Torbay Inlet (n = 12–21)	Wilson Inlet (n = 32–41)
Fertiliser decisions (%Agree/strongly agree)							
I have undertaken systematic soil testing across almost all of my farm in the past 3 years	74%	53%	71%	73%	62%	71%	59%
I have used tissue testing to guide my nutrient/fertiliser application strategies	52%	30%	52%	34%	43%	55%	32%
I use an agricultural consultant to interpret soil tests and guide nutrient/fertiliser strategies	89%	65%	71%	59%	62%	67%	44%

I use tools and apps to help me interpret my own soil test data (e.g. the DPIRD nutrient calculator)	30%	28%	26%	42%	43%	65%	28%
I rely on my own observations of yield and conditions to choose the type and amount of fertiliser to apply	48%	55%	66%	47%	29%	60%	48%
I do my best to see that variable rates of fertiliser are applied, based on the needs of each paddock	63%	60%	77%	79%	76%	80%	59%
The fertiliser spreader used on my farm is well maintained and tested before use	67%	33%	83%	70%	62%	75%	53%
I avoid applying fertiliser when conditions are likely to be wet or windy	67%	73%	83%	71%	76%	75%	73%
I use soil amendments other than fertiliser and lime (e.g. clay, biochar) to improve my soil	56%	28%	54%	47%	33%	58%	43%
I always use the same commercial supplier/fertiliser company	41%	45%	49%	47%	48%	40%	40%
Myself or my team usually spread fertiliser, rather than a contractor	56%	43%	69%	64%	65%	42%	53%
Supplementary survey questions	*Vasse-Geographe (n = 16–27)	Leschenault (n = 26–40)	Oyster Harbour (n = 26–36)	Peel-Harvey (n = 21–34)	*Scott River/Lower Blackwood (n = 12–21)	*Torbay Inlet (n = 12–21)	Wilson Inlet (n = 32–41)
Considerations when buying fertiliser (%Yes)							
Familiarity (trusted product)	0%	*8%	*4%	*5%	8%	0%	6%
Convenience/availability	6%	*4%	*4%	*0%	0%	0%	3%
How well works	13%	*0%	*23%	*10%	25%	25%	19%
Price/budget	19%	*12%	*23%	*43%	0%	42%	13%
Advice from friends/neighbours	6%	*12%	*0%	*0%	8%	0%	3%
Advice from commercial supplier	6%	*8%	*12%	*10%	0%	0%	9%
Minimal environmental impact	13%	*15%	*0%	*14%	17%	0%	3%
Advice from independent ag adviser	19%	*27%	*27%	*10%	17%	25%	28%
Buffer zone used (%Yes)							
No buffer zone	9%	9%	12%	*3%	10%	12%	15%

Around 5 m	43%	27%	18%	*31%	25%	18%	30%
6–20 m	22%	39%	42%	*41%	35%	53%	25%
More than 20 m	4%	6%	21%	*10%	10%	6%	10%
Nutrients applied (%Yes)							
Nitrogen (N)	71%	73%	80%	*68%	80%	67%	63%
Phosphorus (P)	75%	70%	89%	*86%	85%	94%	75%
Potassium (K)	79%	73%	80%	*86%	75%	94%	70%
Sulphur (S)	63%	48%	69%	*64%	60%	83%	53%
Calcium (Ca)/Magnesium (Mg)	63%	42%	51%	*46%	35%	67%	45%
Trace elements	83%	52%	71%	*19%	70%	83%	65%
Form of fertiliser used (%Yes)							
Inorganic/synthetic	29%	12%	22%	7%	16%	24%	16%
Granulated	79%	82%	89%	87%	89%	86%	79%
Liquid	21%	15%	22%	10%	21%	5%	16%
Foliar	17%	12%	22%	7%	26%	29%	11%
Organic	17%	16%	17%	17%	11%	29%	16%
Rate of fertiliser applied (%Yes)							
Use more than recommended (by my adviser)	0%	0%	6%	*0%	0%	0%	6%
Use the same rate as other farmers in my area	0%	3%	9%	*10%	0%	0%	8%
Supplementary survey questions	*Vasse-Geogra phe (n = 16–27)	Lesche nault (n = 26–40)	Oyster Harbour (n = 26–36)	Peel-Harvey (n = 21–34)	*Scott River/ Lower Blackw ood (n = 12–21)	*Torbay Inlet (n = 12–21)	Wilson Inlet (n = 32–41)
Apply similar to last year (no formal adviser)	13%	18%	23%	*17%	18%	21%	17%
Use exactly as recommended	46%	53%	49%	*45%	59%	53%	39%
Use less than recommended to;							
1. Reduce costs	1. 17%	1. 9%	1. 9%	*1. 7%	1. 6%	1. 0%	1. 11%
2. Protect the environment	2. 0%	2. 0%	2. 0%	*2. 0%	2. 0%	2. 0%	2. 0%
N/A	17%	12%	0%	*14%	12%	5%	11%
Timing of phosphate application applied (%Yes)							
Spring	13%	21%	20%	10%	5%	11%	5%
Autumn	42%	32%	46%	43%	25%	37%	39%
Split application in Spring and Autumn	25%	16%	29%	23%	40%	32%	32%
Other	4%	3%	3%	3%	5%	11%	2%

Awareness of discounted soil testing programs run by catchment groups (%Yes)							
No, I'm not interested	8%	5%	0%	6%	10%	11%	10%
No, but I am interested	21%	35%	23%	42%	19%	11%	20%
Yes, but I'm not interested	29%	11%	17%	3%	14%	11%	10%
Yes, I have participated	42%	49%	60%	48%	57%	68%	60%

* Denotes catchments where n is low ($n < 30$) for all responses (Vasse-Geographe, Scott River/Lower Blackwood and Torbay Inlet). An * is used within the table to denote responses where the n number is low ($n < 30$) for catchments where not all the n numbers are below the threshold (Leschenault, Oyster Harbour and Peel-Harvey).

Table A2. Issue, confidence and practice data related to river health for landholders in the South-west (SW) of WA Catchment Areas.

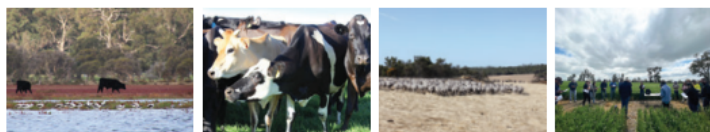
River health statement	Vasse-Geographe (n = 36)	Leschenault (n = 57)	Oyster Harbour (n = 50)	Peel-Harvey (n = 45)	Scott River/ Lower Blackwood (n = 30)	*Torbay Inlet (n = 23)	Wilson Inlet (n = 46)
Issue: River health, including reduced flows and/or salinity/nutrient runoff threatening water quality (%Important/very important)	91%	94%	76%	85%	96%	85%	85%
Confidence: Fencing to manage stock access is an essential element of protecting waterways, soil and native vegetation (%Agree/strongly agree)	90%	84%	91%	85%	89%	100%	90%
Management practice: Fencing of native bush/grasslands/waterways to manage stock access (%Yes in past 5 years)	30%	24%	40%	35%	39%	35%	32%

APPENDIX 2 – FARMER RESPONSES TO NON-INTEREST IN DISCOUNTED SOIL TESTING PROGRAMS

Table A3. Farmer responses to the question 'If you are not interested, why not?' following the question 'Are you aware of any discounted soil testing programs run by catchment groups available in your region?'

Response	Response
<i>Yes, hoping to participate.</i>	<i>Not reached a point where it is useful.</i>
<i>Refused.</i>	<i>Have turned down rundown property into productive land over 25 years.</i>
<i>Wary of government or government bodies telling me what I can and cannot do on my farm.</i>	<i>I do not apply fertiliser.</i>
<i>Property is too small to fit the program's parameters.</i>	<i>Use Elders.</i>
<i>Programs are too simplistic; soil testing is very cheap.</i>	<i>Participation depends on whether results are replicable.</i>
<i>Prefer using SWEP testing because it has always been used and results can be compared better.</i>	<i>Too much time is taken up with meetings.</i>
<i>Have used the program in the past and found it could not be relied upon.</i>	<i>Apply fertiliser based on plant needs and time of year to reduce leaching.</i>
<i>Application depends on weather, then follow up if good rains occur.</i>	<i>Avoid testing poor soil sites.</i>
<i>Conduct own soil sampling; programs are not suitable for intensive horticultural requirements.</i>	<i>Rely on other practices to make changes in the soil.</i>
<i>Soil testing and advice from an agronomist.</i>	<i>Increased production.</i>
<i>Cost.</i>	<i>Testing methods are not comprehensive enough.</i>
<i>Use own science-based programs.</i>	<i>Happy with our soil and greatly respect it.</i>

APPENDIX 3 – QUESTIONNAIRE SUPPLEMENT



SOUTH WEST WA SUPPLEMENTARY SURVEY 2025

Requesting ten minutes more of your time, this supplementary section will help us understand fertiliser management strategies among grazing farmers in the high rainfall areas of south-west Western Australia. The results will help guide government investment, supporting and improving programs engaging with farmers on best-practice nutrient management. No specific property or person will ever be identifiable in our reporting. We value your insights—**please return this survey along with the main survey.**

FERTILISER DECISIONS

When you make decisions about your farming practices, to what extent are the following correct for your farm?
Examine the response options. For each item, place the number of your response in the 'Your View' column.

RESPONSE OPTIONS:

STRONGLY DISAGREE	DISAGREE	NEUTRAL/ DON'T KNOW	AGREE	STRONGLY AGREE	NOT APPLICABLE
1	2	3	4	5	6

STATEMENTS	YOUR VIEW
I have undertaken systematic soil testing across almost all of my farm in the past 3 years	
I have used tissue testing to guide my nutrient/fertiliser application strategies	
I use an agricultural consultant to interpret soil tests and guide nutrient/fertiliser strategies	
I use tools and apps to help me interpret my own soil test data (e.g. the DPIRD nutrient calculator)	
I rely on my own observations of yield and conditions to choose the type and amount of fertiliser to apply	
I do my best to see that variable rates of fertiliser are applied, based on the needs of each paddock	
The fertiliser spreader used on my farm is well maintained and tested before use	
I avoid applying fertiliser when conditions are likely to be wet or windy	
I use soil amendments other than fertiliser and lime (e.g. clay, biochar) to improve my soil	
I always use the same commercial supplier / fertiliser company	

What are your main considerations when buying fertiliser? [tick most important]

- ☐ N/A ☐ Familiarity (trusted product) ☐ Convenience/availability ☐ How well it works
☐ Price/budget ☐ Advice from friends/neighbours ☐ Advice from commercial supplier
☐ Minimal environmental impact ☐ Advice from independent ag advisor
☐ Other (please write) _____

What buffer (fertiliser free zone) do you usually set around waterways? [select one only]

- ☐ N/A ☐ No buffer zones ☐ Around 5 meters ☐ 6 to 20 meters ☐ More than 20 meters

What nutrient/s do you apply? ☐ N/A ☐ N ☐ P ☐ K ☐ S ☐ Ca/Mg ☐ trace elements ☐ Other

Which form/s do you usually apply? ☐ Inorganic/synthetic ☐ Granulated ☐ Liquid ☐ Foliar ☐ Organic

Which is most correct in regards to the rate of fertiliser you apply? [tick most important]

- ☐ N/A ☐ I use **more** than recommended (by my advisor) ☐ I use the **same** rate as other farmers in my area
☐ I apply **similar** to last year (no formal advisor) ☐ I use **exactly** as recommended
 I use **less** than recommended.... ☐ to reduce costs ☐ to protect the environment

When do you apply phosphate fertiliser ? [select one only]

- ☐ N/A – I do not apply phosphate fertiliser ☐ Spring ☐ Autumn ☐ Split application in Spring and Autumn
☐ Other (please write) _____

Are you aware of any discounted soil testing programs run by catchment groups available in your region?

- ☐ No, I'm not interested ☐ No, but I am interested ☐ Yes, but I'm not interested ☐ Yes, I have participated
☐ If you are not interested, why not? _____

OPEN QUESTIONS

What are your most important considerations when planning fertiliser strategies?

If you undertake regular soil-testing, what motivates you to soil-test regularly? e.g. what benefits do you experience?

Thanks again for your time - do you have any further comments about soil-testing or fertiliser strategies?
