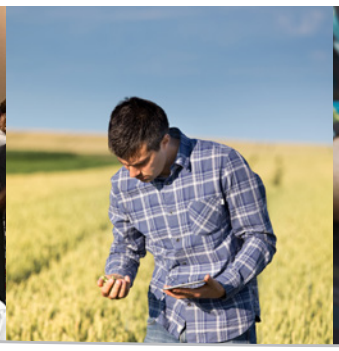
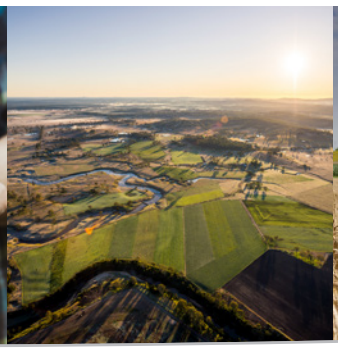
AG INSTITUTE AUSTRALIA

FUTURE OF AGRICULTURE IN WESTERN AUSTRALIA

THINK-TANK WORKSHOP REPORT

20 and 21 August, 2019





FUTURE OF AGRICULTURE IN WESTERN AUSTRALIA

THINK-TANK WORKSHOP REPORT

This report summarises the Think-Tank workshop held at the Novotel Perth Langley, Perth on 20 and 21 August 2019, as part of the Australian Institute of Agriculture's AgFutures 2035 Conference. Approximately 60 agricultural scientists, students and industry leaders attended the workshop.

Report Prepared by:

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1.0 INTRODUCTION

The future, by its very nature, is uncertain. That point was made emphatically by futurist Keith Suter at AgInstitute Australia's national conference in Sydney in November 2018. His presentation deflated the pretensions of those who claim to see the future clearly or that they can easily wish a preferred future into existence.

Dr. Suter's challenge was to prepare for an uncertain future through scenario planning processes that dare to "think the unthinkable" and consider what might be possible in a world, whose key features are much better or much worse than our usual extrapolations of the present into the future might lead us to expect. How might we then deal with the challenges and opportunities that those scenarios represent? If we prepare to thrive in a range of alternative futures we will be better equipped to respond flexibly as circumstances change rather than being constrained by a single vision of what our future should be.

The Western Australian Division of AgInstitute Australia chose to rise to that challenge by holding the AgFutures 2035 conference to examine a range of scenarios for the future of Western Australian agriculture, and the capabilities that industry and government will need to meet the range of challenges and opportunities that they foreshadow.

The timeliness and importance of planning for an uncertain future has been highlighted by recent events. Who foresaw the scale of escalation of protests in Hong Kong, the devastation of the world's largest oil refinery by drone attack, North Korea's test of a submarine launched ballistic missile, the detection of African swine fever in Timor Leste, and the launch of legal action against five of the world's largest economies by a teenage activist claiming that their climate policies breach the rights of children within the few short weeks after this conference?

I would like to thank the Department of Primary Industries and Regional Development, GRDC and Careers in Grain for their sponsorship of the event and the keynote speakers and participants who came together to make the conversation both informed and vibrant. Thanks too to the committee of the Western Australian division and other AgInstitute members who worked so hard to make the event possible and to the staff of Novotel Perth Langley for looking after us so well. Finally, I would like to thank Future iQ for their skilled facilitation of the workshop sessions and the preparation of this report.

Dr. David Windsor
Chair, Western Australian Division, AgInstitute Australia
October 2019

The Future of Agriculture in Western Australia Think-Tank was an opportunity for agricultural scientists, students and industry leaders to take a 'deep-dive' into the future of the State's important agriculture industries.

2.0 INTRODUCTION TO THINK-TANK WORKSHOP

The Future of Agriculture Think-Tank workshop was conducted at the Novotel Perth Langley, Perth on 20 and 21 August 2019, and was part of the Australian Institute of Agriculture's (AIA) conference entitled AgFutures 2035. The AIA is a professional association of Agricultural Scientists and other industry leaders. Future iQ partnered with the AIA to host the workshop.

This Think-Tank aimed to explore the future of agriculture and agricultural industries in Western Australia looking out to 2035. **This was a two-day 'deep dive' designed to explore critical high-level questions including:**

- What might the sector look like in 2035 if we dare to "think the unthinkable"?
- How will production, processing, value-adding and marketing be integrated across the State and internationally?
- Will ecosystem services be a valued agricultural 'output'?
- How will farmed food compete with the factory kind?
- What will be the balance of small and large enterprises?
- How much can agribusiness grow the Western Australian Economy?
- How can you position yourself to be part of this bright and exciting future and what human and technological capabilities must your organisation develop to maximise success in a rapidly changing world?

This workshop provided an opportunity for a group of thought-leaders to contemplate the future. **The workshop explored how agriculture in Western Australia could change by 2035 and consisted of:**

- A review of global trends and the impact of these trends on Agriculture
- Formulation of the different plausible scenario 'spaces' and development of detailed narratives and descriptions of each scenario
- Examination of the impact and consequences of each scenario
- Identification of the preferred future and critical action steps to achieve the preferred future

It is intended that this work offers a starting point for further discussion. The scenarios developed during this Future Think-Tank workshop and outlined in this report are important to provide a framework to discuss future possible outcomes and implications for the future of agriculture in Western Australia. Workshop deliberations can assist in identifying key actions for the industry and how various groups might best contribute to future action.

Macro and regional trends and their implications for the Western Australia agriculture industry were explored in order to create a future thinking mind-set. The key to long-term industry resilience is the ability to anticipate change and remain agile in response to emerging trends.

3.0 FORCES SHAPING THE FUTURE – MACRO TRENDS

At the initial sessions of the AgFutures 2035 conference, presenters explored the forces of change shaping the future of the Western Australian agricultural industries, including key areas of emerging macro trends and forces of change.

Some of the guest speakers included:

- **Dr Mike Grundy, CSIRO** - discussing the major economic, environmental and social drivers for the future of Australian agriculture industry
- **Professor Kadambot Siddique, University of Western Australia** - highlighting the major production systems and environmental challenges facing the Western Australian agriculture in the medium term
- **Turlough Guerin, AgInstitute Australia** - discussing the development of a value chain that is both capable and ethical

In addition, presenters covered a range of other topics including:

- Macro trends in demographics, population and mass urbanisation
- Global demands for energy, food, water, changing climate and technology
- Appetite for change and sociological aspects of managing change
- Technological impacts and the speed and scale of change

These presentations created a rich background of information about impending change. Perceptions about the impact of these trends, both in terms of size and timing of impact, were explored to gauge how important participants consider these trends. Participants discussed the emerging trends on global, regional and local scales, and related them directly to the industry.

DataInsight

DATA INSIGHTS:

- The next decade will see the convergence of numerous powerful forces of change. These include climate change, technology, mass urbanisation, rising power of Asia, and rapidly changing consumer preferences.
- The culminative impact of these forces has the chance to radically disrupt our future industries and food systems. In particular, climate change will dramatically reshape global food supplies.

Drivers are events, trends, developments, catalysts or forces; that actively influence or cause change. These top 20 drivers represent the most potent forces of change impacting the future of agriculture in Western Australia.

4.0 KEY DRIVERS IDENTIFICATION

With the background of external trends, participants identified drivers that they considered most critical in shaping the future of agriculture in Western Australia. The drivers were discussed in detail at small group and workshop levels. The scope of each driver was clarified, and any similar drivers were grouped, and new drivers added, until a list of the top twenty unique key drivers was identified.

Key drivers shaping the future of agriculture in Western Australia, as identified by participants, are listed below.

1. **Water and Rainfall**
2. **Sustainability of Production**
3. **On-Farm Profitability and Productivity**
4. **Skills and Capacity to Innovate**
5. **Renewable Energy**
6. **Robotics**
7. **Biosecurity**
8. **Protected Agriculture**
9. **Social License**
10. **Trust within Supply Chain**
11. **What happens in China**
12. **Global Geopolitics**
13. **Demographic Changes in Australia**
14. **Logistics and Distribution**
15. **Morality of Farming**
16. **Premium Foods**
17. **Tighter Regulation and Market Access**
18. **Contextual Awareness of Farmers**
19. **Asset Ownership and Influence**
20. **Urgent Decarbonisation**

DataInsight

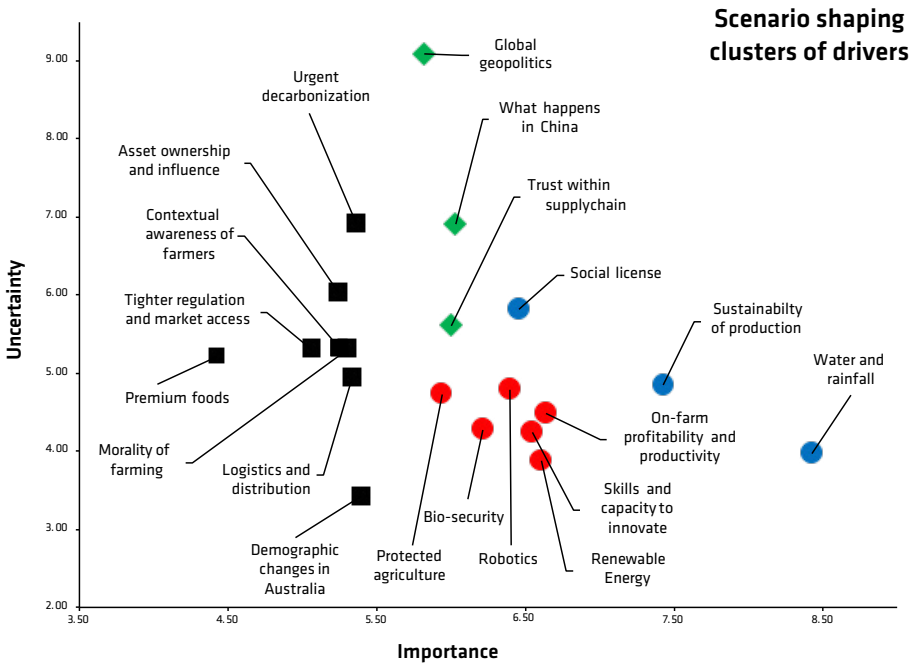
DATA INSIGHTS:

- The proximity and dependence on global export markets, especially Asia, is a defining feature of Western Australian agriculture and food industries. Changes in market access or consumer preferences could have a big impact on agricultural production.
- Western Australian agriculture is particularly vulnerable to future climate changes. Further decline in rainfall, especially in the wheatbelt area, will increasingly place strains on the economic viability and production reliability of broadacre grain yields.

The cluster mapping is a way to broadly identify and group the drivers that have the highest levels of importance and uncertainty. These are referred to as the future-splitting clusters of drivers.

5.0 IDENTIFYING SCENARIO SHAPING CLUSTERS OF DRIVERS

The workshop participants rated each of the twenty key drivers for its '**Importance**' and '**Uncertainty**'. The scale used was 1 to 10 (1 = low 10 = high). Importance refers to how important the participant considers the driver will be in shaping the future of agriculture in Western Australia. Uncertainty refers to the degree of uncertainty associated with the driver in terms of its future level of uncertainty, impact, or both. The individual ratings by each participant were pooled and averaged, providing an overall rating for each driver by the entire group of stakeholders. Then, a scatter diagram of the drivers, based on importance and uncertainty, was developed. The scatter diagram allows the identification of clusters which are relatively high in Importance and Uncertainty. This process identifies the clusters of drivers that were seen as most critical in shaping the future – these clusters are termed '**Scenario Shaping Clusters of Drivers.**'



DataInsight

DATA INSIGHTS:

- The scatter plot shows a good spread across both Importance and Uncertainty axes. This suggests some significant alignment amongst workshop participants, especially around the drivers that show elevated scoring.
- The two distinct outliers 'Global geopolitics' and 'Water and rainfall', show that agriculture in Western Australia is most vulnerable to changes in two very different issues, both to some degree outside the direct control of the industry. This highlights the need to plan and prepare in an uncertain world.

Two key scenario shaping clusters of drivers relating to 'Production Trajectory' and 'Market and Customer Dynamic' were identified. A third important enabling cluster of drivers was identified, that underpins the production capability of agriculture in Western Australia.

6.0 CLUSTER DEVELOPMENT AND SCENARIO AXES

Several key clusters of drivers were identified. These clusters were given thematic names and become the basis for two axes on the scenario matrix that define four scenarios spaces. The two major themes were defined as Production Trajectory and Market and Customer Dynamic. These future-splitting themes represent the most potent forces shaping the future, based on the driver and cluster analysis.

Production Trajectory

- Water and rainfall
- Sustainability of production
- Social license

Market and Customer Dynamic

- Global geopolitics
- What happens in China
- Trust within supply chain

There was an additional cluster identified of enabling drivers, colour coded in red. This was a group of drivers that underpin the nature of production in the future and offers an insight into how technology and policy will shape agriculture in Western Australia. The other drivers in the cluster diagram were ranked lower in importance. However, they are not discounted in the discussion, as these were all within the top 20 key drivers. These drivers sat in the background of the discussion as the various scenarios were developed.

DataInsight

DATA INSIGHTS:

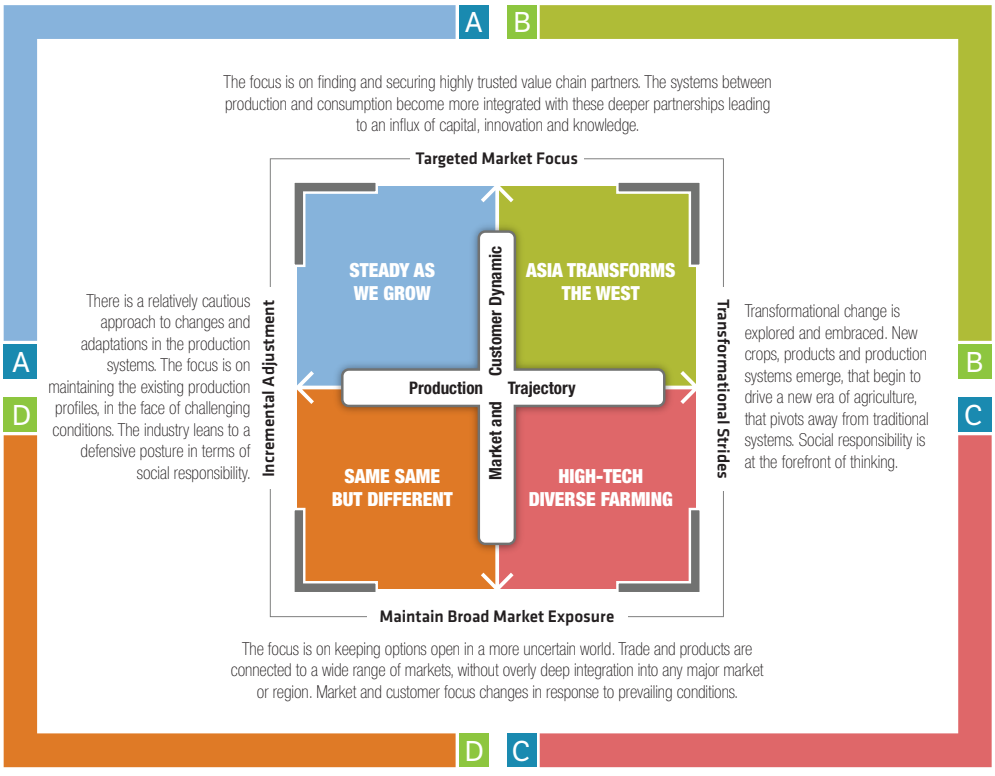
- The cluster of drivers under the theme 'Production Trajectory' reflect the broad range of challenges to future agricultural production. They range from the biological limits that maybe imposed by changing rainfall, the impact on sustainable production and the implicit societal support for the industry, especially in a marginal production system.
- The drivers under 'Market and Customer Dynamic' point to the exposure the industry has to export markets. Shifts in major market demands or access could create new challenges or opportunities.

FUTURE-SPLITTING QUESTIONS™

Future iQ's scenario-based planning methodology is based on two macro 'Future-Splitting Questions' represented by the axes in the scenario matrix. Each axis represents a continuum with different future outcomes at each end.

7.0 CREATING THE SCENARIO FRAMEWORK

The two major themes, called Production Trajectory and Market and Customer Dynamic were used to create the axes of the scenario matrix (see diagram). Brief descriptions were also attached to the end points of each axes. These end points represent two ends on a broad continuum. They are distinct enough to suggest a plausible range of outcomes between them. The four quadrants (scenario spaces) are based on different combinations of the end points of the two axes. These were reviewed and discussed with the workshop participants. This discussion explored the description of the end points included in each scenario space, the possible interaction between these axes, and how they defined the four scenario spaces.

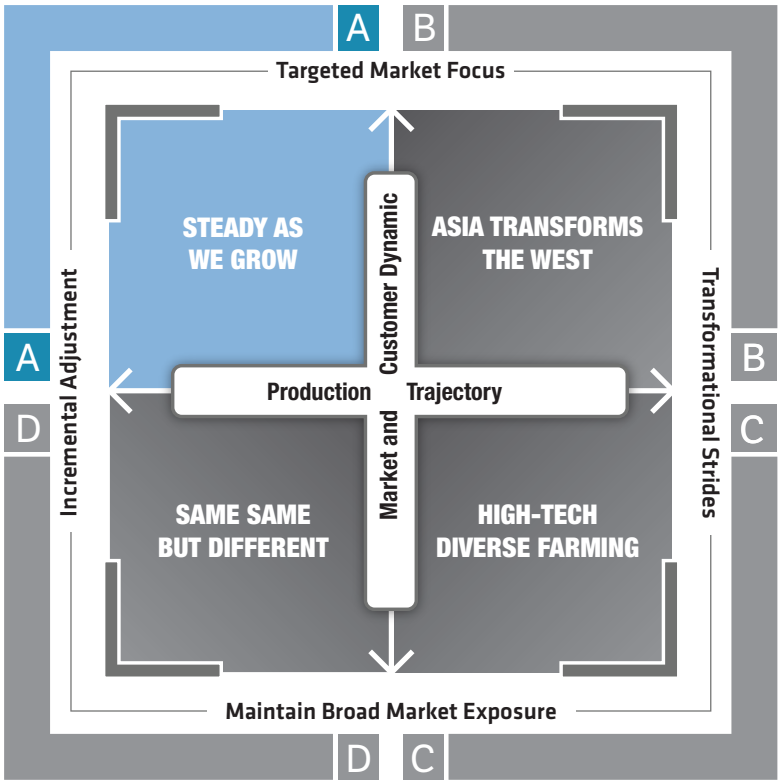


Participants were then divided into four groups to develop a narrative for each scenario. Each group was asked to describe the characteristics of Western Australian agriculture in 2035 under the conditions of the scenario quadrant that they had been given. After the characteristics were established, Think-Tank participants were asked to create headline news, to exemplify how the scenario would unfold over time. They were also asked to create a descriptive name for the scenario. Narratives and descriptions of each scenario as developed by the workshop participants are included in the following sections.

The 'Steady as we grow' scenario paints a future where Western Australian agriculture makes incremental change to production systems, while increasingly targeting selected markets. This results in gradual shifts in the types of products grown across the state.

7.1 SCENARIO A: STEADY AS WE GROW

This scenario forecasts a future shaped by a combination of an incremental changes in the production system, coupled with a pivot to a targeted market focus. This creates a scenario outcome where some sectors of agriculture thrive and grow, and some suffer from an inability to adjust to change fast enough. In particular, horticulture industries and specialised meat products are forecast to thrive in this scenario, where the targeted marketing in Asia attracts strong demand. However, industries more exposed to adverse impacts of climate change such as broadacre agriculture in the wheatbelt would decline. This is a result of not adapting fast enough in the production systems, leaving sectors vulnerable to crop failures. Broader consumer shifts to demands for higher transparency, quality and sustainability result in some challenges, especially to industries that have fallen out of step with changing societal values.



In this scenario, production systems slowly change as consumers drive greater quality and specialisation of products. The broadacre farming systems begins to contract overtime, exiting marginal lands due to declining rainfall and crop yields.

SCENARIO A CHARACTERISTICS: STEADY AS WE GROW – 2035

The characteristics of this scenario paint a future where there is incremental change in production systems, due to changing market demands and climatic conditions. There is a shift in the types of products produced, with a decline in broadacre grains and an increase in horticulture and meat products. This adjustment comes at the expense of producers forced out of the system as they are unable to respond and adjust fast enough. The target markets demand sustainable production, which further amplifies this transition.

Food Production Systems

Broadacre grain production areas decline, with more intensive specialised production increasing

- Broadacre grain production systems in southern WA retreat from marginal lands, such as areas of lowest rainfall, sensitive soil types, degraded land.
- There are fewer broadacre farmers, but specialised grains slowly becoming more prevalent.
- Horticulture thrives, with an increase in protected cropping, driven by targeted markets for Tropical Horticulture.
- Meat production increases due to switch from cropping to grazing.

Food Processing and Logistics

Food processing and marketing slowly evolves to concentrate on specialised products.

- The bulk handling and marketing of commodity grains begin to disappear.
- Increase in small to medium scale specialised processing linked to strong performing niche markets.
- Quality assurance and tracking increases in response to demands for provenance.
- Strong opportunities emerge in northern WA for direct marketing of specialised horticulture and meat products into close proximity Asian markets.

Consumers and Customers

Discerning consumers drive greater transparency and certification.

- High-value target market customers want increased transparency about animal welfare, food waste, pesticide use and carbon footprint.
- Producers implement more QA systems, driven by consumers and retailers.
- There is more active promotion of agriculture to consumers, to overcome a defensive posture.
- Unique products emerge to meet customer needs (e.g. small cattle to Indonesia)

2025 HEADLINE NEWS:

"Last factory egg farm closes, chicken's free at last"

2030 HEADLINE NEWS:

"Mary's Little Lamb ends up in Tokyo (block chain tracking)"

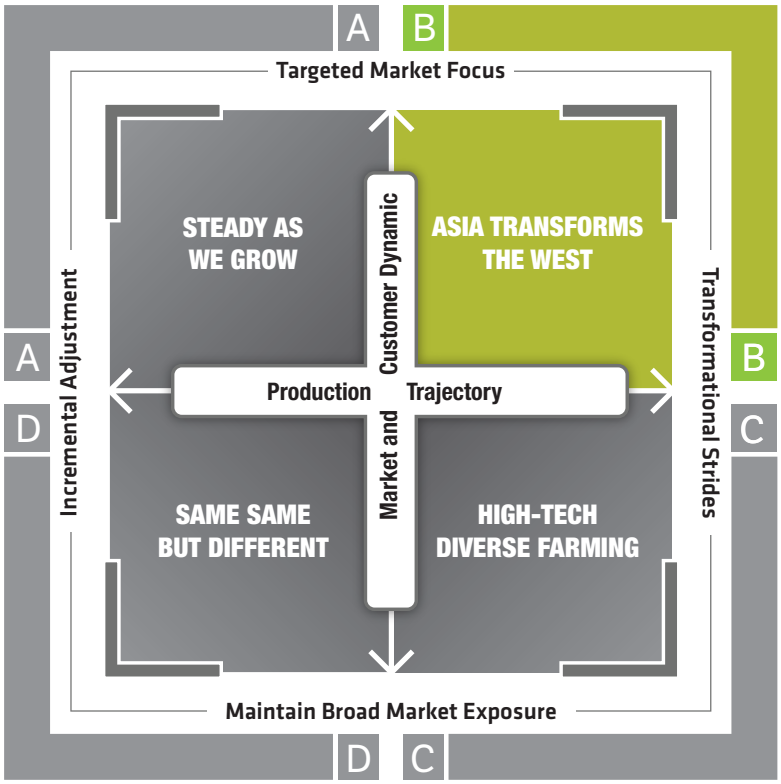
2035 HEADLINE NEWS:

"Asian customers order Durian fruit online from Kununurra"

The 'Asia Transforms the West' scenario paints a future where Western Australian agriculture becomes much more tightly integrated with its main Asian markets. These premium markets drive a transformation in the agricultural sector, with new and different production systems and products emerging.

7.2 SCENARIO B: ASIA TRANSFORMS THE WEST

This scenario forecasts a future shaped by a combination of transformational strides to the production systems, coupled together with a targeted market focus approach. The agricultural sector becomes increasingly connected with the strong Asian markets, with foreign ownership and supply chain integration. Industries increasingly move to decouple from climate risk, by more protected environment agriculture and shifts to areas where irrigated agriculture is possible. The production systems focus on higher value crops and products, with a clear sustainability proposition. Technology reshapes the whole system from food production to processing to distribution. Consumers are able to easily track and verify the authenticity and provenance of WA foods. Key food producing regions, like the Kimberley and South-west become magnets for Asian food tourism travellers, seeking great natural food in pristine environments.



In the 'Asia transforms the West' scenario, the agricultural industry in Western Australia undergoes rapid transformation. Consumer demands drive a pivot to high value production, such as protected agriculture and specialised health orientated foods suited to Asian market.

SCENARIO B CHARACTERISTICS: ASIA TRANSFORMS THE WEST– 2035

The characteristics of this scenario paint a future where the dominance and proximity of the Asian market transforms the agricultural sector. The demand for healthy foods drives a production shift away from broadacre farming into more specialised controlled agriculture or sustainable natural systems. Ownership structures shift rapidly with more vertical integration and foreign investment. WA agriculture does well, but it is in a close symbiotic relationship with its key Asian markets and customers.

Food Production Systems

Production systems transform as systems move away from rainfall dependent crops and industries.

- Large agricultural enterprises emerge, focusing on protected agriculture, vertically integrated companies with full control over the production systems.
- There is increased foreign ownership, especially in animal protein and fibre industries on sustainable grassland and pasture systems.
- Grain industry transforms to focus on sustainable production and higher value crops of legumes, pulses and grains.
- Locations like the Ord thrive, producing new products like GMO sugar, molasses and horticulture crops.

Food Processing and Logistics

New investments drive the expansion of technology-based food processing industries.

- Northern WA booms, with sugar cane, inbound food tourism, and a resurgent cotton industry – processing into fibre and oil.
- Beef and Dairy expand with specialised export products like baby formula.
- Technology accelerates developments in the agribusiness sector, with automated horticulture harvesting and robotic wool shearing.
- Protected horticultural production expands on Swan coastal plain, due to water and transport access.

Consumers and Customers

The Asian market is the primary focus, and their tastes redefine WA products and production.

- Health conscious consumers drive demand for raw, natural and environmentally friendly food and fibre products.
- The market demand is dominated by the Chinese market, then SE Asian markets, and the emerging Indian market.
- Technology such as Blockchain is widely deployed, giving WA the tools to validate 'green' status of products to consumers.
- The Kimberley region becomes a magnet for food tourism, with its mix of irrigated crops, grassland beef, and natural landscapes.

2025 HEADLINE NEWS:

"WA's Sustainable Grain© exports its first full shipment to China"

2030 HEADLINE NEWS:

"Low methane beef certified for consumption in high value Singapore market"

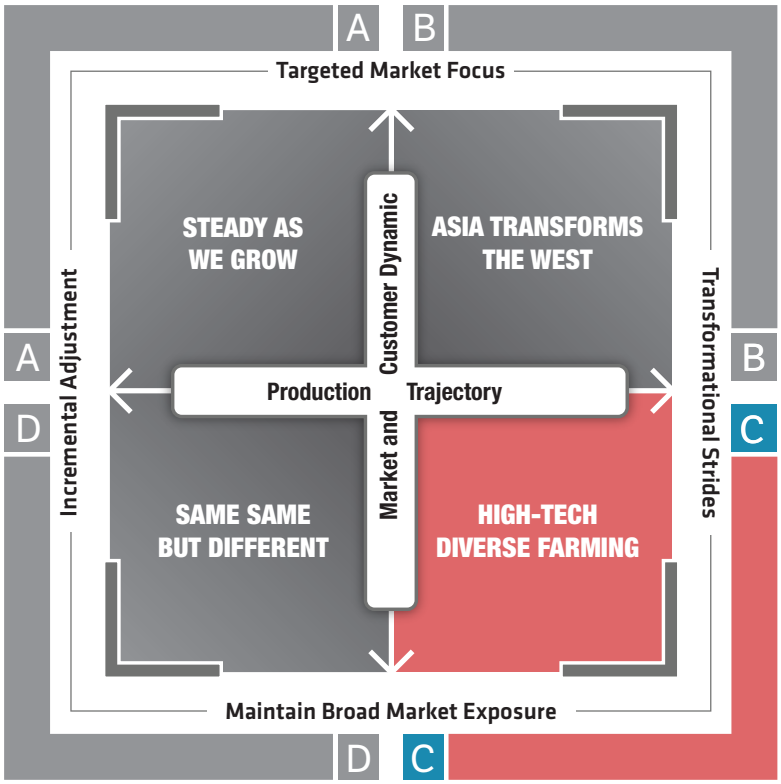
2035 HEADLINE NEWS:

"High vitamin broccoli from WA solves eye disease in India"

The 'High-Tech Diverse Farming scenario paints a future were Western Australian agricultural production becomes much more technology focused, while maintaining a diverse product base and market exposure. Production systems and product innovation evolve rapidly.

7.3 SCENARIO C: HIGH-TECH DIVERSE FARMING

This scenario forecasts a future shaped by a combination of transformational strides to the production systems, coupled together with maintaining broad market exposure. In this scenario technology quickly reshapes production systems, and helps target production systems on opportunistic crops, adjusting rapidly to climatic events. This creates uneven production patterns in broadacre farming, so food processing industries struggle due to unreliable supply. Ecosystem services become part of the mix, as the production systems embrace innovation and new thinking. The focus on innovation in production means that new and novel crops and agricultural products are able to be produced. Nimble producers begin to supply products responding to global food trends, such as ingredients for meat alternative foods based on plant proteins. These products are marketed across the world, seeking markets where there is a premium for real 'farmed food' with some unique health qualities.



In the scenario, 'High-Tech Diverse Farming', the industry pivots quickly to transform production systems in the face of climatic and societal changes. Technology is embraced to speed this transition, and the goal is to meet emerging novel consumer demands.

SCENARIO C CHARACTERISTICS: HIGH-TECH DIVERSE FARMING– 2035

The characteristics of this scenario paint a future where the industry pivots to aggressively apply technology to drive adaptation in production systems. This results in new flexible production systems and more novel high value products that are targeted to the global market. This change requires new thinking and investments in innovation.

Food Production Systems

Broadacre production becomes much more flexible and opportunistic, with a range of strategies to respond to rainfall scenarios.

- Targeted opportunistic cropping systems will emerge in low rainfall areas, with greater diversity of novel crop species such as oilseeds, legumes, cereals.
- Livestock will remain an important part of the lower rainfall broadacre agriculture, as water for livestock is no longer limited which will allow more expansive grazing, and pasture carbon sequestration.
- Horticulture will grow with a focus on areas closer to domestic markets.
- There will be a mix of large (not so responsive) and niche enterprises that have greater flexibility to respond to conditions.

Food Processing and Logistics

Greater flexibility in logistics to be able to rapidly pivot to opportunities. Food processing will decline for bulk products.

- Minimal processing domestically for most bulk products, but there is some processing for higher value niche products.
- Value adding will focus on transforming novel crop products into higher value consumer products, which will be where innovation occurs.
- Technology in agribusiness will be vitally important, as new systems are developed to manage distribution systems and track products through the value chain.
- Businesses will be nimble to anticipate and respond to changing conditions and deal with a diverse range of food products.

Consumers and Customers

Products from WA find their way across the world, especially those seeking novel or new food types.

- WA grain proteins become an important part of the global mix for meat alternatives based on plant-based products.
- 'Farmed food' from WA competes well against 'factory food' based on nutritional value and sustainable production characteristics.
- Ecosystem services will be valued, as WA actively promotes sustainable foundation to the global market.
- Technology allows WA agriculture to identify and promote health benefits and provenance of food, helping provide evidence of food credentials.

2025 HEADLINE NEWS:

"End of an era as Canning Vale and Muchea sale yards close"

2030 HEADLINE NEWS:

"WA first Australian state to be carbon positive in 'food production to transport' system"

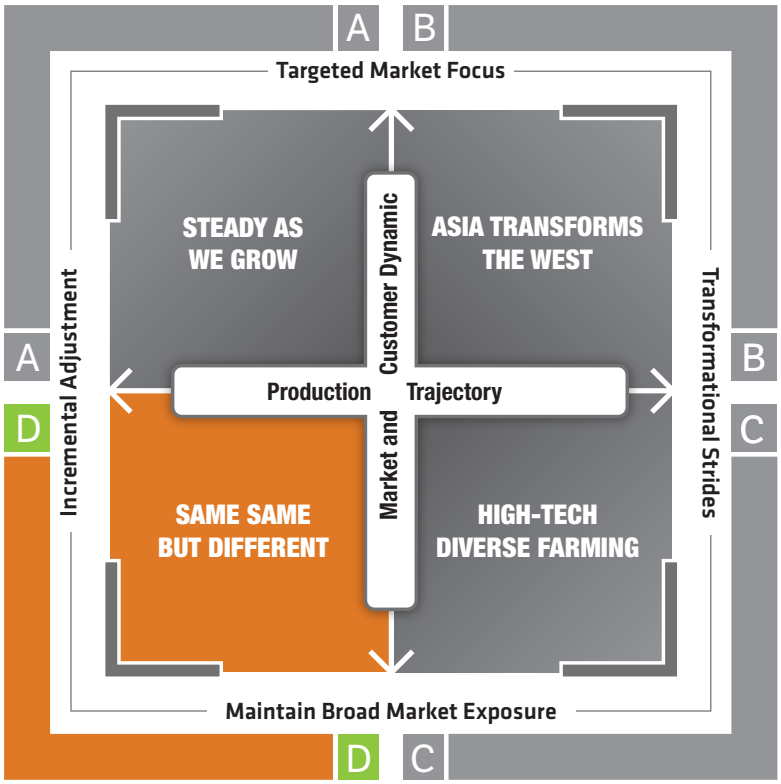
2035 HEADLINE NEWS:

"WA dominates supplies of phenolic foods to health conscious young generations"

The 'Same Same but Different' scenario paints a future where Western Australian agriculture lags in change. This inertia results a familiar commodity focus, and slow adaptation within the production sector. Some sectors fall behind, and struggle to keep up with pace of change.

7.4 SCENARIO D: SAME SAME BUT DIFFERENT

This scenario forecasts a future shaped by a combination of incremental adjustment in production systems, coupled together with maintaining broad market exposure. In this scenario change only occurs slowly, if at all. Production systems remain relatively the same and become more exposed to vulnerability to erratic climatic events. Crop failure becomes a real possibility in the Wheatbelt. Due to vulnerability of supply, food processing declines and contracts to smaller more reliable product types. Livestock becomes a more important part of the system, as meat exports respond to growing global demand for proteins. Biomass production becomes an alternative, especially in more marginal areas where crop reliability declines. The market is commodity orientated and price sensitive. The domestic consumers become more demanding in terms of environmentally sustainable production systems, and the industry is pushed into a defensive posture to defend the increasingly unsustainable production in marginal grain producing areas. Droughts take their toll on the industry and public perception of agriculture.



In the scenario 'Same Same but Different', the industry struggles to adjust to emerging consumer demands, evolving public sentiment and climate change. This drives the industry into increasingly marginal situations, and a more defensive posture. Overall production and value declines.

SCENARIO D CHARACTERISTICS: SAME SAME BUT DIFFERENT – 2035

The characteristics of this scenario paint a future where Western Australian agriculture resists change, and slowly falls behind. Climate variability delivers shocks to the production system, with crop failures becoming more common. Public support for agriculture declines as it is increasingly seen as unsustainable. The overall value and size of agricultural industries declines.

Food Production Systems

There is only gradual change or adaptation of production systems, but reliability of crops declines.

- Same cropping species, but the development of short and long season varieties in the toolbox helps some incremental adaptation to climate change.
- Business as usual approach, with few experimenters, fewer farmers, and bigger operations.
- Business models change with more big family farms and corporate, with more leasing and share farming scenarios.
- Better paddock monitoring technology to monitor all resources, frost alarms, predictions.

Food Processing and Logistics

Food processing sector declines due to unreliable supply and moves to more flexible models.

- WA continues to be a commodity exporter, focused primarily on grain and chilled meat.
- There is an increase in meat processing for export, as livestock component increases in cropping systems.
- There is some shift from food to biomass energy production, as a strategy for low rainfall areas.
- Water intensive industries such as dairy and horticulture face challenges as processing capacity declines due to unreliable supply.

Consumers and Customers

Export products are sold to customers who are commodity focused and price sensitive.

- Domestic consumers seek products that are environmentally sustainable and demand more transparency about production impact on soils and water.
- Commodity markets strengthen for sheep and wheat, as global food demand increases.
- Domestic consumers seek more farm to fork products, and reward good stewardship of the land with premiums.
- Agriculture has to mount more defense of their industry, to retain the social license to operate.

2025 HEADLINE NEWS:

"Worst rainfall on record and continuing to decline, lowest yields yet. WA wheat crop fails"

2030 HEADLINE NEWS:

"Rollout of mobile abattoirs - Live animal exports restricted to particular trusted ports"

2035 HEADLINE NEWS:

"Last dairy production closes down in WA due to competition for water and lack of export processing facilities"

The expected future represents the future of least change. This is a reactive future where change only occurs incrementally and there is little change in the broad market exposure strategy.

8.0 EXPECTED AND PREFERRED FUTURES

To explore the concept of expected and preferred futures, the scenario matrix was overlaid with a 10x10 grid. This creates 100 different cells, all possible nuances versions of the future. Workshop participants were asked to indicate which of the cells most represented where they believed the expected and preferred future laid.

8.1 EXPECTED FUTURE – SCENARIO D – 'SAME SAME BUT DIFFERENT'

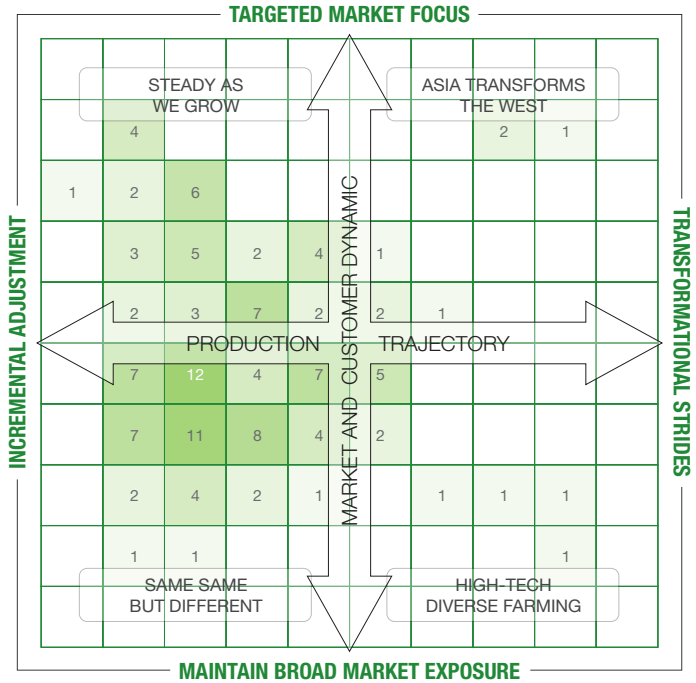
The expected future is one deemed most likely to happen if there is no change in the current trajectory of the Western Australia agricultural industry. Workshop participants generally indicated that Scenario D, 'Same Same but Different', is the scenario they believed most represented the expected future for the industry. This scenario represents a problematic future, which is largely defined by the lack of preparedness to rapidly change and adapt. This leaves the agricultural sector vulnerable to rapid shifts in market and consumer demands, or events like dramatic climatic change.

FutureInsight

FUTURE INSIGHTS:

- The implications of this future suggest that incremental or no change may create difficult outcomes.
- There is a mismatch between the expected future and the accelerating rate of change in today's world. To remain competitive and productive, Western Australian agriculture will need to examine how to become more agile and responsive.

AgFutures 2035
WESTERN AUSTRALIAN AGRICULTURE
EXPECTED FUTURE – 2035



The Preferred Future reflects a much more proactive future, where the industry is tackling the grand challenges in a systematic manner and building close relationships with targeted markets.

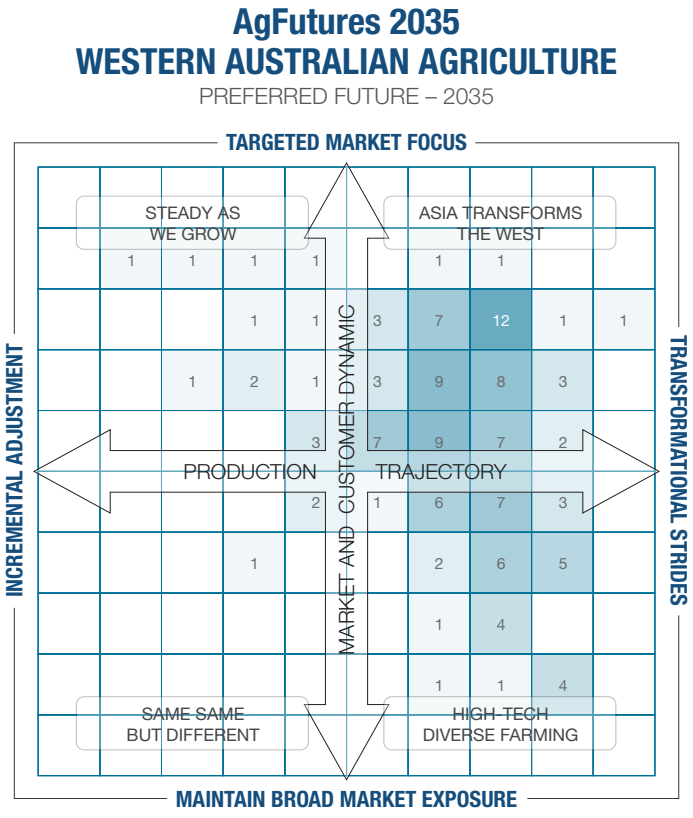
8.2 PREFERRED FUTURE – SCENARIO B – 'ASIA TRANSFORMS THE WEST'

While each of the scenarios were viewed as plausible, Think-Tank participants expressed a preference for Scenario B, 'Asia Transforms the West'. The concentration of responses is in the middle scenario space and stretching down into the 'High-Tech Diverse Farming' scenario. Almost all the responses are on the right-hand side of the Production Trajectory axis, toward the Transformational Strides end of the continuum. This suggests a significant appetite for change in production systems. In addition, there is a discernible shift towards the Target Market Focus end of the vertical axis.

FutureInsight

FUTURE INSIGHTS:

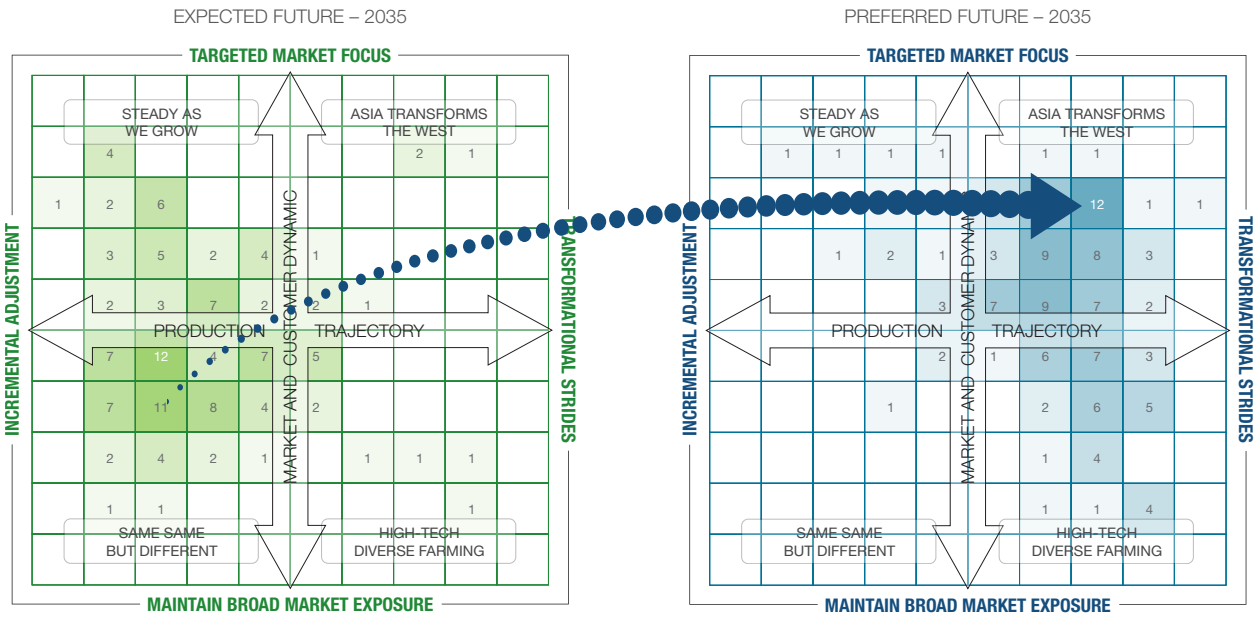
- Underlying the pivot to the preferred future, is recognition of the potential threat that climate change presents to much of Western Australian agriculture. This phenomenon is likely to see significant changes in how industries operate, as they attempt to reduce exposure to that risk.
- The Preferred future reflected the perceived perils of 'doing nothing', and amplifies the message that change is upon us, and we better act quickly. The 'transformational strides' telegraphs a future of rapid and bold response to emerging trends and change.



The pivot from expected to preferred future is significant. It reflects the need for bold change and transformational thinking, especially in addressing future production systems in the State.

8.3 NEXT STEPS – GETTING TO THE PREFERRED FUTURE

Think-Tank participants discussed the ramifications and implications of failing to achieve the preferred future. While there was strong alignment among participants that Scenario B, 'Asia Transforms the West' represented the preferred scenario for Western Australian agriculture, it was also recognised that it will be necessary to leverage new trends and opportunities that present themselves over time. There is a delicate tension between retaining the traditional qualities that shape Western Australian agriculture and its participants, and the different perspective required to adapt to a more rapid evolution towards the Transformational Strides end of the Production Trajectory.



FutureInsight

FUTURE INSIGHTS:

- Becoming a future focused, agile and evolving industry will help pivot the Western Australia agricultural industry from the Expected Future to the Preferred Future. It will be necessary to anticipate external trends and adapt accordingly.
- Because of the long-term nature of the Scenario Planning methodology, stakeholders often see the distant future vision of 2035 as unattainable and unrealistic. However, this underestimates the progress that can be made during the intervening years, and the cumulative positive impacts of change.

9.0 WHAT NEEDS TO HAPPEN NEXT?

The workshop discussed possible changes that would be beneficial to help the pivot from the expected to the preferred future. The next step will be to convene working groups across industry, government and academia to develop action plans to address those challenges Some of the key issues included:

- There is not a widespread understanding of the potential for serious to catastrophic impacts of climate change on Western Australian production systems. Strategies for adaptation to further declines in rainfall and increased temperature need to be considered and debated along with the merits of different options for emissions reduction.
- There is a potential to export intellectual property promoting climate mitigation and adaptation strategies for production systems. There are opportunities to help other countries deal with the impacts of climate change.
- Need to engage more with young people in the sector. Currently we have young people with the skills and understanding of technology, and a will and passion to pursue transformational change. However, they are not in the 'driver's seat' at the moment. Need to bring them into this conversation about future scenarios and outcomes.
- There are many points of leverage to effect change. Need to look for opportunities to bring 'systems thinking' back into the industry. This could include forums, where industry and scientists can collaborate to create clear and influential messages and help ferment public debate and discussion.
- Opportunity to influence Government policy and stimulate initiative ideas. Opportunity to trigger more transfer of knowledge in ways that are meaningful to individuals as well as communities
- Better communicate the context of Australia in the world, and what we contribute to the world. How do we better communicate that we play a small role in global affairs but are a very clever country?

These comments are a summary reflection of the workshop debrief. The consensus was that there is an opportunity to stimulate a larger more influential discussion about change and adaptation in the Western Australian agricultural industry.

10.0 ACKNOWLEDGMENTS

The participants of the AgFutures 2035 had a range of backgrounds, as agricultural scientists, government officials, students and industry leaders. The attribute they shared was a deep professional and personal interest in the agricultural industries in Western Australia. This commitment was reflected in the engaged and thoughtful discussions. A particular note of congratulations to the Western Australian Division of AgInstitute Australia for hosting this conference, and the steering committee and chair for helping design the program.

11.0 CONTACT DETAILS

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