AgriFutures™ Chicken Meat Program
RD&E Plan 2019–22

by AgriFutures™ Chicken Meat Advisory Panel,
Georgina Townsend, Michael Beer, Kylie Hewson
and Chris Murphy
December 2019
AgriFutures™ Chicken Meat Program
RD&E Plan 2019-22

by The AgriFutures™ Chicken Meat Advisory Panel,
Georgina Townsend, Michael Beer, Kylie Hewson and
Chris Murphy

December 2019
AgriFutures Australia Publication No 19-010
Contents
Foreword......................................................................................................................... 4
What is a RD&E Plan? ........................................................................................................ 5
AgriFutures™ Chicken Meat Program RD&E Plan snapshot ............................................ 7
Operating Environment ................................................................................................... 9
  Australian chicken meat industry .................................................................................. 9
  Industry trends ................................................................................................................ 10
Program Role .................................................................................................................. 11
  Purpose .......................................................................................................................... 11
  Vision ............................................................................................................................. 11
  Grow the long-term prosperity of the Australian chicken meat industry ..................... 11
  Industry role and partners ......................................................................................... 11
Plan development ............................................................................................................ 12
  Review of the AgriFutures™ Chicken Meat Program RD&E Plan 2014-2019 ............... 12
  Consultation process ................................................................................................... 13
  Outcomes from consultation ....................................................................................... 13
  Strategic approach to development of the AgriFutures™ Chicken Meat Program RD&E Plan ..................................................................................................................... 14
  Definitions .................................................................................................................... 16
Objective 1: Improving Food Safety of Australian Chicken Meat ..................................... 17
  Key focus areas ............................................................................................................ 17
  Performance indicators .............................................................................................. 17
  Impact and Consequences .......................................................................................... 17
Objective 2: Develop and implement measures to improve industry’s impact on the environment .................................................................................................................. 18
  Key focus areas ............................................................................................................ 18
  Performance indicators .............................................................................................. 18
  Impact and Consequences .......................................................................................... 18
Objective 3: Improve chicken meat production through the whole supply chain .............. 19
  Key focus areas ............................................................................................................ 19
  Performance indicators .............................................................................................. 19
  Impact and Consequences .......................................................................................... 20
Objective 4: Improved ability to meet consumer needs ..................................................... 20
  Key focus areas ............................................................................................................ 20
  Performance indicators .............................................................................................. 20
  Impact and Consequences .......................................................................................... 20
Enabling Activity 1: Provide relevant training and capacity building opportunities ............ 21
Key focus areas ............................................................................................................. 21
Performance indicators ............................................................................................... 21
Measures ...................................................................................................................... 21
Enabling Activity 2: Levy investment delivers value .................................................... 22
Key focus areas ............................................................................................................. 22
Performance indicators ............................................................................................... 22
Measures ...................................................................................................................... 22
Implementation of the RD&E Plan (2019-2022) ......................................................... 23
Role of the AgriFutures Advisory Panel ..................................................................... 23
Financial Resources ................................................................................................... 23
References .................................................................................................................... 26
Appendix 1: Source materials .................................................................................... 27
The AgriFutures™ Chicken Meat Program invests in research, development and extension (RD&E) to increase knowledge and understanding that fosters an innovative, adaptive and valuable chicken meat industry. The Program focuses on chicken meat production in Australia from genetic factors through to production and post-farm gate processing.

The significant importance of the chicken meat industry to the Australian economy with a gross value of production over $2.7 billion per annum, direct employment to more than 58,000 people and the most popular source of animal protein to domestic consumers, places a heavy reliance on a focused and effective RD&E program. The AgriFutures™ Chicken Meat Program continues to foster international collaboration via scientific publication and global connections so Australia remains technically advanced. The Program provides strong leadership to the world in anti-microbial stewardship demonstrating sound flock health and husbandry practices that ensures food safety and excellent animal welfare outcomes.

Program RD&E Plans are a key part of implementing the AgriFutures Australia Strategic R&D Plan 2017-2022 and provide an industry-specific basis for our Annual Operational Plan, guiding AgriFutures Australia’s investments on behalf of industry stakeholders. These RD&E Plans identify and balance RD&E priorities and outcomes to promote industry productivity, profitability and sustainability.

The AgriFutures™ Chicken Meat Program RD&E Plan 2019-2022 benefits from the extensive consultation and external evaluation of previous research conducted over the past five years (2014 to 2019). More than 50 industry stakeholders attended the six R&D forums held in 2017-18, numerous people from industry, research and government provided input and guidance to the Plan. This consultation identified four (4) priority objectives including:

- Improve food safety of Australian chicken meat
- Develop and implement measures to improve industry impact on the environment
- Improve chicken meat production through the whole supply chain
- Improved ability to meet consumer needs

AgriFutures Australia will continue to work with the Australian chicken meat industry to ensure the industry’s three-year research priorities meet industry needs and are informed by government priorities. In order to do this the Plan engages through key enablers including the provision of relevant training and capacity building opportunities and levy investment that delivers value. The adoption of RD&E outcomes is fundamental to success and just as we have with this AgriFutures™ Chicken Meat Program RD&E Plan 2019-2022. Over recent years we have invested in extension support services to encourage adoption of research outcomes.

AgriFutures Australia will continue to work with industry and government stakeholders to ensure the Corporation invests in knowledge that is useful and adopted by end users.
What is a RD&E Plan?

The AgriFutures™ Chicken Meat Program RD&E Plan 2019-2022 has been developed by AgriFutures Australia in consultation with the AgriFutures Chicken Meat Advisory Panel, processors, consultants and peak industry organisation. The Plan outlines the AgriFutures™ Chicken Meat Program’s RD&E objectives for the next three years, which have been shaped by the goals and strategies of the AgriFutures Australia R&D Plan 2017-2022.

Program focused research, development and extension (RD&E) plans are a key part of implementing AgriFutures Australia’s broader RD&E strategies, and are the basis on which AgriFutures Australia invests on behalf of industries. RD&E Plans identify productivity and sustainability RD&E priorities and the planned outcomes for each industry.

AgriFutures Australia has three distinct higher-level strategies that aim to increase profit and productivity in rural industries:

1. Undertake priority research development and extension which meets specific industry needs.
2. Facilitate investments which deliver economic, social and environmental benefits for rural industries and the broader community.
3. Adopt a life-cycle approach to investment in new, developing and established industries.

The profitability, productivity and sustainability of rural industries is AgriFutures Australia’s core business, and the organisation works with its portfolio industries to invest in their priority RD&E needs. AgriFutures Australia fosters strong relationships with industry partners, including the Australian chicken meat industry, to ensure RD&E investment leads to practical knowledge and innovation which can be adopted by industry members.

The AgriFutures™ Chicken Meat Program RD&E Plan is designed on a three-year cycle, shorter than the traditional five-year program, ensuring that research remains agile enough to adapt to changing production environment and ensure a sustainable industry into the future.

The AgriFutures™ Chicken Meat Program RD&E Plan guides researchers and collaborators in the development of research proposals and it guides AgriFutures Australia in investing program budget. Delivery of the AgriFutures™ Chicken Meat Program RD&E Plan is overseen by the skills based Chicken Meat Advisory Panel. The industry based advisory panel is comprised of individuals who have practical industry knowledge and expertise, and technical or research experience. The panel provides recommendations to AgriFutures Australia regarding projects and providers that can deliver on key strategies in the Plan. Importantly it advises on how to encourage and promote the extension and adoption of project results and findings.

There is a direct alignment between the AgriFutures™ Chicken Meat Program RD&E Plan and AgriFutures Australia Annual Operating Plan (AOP) that specifies key performance indicators (KPI’s) for levied industries, including Chicken Meat. The Plan provides a program-specific framework for meeting the KPI’s in the AOP. The AgriFutures Australia Strategic Plan 2017-2022 and Annual Operating Plan are available online: http://www.agrifutures.com.au/about/corporate-documents/.

The AgriFutures™ Chicken Meat Program aims to fund projects that reflect and respond to industry needs and concerns. Projects are procured according to the AgriFutures Australia
Procurement Policy typically via a public tender or open call process, pre-qualified tender or limited tender methods. Open calls may not run each budget year (July to June). The use of other methods will depend on contract and committed expenditure as well as provider expertise. Pre-qualified and limited tender methods provide options for procuring projects in a quick and responsive manner.
### AgriFutures™ Chicken Meat Program RD&E Plan snapshot

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Key focus area</th>
<th>Performance indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Our purpose</strong></td>
<td>Through research, development and extension, increase knowledge and understanding that fosters an innovative, adaptive and valuable chicken meat industry</td>
<td></td>
</tr>
<tr>
<td><strong>Our vision</strong></td>
<td>Grow the long-term prosperity of the Australian chicken meat industry</td>
<td></td>
</tr>
<tr>
<td><strong>Objectives</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improving Food Safety of Australian Chicken Meat</td>
<td>• Increasing knowledge of managing food safety risks&lt;br&gt;• Reducing food pathogens before and during processing&lt;br&gt;• Providing food safety guidance for the industry&lt;br&gt;• Measuring and reporting food safety risks&lt;br&gt;• Continuous improvement of industry’s contribution to the National Food Borne Illness Reduction Strategy</td>
<td>• Monitor key pathogen levels in chicken meat every three years.&lt;br&gt;• Forum on Food Safety held annually&lt;br&gt;• Disseminating project information to the six key levy payers in an appropriate format</td>
</tr>
<tr>
<td>Develop and implement measures to improve industry’s impact on the environment</td>
<td>• Determining options for reducing environmental impacts&lt;br&gt;• Improving management of the internal shed environment&lt;br&gt;• Improving management of chicken production systems&lt;br&gt;• Developing and improving options to manage litter&lt;br&gt;• Develop options to manage limited natural resources&lt;br&gt;• Sustainable production including waste reduction and renewable energy</td>
<td>• Disseminating industry guidelines to six key levy payers in appropriate format&lt;br&gt;• Forum on Environment held annually with key levy payers</td>
</tr>
</tbody>
</table>
## Objectives

**Improve chicken meat production through the whole supply chain**
- Invest in more automation (initiatives for innovative ways to improve efficiencies)
- Improving nutritional management and feed use efficiency
- Improving biosecurity practices within the supply chain
- Enhancing chicken welfare and handling methods
- Management strategies for chicken health
- Improve the supply chain security by investment in feedstocks, genetics and logistics

**Improved ability to meet consumer needs**
- Better understanding consumer trends and market opportunities
- Develop the industry value proposition

## Key focus area

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Key focus area</th>
<th>Performance indicators</th>
</tr>
</thead>
</table>
| Improve chicken meat production through the whole supply chain | • Invest in more automation (initiatives for innovative ways to improve efficiencies)  
• Improving nutritional management and feed use efficiency  
• Improving biosecurity practices within the supply chain  
• Enhancing chicken welfare and handling methods  
• Management strategies for chicken health  
• Improve the supply chain security by investment in feedstocks, genetics and logistics | • Disseminating industry guidelines to the six key levy payers in an appropriate format  
• Forum on Chicken Meat Production held annually |

| Improved ability to meet consumer needs | • Better understanding consumer trends and market opportunities  
• Develop the industry value proposition | • Disseminating project information to six key levy payers |

## Enabling activities

**Provide relevant training and capacity building opportunities**
- Ensuring ease of industry access for R&D outputs
- Scoping, developing and updating training materials
- Attracting capable people into industry careers
- Implementing industry staff training priorities
- Improving capacity of research providers
- Develop quality stakeholder relationships within Australia and internationally

**Levy investment delivers value**
- Attracting co-investment and collaboration across stakeholders through the RD&E program
- Quality stakeholder engagement
- Quality RD&E providers

## Performance indicators

<table>
<thead>
<tr>
<th>Enabling activities</th>
<th>Key focus area</th>
<th>Performance indicators</th>
</tr>
</thead>
</table>
| Provide relevant training and capacity building opportunities | • High priority research and early career scientists support by scholarships  
• Delivery of education and up-skilling of industry participants  
• R&D outputs managed for each of industry access  
• Current researchers attending industry forums | |
| Levy investment delivers value | • Relevant outcomes from R&D activities and outputs are used to inform the development of the training program within 12 months of the work being published and training being delivered.  
• Develop database of key stakeholder relationships including international stakeholders, with at least one expert identified within each of the objective areas.  
• Co-investment investigated on relevant projects. | |
Operating Environment

Australian chicken meat industry

Chicken meat is Australia’s most consumed source of animal based protein and it is therefore important that the production of chicken meat in Australia is sustainable. Chicken meat is typically consumed fresh, or in a variety of further-processed and/or cooked products at home or in a wide variety of food service situations. Australians are consuming increased quantities of further-processed chicken products today than ever before, and this trend is ongoing. Importation of fresh chicken does not generally occur, due to strict protocols that must be met for biosecurity reasons, and which effectively preclude importation as an option from almost all countries. A small quantity of fully retorted or cooked-in-can product, such as canned soup or canned chicken, is imported.

Six chicken meat companies represent the industry and the two largest, Baiada Poultry (privately owned) and Inghams Enterprises (publicly listed), supply approximately 75% of Australia’s chicken meat. Each of these companies are vertically integrated meaning they own/operate and control all aspects of production from breeder operations, chick hatching, feed milling, nutrition and health advisory services, quarantine facilities, laboratories and meat processing. The majority of chickens produced (80%) are grown on farms owned and operated by approximately 700 contract chicken growers. The remaining 20 percent of broiler chickens are produced on farms owned by the integrated companies or by smaller independent operators.

In 2017, ABARES estimated that the gross value of poultry meat production at the time of slaughter was $2.7 billion per annum. Chicken meat exports account for less than 5% of total production and are dominated by low value cuts such as edible offal and chicken feet. Export markets have in recent years included South Africa, Philippines, Hong Kong, Singapore and the Pacific Islands. While Australia is a technically efficient producer of chicken meat, it is not internationally competitive on a cost-of-production basis. For this reason and to manage the potential biosecurity risks of imported produce, Australia has not significantly grown export supply.

The industry has a strong presence in rural and regional communities. In regional locations the chicken meat industry employs people in both agricultural and food processing environments. The chicken meat industry has grown strongly and consistently since the 1960s. The rate of Australian chicken meat production is forecast to slow in 2019 from previous per annum growth of 4% and per capita consumption (currently at 49.3 kg) is forecast to grow to more than 50 kg by 2020. Growth in production and demand for free range chicken meat remains at approximately 20% of the total market and this trend is expected to continue.

Being a mature vertically integrated industry with very few key producers, the chicken meat industry has the potential and has demonstrated it can rapidly adopt new technology even with a mature state of knowledge in aspects of production. The issues confronting industry are typically more complex or have not been readily resolved due to influencing factors such as regulatory barriers. The implication for RD&E is to operate in an environment where RD&E investments may need to be directed towards higher risk and longer-term investments. A strong focus on providing information on all aspects of production to help industry participants identify and manage risk.
Industry trends

Based on input from industry participants and AgriFutures Australia, a number of trends have been identified that are likely to affect the operating environment and the chicken meat industry over the life of the Plan, and beyond (Table 1) (SJS Strategy Consultants, 2019).

Table 1 Factors influencing RD&E in Australian chicken meat production 2019 -2022

<table>
<thead>
<tr>
<th>Trend</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Pressures on resource use</td>
<td>• More noticeable effects of climate change</td>
</tr>
<tr>
<td></td>
<td>• Resource scarcity</td>
</tr>
<tr>
<td>Advances in technology</td>
<td>• The rise of biotechnology</td>
</tr>
<tr>
<td></td>
<td>• The convergence of disruptive technologies</td>
</tr>
<tr>
<td></td>
<td>• Big Data and the Internet of Things</td>
</tr>
<tr>
<td></td>
<td>• The rise of smart farming</td>
</tr>
<tr>
<td>Sustainability focus</td>
<td>• Increased attention on animal welfare</td>
</tr>
<tr>
<td></td>
<td>• More emphasis on environmental sustainability</td>
</tr>
<tr>
<td>Workforce challenges</td>
<td>• Increasing shortage of personnel</td>
</tr>
<tr>
<td>Changing diets</td>
<td>• The transition of diets</td>
</tr>
<tr>
<td></td>
<td>• The shift to convenience food</td>
</tr>
<tr>
<td></td>
<td>• The rise of meat substitutes</td>
</tr>
<tr>
<td>Industry shifts</td>
<td>• The continued shift to industry consolidation</td>
</tr>
<tr>
<td>Changing demographics</td>
<td>• Urbanisation</td>
</tr>
<tr>
<td></td>
<td>• Changing demographics Increased access to information</td>
</tr>
<tr>
<td>International drivers</td>
<td>• Rising Asia</td>
</tr>
<tr>
<td></td>
<td>• Increasing international fragility</td>
</tr>
</tbody>
</table>
**Program Role**

Through targeted high-impact RD&E projects, the AgriFutures™ Chicken Meat Program will achieve significant benefits to industry designed to maintain its position as the number one consumed meat in the country.

Key components of the AgriFutures™ Chicken Meat Program are protecting the industry through improving food safety of Australian chicken develop and implement measures to protect and improve industry impact on the environment. This is coupled with enhancing the industry through improved chicken production through the whole supply chain, as well as improved ability to meet consumer needs.

**Purpose**

Through research, development and extension, increase knowledge and understanding that fosters an innovative, adaptive and valuable chicken meat industry.

**Vision**

Grow the long-term prosperity of the Australian chicken meat industry.

**Industry role and partners**

AgriFutures Australia clearly defines its role as an investor in industries based on their development stage and the unique attributes of that industry. It has a levy arrangement in place to support RD&E.

Continuous improvement, including RD&E to optimise flock performance, efficiency and industry productivity, will be required to enable chicken meat to retain its favourable position as the most affordable and popular meat on the domestic market.

AgriFutures Australia partners with Australian rural industries and the Australian Government through the Department of Agriculture. Stakeholder groups for the AgriFutures™ Chicken Meat Program include the Australian Chicken Meat Federation, chicken meat companies, research providers, other RDCs, compliance agencies, community leaders, individual growers and the general public.
Plan development

Review of the AgriFutures™ Chicken Meat Program RD&E Plan 2014–2019

The AgriFutures™ Chicken Meat Program Plan Five-Year RD&E Plan 2014-2019 addressed five objectives:

1. Production efficiency
2. Animal welfare & food safety
3. Sustainable environment
4. Creating foundations for the future & market research
5. Human capital & extension.

Investment analysis of the AgriFutures™ Chicken Meat Program Five-Year RD&E Plan 2014-2019 (GHD 2019) demonstrated that 41 of 49 strategies proposed were achieved and 18 of 22 performance indicators had either been realised or partially realised. The AgriFutures Australia Chicken Meat Advisory Panel played an active role in prioritising investments during the plan period. The program review also revealed good alignment with national Rural RD&E Priorities and RIRDC/AgriFutures Strategic Plan. Investment in the AgriFutures™ Chicken Meat Program had contributed to the realisation of the RIRDC (now AgriFutures Australia) Corporate KPIs.

Budget expenditure was broadly in line with planned estimates. A major industry initiative during the period of the plan was a national co-operative research centre, Poultry CRC. Additional budget was directed to Objective 5 – ‘Creating foundations for the future’ diverted from objectives: ‘Sustainable environment’ and ‘Human capital and extension’.

The lower investment for environment was due to an overestimation at planning and at review were considered to be satisfactorily addressed. The investment in extension contributed to delays in communicating final research results to stakeholders in a timely manner. The high volume of project reports and outputs experienced in the AgriFutures™ Chicken Meat Program requires a multi-faceted approach including investing in higher budget, longer term projects and incorporating active dissemination during and post the period of the research. Strong feedback during the series of strategic forums to inform the next RD&E strategy that were held in 2017/18 indicated that more investment was needed to be directed towards extension to improve the information flow in the future, but to also establish a greater focus on training opportunities to support industry skill needs. Investment in extension will be through every project to ensure there are suitable outputs targeted to the end user. The AgriFutures™ Chicken meat program will be supported by a 0.6 FTE Extension Officer and a full time Training Officer.

The objectives of the 2014-2019 plan, whilst still highly relevant, are considered to be in need of redesign to service the industry and adapt to program resources. A key focus of the program would be towards producing information that informs risk management in the industry and refines current practice, as opposed to a priority focus on developing or identifying novel strategies and technologies. This prompted the design of the 2019-2022 plan reducing to three years (as opposed to five) with a stronger focus on:
- Extension and training
- Larger, longer and more high-risk projects to address complex issues
- Producing information to help industry manage risk (which requires effective extension pathways to be in place).

Consultation process

The chicken meat industry is committed to ongoing improvement and growth, and to support the RD&E necessary to achieve this. The Australian Chicken Meat Federation, the industry’s peak body, as well as levy payers and other key industry stakeholders, provided significant input into the development of this RD&E Plan through a variety of forums and electronic means.

Five strategic forums were held with key industry stakeholders, each on a specific topic relevant to chicken meat production that broadly aligned with the current plan:

- Food Safety Forums (2) in December 2017 and June 2018
- Nutrition Forum in February 2018
- Health, Welfare and Biosecurity Forum in May 2018

The focus of the forums was to reshape the approach in development of the strategy to reflect rapidly changing industry needs, clarifying future directions and capturing the new structure of support that was implemented in 2017.

All levy payers were invited to each forum and more than 90% of Australian chicken meat production was represented at, or contributed directly to, each of the forums. Each forum was designed on a key industry topic and identified gaps resulting from the current plan. Forum participants identified opportunities based on future industry needs and capture strategies for future RD&E plans.

Outcomes from consultation

AgriFutures Australia is committed to achieving significant benefits to industry within our available resources, through the implementation of targeted and high-impact RD&E projects.

The consultation process highlighted several issues that the chicken meat industry considers roadblocks to growth and development. Of these impediments, those that can be addressed with targeted RD&E have shaped the AgriFutures™ Chicken Meat Program’s investment priorities for the next three years. Whilst not every problem raised can be addressed, these priorities aim to achieve high-impact, far-reaching benefits to the chicken meat industry.

Annually, it is expected that investment will be made in a combination of short, medium and long-term priorities, with medium and long-term priorities being those that are considered to take more time to achieve than short-term priorities. Further detail on each priority listed in this plan will be provided as part of its listing in the open calls for proposals.
Strategic approach to development of the AgriFutures™ Chicken Meat Program RD&E Plan

Consultation with industry stakeholders during the forums and workshops resulted in the refinement of priorities and objectives. The strategy for the AgriFutures™ Chicken Meat Program is depicted in Figure 1 which has been structured to capture Program objectives to meet Program priorities and the delivery strategies to produce outputs and outcomes.

The priorities and objectives have been captured as either 'internal' or 'external'. 'Internal' relates specifically to the internal AgriFutures operational priorities and objectives. ‘External’ refers to those that relate to the research providers. The internal objectives and priorities are essential to ensuring the external priorities and objectives are achieved.

The ‘external’ objectives form the basis for the AgriFutures™ Chicken Meat Program RD&E Plan 2019-2022 and are based on the continuum of chicken meat production: ‘The Chicken’, ‘The Food’, ‘The Environment’ and ‘The Consumer’. Objectives are supported by a KPI which forms the basis of annual stakeholder surveys. The delivery strategies outline the flow of responsibilities and how engagement with various stakeholders is structured.

The external objectives have been categorised as either ‘protecting industry value’ or ‘enhancing industry performance’ to capture the aligned but separate priorities for the chicken meat industry. This captures the sentiment of capitalising on past improvements in production progress and in the future, focussing on enhancement of these production systems.
Figure 1 Strategic plan elements AgriFutures™ Chicken Meat Program RD&E
**Definitions**

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objective RD&amp;E Plan</td>
<td>The long-term industry outcomes the AgriFutures™ Chicken Meat Program will contribute to through the 2019-2022 RD&amp;E Plan.</td>
</tr>
<tr>
<td>Key focus area</td>
<td>The priority areas that the AgriFutures™ Chicken Meat Program will invest in to achieve its objectives.</td>
</tr>
<tr>
<td>Enabling activities</td>
<td>The areas of action that will underpin and support the delivery of the AgriFutures™ Chicken Meat Program objectives.</td>
</tr>
<tr>
<td>Performance indicators</td>
<td>A measurable value that demonstrates how effectively the AgriFutures™ Chicken Meat Program is achieving the objectives.</td>
</tr>
</tbody>
</table>
Objective 1: Improving Food Safety of Australian Chicken Meat

Budget 15%

Improving the management of food safety risks directly relates to the viability of the industry and ultimately protects industry value. Delivering safe food to Australian consumers will include ensuring that effective industry pathogen intervention systems are informed by up-to-date research findings. One focus is on reducing key pathogens before chickens enter the plant and during processing.

Success from this objective is that the Australian public retains its confidence in the safety of chicken meat and consumption grows in line with ABARES forecasts. Chicken is the most consumed meat in Australia and growth in the consumption is projected to continue. Figure 2 in Appendix A illustrates current chicken meat consumption compared to beef, pork and lamb (ACMF 2019).

Key focus areas

To reduce the chicken meat industry’s contribution to human foodborne illness, the Program will focus RD&E investments on:

- Increasing knowledge of managing food safety risks
- Reducing food pathogens before and during processing
- Providing food safety guidance for the industry
- Measuring and reporting food safety risks
- Continuous improvement of industry’s contribution to the National Food Borne Illness Reduction Strategy.

Performance indicators

- Monitor key pathogen levels in chicken meat every three years.
- Disseminating industry guideline to the six key levy payers in appropriate format.
- Forum on Food Safety held annually

Impact and Consequences

The Australian public will retain its confidence in the safety of chicken meat and consumption will grow in line with ABARES forecasts.
Objective 2: Develop and implement measures to improve industry’s impact on the environment

Budget 15%

Environmental issues need to be addressed and managed so that the Australian chicken meat industry receives both community and planning support which are essential to increase production to meet expected growth in consumer demand for chicken meat. This objective relates to management of both the internal shed environment and the external environment (including the range systems where chickens have access to an outdoor area). Key environmental issues include odour, litter and resource management and waste disposal. Success from this objective is that environment impacts will be minimised, and the industry will have appropriate access to resources (including land) and support for expansion, allowing it to meet growth forecasts. Any potential negative impacts of the internal shed environment on the chicken is removed or minimised.

Key focus areas

To reduce the chicken meat industry’s impact on the environment the Program will focus RD&E investments on:

- Determining options for reducing environmental impacts
- Improving management of the internal shed environment
- Improving management of chicken production systems
- Developing and improving options to manage litter
- Develop options to manage limited natural resources
- Sustainable production including waste reduction and renewable energy.

Performance indicators

- Disseminating industry guideline to the six key levy payers in appropriate format
- Environment Forum with key levy payers held annually.

Impact and Consequences

Environment impacts will be minimised and the industry will have appropriate access to land and support for expansion, allowing it to meet growth forecasts, and any potential negative impacts of the internal shed environment on the chicken is removed and/or minimised.
Objective 3: Improve chicken meat production through the whole supply chain

Budget 66%

This objective focuses on improving the productivity and efficiency of chicken meat production through the whole supply chain, by focussing on advancements in feed use efficiency, nutrition, chicken health and welfare, and minimisation of biosecurity risks. Figure 1 in Appendix B illustrates that current production of chicken within Australia (Number of and Tonnage of Meat) Figures 3 in Appendix B indicates current Feed Conversion Ratio (ACMF 2019). Addressing this objective will add value to imported meat chicken genetics and is a proven driver of Australian chicken meat industry productivity.

Improvements in breeding and hatching have resulted in chicks spending an increased proportion of its life in the egg. While breed traits cannot be directly influenced by the Australian industry, opportunities for improving the management of breeder hens and hatching chicks in an Australian context do exist within a limited scope.

Success for this objective is that chicken meat companies improve key drivers of on-farm productivity and efficiency such as reduced mortality, improved Feed Conversion Ratio (FCR) (beyond that attributable to genetics), improved cost effectiveness of feed formulation, or energy utilisation / kg of live bird produced as well as add value to imported meat chicken genetics which is a proven driver of Australian chicken meat industry productivity. The chicken meat industry can target optimisation in management of breeding and hatching chickens under Australian conditions. The outcome of improved Australian systems would then reduce the risks associated with importation of genetics.

Key focus areas

To improve chicken meat production the Program will focus RD&E investments on:

- Invest in more automation (initiatives for innovative ways to improve efficiencies)
- Improving nutritional management and feed use efficiency
- Improving biosecurity practices within the supply chain
- Enhancing chicken welfare and handling methods
- Management strategies for chicken health
- Improve the supply chain security by investment in feedstocks, genetics and logistics.

Performance indicators

- Disseminating project information to six key levy payers in an appropriate format
- Chicken meat production forum held annually.
Impact and Consequences

The chicken industry is able to optimally manage breeding and hatching under Australian conditions and the risks associated with importation of genetics is minimised. Additionally, per capita consumption of Australian chicken meat will continue in line with ABARES forecasts and chicken will retain its status as the most popular and best value source of animal protein available to Australian consumers, who retain confidence in the ability of the industry to grow chickens sustainably and to a high standard of welfare.

Objective 4: Improved ability to meet consumer needs

Budget 4%

The focus of this objective is on broader consumer trends, acknowledging the necessity for individual companies to undertake tailored market assessments. The aim is to complete research to improve understanding of how the industry will need to adapt to future market demands and the social science influences on the consumption of chicken meat by Australians as well as domestic and international market opportunities.

Success from this objective is that Australian chicken meat industry participants have a strong understanding of Australian consumer trends relating to the consumption of chicken meat and opportunities for accessing new markets are capitalised.

Key focus areas

To improve the chicken meat industry’s ability to meet consumer needs the Program will focus RD&E investments on:

- Better understanding consumer trends and market opportunities.
- Develop the industry value proposition.

Performance indicators

- Disseminating project information to six key levy payers.

Impact and Consequences

The Australian chicken meat industry participants have a high understanding of Australian consumer trends relating to the consumption of chicken meat and opportunities for accessing new markets are capitalised.
Enabling Activity 1: Provide relevant training and capacity building opportunities

This enabling activity supports achievement of the Program’s objectives through investment in leadership, capacity building and skills development programs. Human capacity to drive improvements in competitiveness through the adoption of R&D outcomes and innovation is just as important as the research itself.

Key focus areas

To provide relevant training and capacity building opportunities the Program will focus RD&E investments on:

- Ensuring ease of industry access for R&D outputs
- Scoping, developing and updating training materials
- Attracting capable people into industry careers
- Implementing industry staff training priorities
- Improving capacity of research providers
- Develop quality stakeholder relationships within Australia and internationally.

Performance indicators

- High priority researcher and early career scientists supported by scholarships
- Delivery of education and up-skilling of industry participants
- R&D outputs managed for ease of industry access
- Current researchers attending industry forums.

Measures

- Relevant outcomes from R&D activities inform the development of the training program
- Develop database of key stakeholder relationships with international stakeholders.
Enabling Activity 2: Levy investment delivers value

AgriFutures Australia is committed to achieving significant benefits to industry within its available resources, through the implementation of targeted and high-impact RD&E projects. This objective seeks to ensure that chicken meat industry participants are confident that their levy investment is delivering value.

- There are four internal program priorities to deliver on this objective, namely:
  - Quality stakeholder engagement – trust built and maintained with stakeholders
  - Quality RD&E providers - trust built and maintained with the RD&E provider community
  - Attracting co-investment through the RD&E Program
  - Develop quality key stakeholder relations within Australian and Internationally.

Key focus areas

- Attracting co-investment and collaboration across stakeholders through the RD&E program
- Quality stakeholder engagement
- Quality RD&E providers.

Performance indicators

- Relevant outcomes from R&D activities and outputs are used to inform the development of the training program within 12 months of the work being published and training being delivered.
- Develop database of key stakeholder relationships including international stakeholders, with at least one expert identified within each of the objective areas
- Co-investment investigated on relevant projects.

Measures

- Prescriptive model to target each of the objectives developed within 36 months for dissemination of information to key stakeholders
- 85% AOP planned investments made.
Implementation of the RD&E Plan (2019-2022)

Role of the AgriFutures Advisory Panel

The AgriFutures™ Chicken Meat Program’s RD&E project investments are guided by the Chicken Meat Advisory Panel. The Panel’s role is to facilitate information sharing between industry stakeholders and AgriFutures to ensure the AgriFutures™ Chicken Meat Program’s RD&E is relevant and meets end-user needs.

Key tasks of the panel are:

1. Advising on the industry requirements for research and development through the development and monitoring of RD&E Plans
2. Advising on proposals for RD&E investment in accordance with the objectives and strategies of industry specific RD&E Plans
3. Monitoring, reviewing and advising on research support for the relevant industry
4. Advising on, and assisting in, the dissemination, adoption and commercialisation of the results of RD&E activities.

Participation in the Advisory Panel as a Member or as Chair is voluntary and a skills based selection criteria applies to all appointments. The term of panel appointment is three years that supports the implementation of the RD&E Plan. Unless special circumstances are apparent and agreed by the AgriFutures Managing Director, the members of Industry Advisory Panels are not members of the executive of their industry associations.

Financial Resources

The Chicken Meat RD&E Program is supported by a statutory levy on meat chickens hatched. Industry levies are matched by the Australian Government at up to 0.5% of GVP. Meat chickens that are hatched in an Australian hatchery attract the meat chicken levy. The proprietor of the hatchery where the meat chickens are hatched is responsible to pay the levy.

It is expected that the industry will commit a total of $4,372,887 in levies over the life of this RD&E Plan (2019-20 to 2021-22). Income from other sources, including royalties and interest, is forecast to contribute just under $600,000 dollars towards Program income. Australian Government contributions to the Program’s investments are expected to total $8,225,000 over the period. There is expected to be a substantial but variable increase in cost-sharing activities and priorities that align with other industries and organisations (Table 2).

In the financial year 2018/19 the AgriFutures™ Chicken Meat Program had a total of 52 projects under contract. Some of these projects have budget commitments extending to the financial year 2021-2022. Program commitments to cross-sectoral research issues are expected to represent a minimum of 5% of Program RD&E investment over the life of the Plan. The primary cross-sectoral issues that the Program will address are animal welfare, antimicrobial stewardship, health and biosecurity, resource use efficiency, and human capacity building in the rural sector and supporting the RD&E community. These cross-sector issues typically engage with other organisations such as Australian Eggs, Australian Pork Limited, Poultry Hub Australia, State Government, Australian Government and lead research organisations.
Table 2. Annual budget forecast Chicken Meat RD&E Plan 2019-22

<table>
<thead>
<tr>
<th></th>
<th>2019-20</th>
<th>2020-21</th>
<th>2021-22</th>
<th>Three-year TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opening balance</td>
<td>2,052,874</td>
<td>2,060,198</td>
<td>2,131,459</td>
<td></td>
</tr>
<tr>
<td><strong>INCOME</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Levies</td>
<td>1,421,788</td>
<td>1,457,333</td>
<td>1,493,766</td>
<td>4,373,887</td>
</tr>
<tr>
<td>Levy penalties</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commonwealth contribution</td>
<td>2,151,000</td>
<td>2,182,000</td>
<td>2,182,000</td>
<td>6,515,000</td>
</tr>
<tr>
<td>Commonwealth appropriation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>External Contributions</td>
<td>570,000</td>
<td>570,000</td>
<td>570,000</td>
<td>1,710,000</td>
</tr>
<tr>
<td>Interest</td>
<td>85,000</td>
<td>87,788</td>
<td>87,788</td>
<td>260,576</td>
</tr>
<tr>
<td>Project Refunds</td>
<td>3,000</td>
<td>3,000</td>
<td>3,000</td>
<td>9,000</td>
</tr>
<tr>
<td>Royalties</td>
<td>110,000</td>
<td>110,000</td>
<td>110,000</td>
<td>330,000</td>
</tr>
<tr>
<td><strong>Total revenue</strong></td>
<td>4,340,788</td>
<td>4,410,121</td>
<td>4,446,554</td>
<td>13,197,463</td>
</tr>
<tr>
<td><strong>EXPENDITURE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research</td>
<td>4,000,000</td>
<td>4,000,000</td>
<td>4,000,000</td>
<td>12,000,000</td>
</tr>
<tr>
<td>Panel expenses</td>
<td>50,000</td>
<td>50,000</td>
<td>50,000</td>
<td>150,000</td>
</tr>
<tr>
<td>Program management fees</td>
<td>214,614</td>
<td>216,095</td>
<td>206,141</td>
<td>636,850</td>
</tr>
<tr>
<td>Levy Collection Costs</td>
<td>17,000</td>
<td>17,850</td>
<td>18,742</td>
<td>53,592</td>
</tr>
<tr>
<td>Other expenditure</td>
<td>51,850</td>
<td>54,915</td>
<td>57,661</td>
<td>164,426</td>
</tr>
<tr>
<td><strong>Total expenditure</strong></td>
<td>4,333,464</td>
<td>4,338,860</td>
<td>4,332,544</td>
<td>13,004,868</td>
</tr>
<tr>
<td>Surplus/Deficit</td>
<td>7,324</td>
<td>71,261</td>
<td>114,010</td>
<td></td>
</tr>
<tr>
<td>Equity (cash reserves)</td>
<td>2,060,198</td>
<td>2,131,459</td>
<td>2,245,469</td>
<td></td>
</tr>
<tr>
<td>Equity ratio (equity vs expenditure)</td>
<td>58%</td>
<td>61%</td>
<td>58%</td>
<td></td>
</tr>
</tbody>
</table>

The investment in the extension component for each RD&E project investment is captured as part of a total allocation for each objective (Figure 2). Investments in other parts of extension for the Program (e.g. workshops, forums, training materials) are not captured in this plan.
Figure 2 Budget distribution by objective AgriFutures™ Chicken Meat Program RDE 2019-2022

Budget distribution AgriFutures™
Chicken Meat Program RD&E Strategy
2019-2022

- Objective 1 The Food: 66%
- Objective 2 The Chicken: 4%
- Objective 3 The Environment: 15%
- Objective 4 The Consumer: 15%
References


Appendix 1: Source materials

Chicken Production

Notes: These statistics are extracted from the ABARES publication “Australian Commodities, March Quarter 2018” and earlier versions of this publication.

Z = ABARES projection

Consumption

Notes: These statistics are extracted from the ABARES publication “Australian Commodities, March Quarter 2018” and earlier versions of this publication.

f = ABARES forecast
Efficiency of Chicken Production

Notes: The data in the above graph are ACMF estimates of industry-wide Converted FCR (CFCR), which is FCR (kg feed/kg liveweight), normalised for a standard chicken weight of 2.6kg.

References: Australian Chicken Meat Federation, 2019, Australian Industry Facts and Figures
Chicken Meat Program
RD&E Plan 2019-22

by AgriFutures™ Chicken Meat Advisory Panel, Georgina Townsend, Michael Beer, Kylie Hewson and Chris Murphy
December 2019

AgriFutures Australia Publication No. 19-010
ISSN 1440-6845

AgriFutures Australia

Building 007
Tooma Way
Charles Sturt University
Locked Bag 588
Wagga Wagga NSW 2650

02 6923 6900
info@agrifutures.com.au

@AgriFuturesAU
agrifutures.com.au

AgriFutures Australia is the trading name for Rural Industries Research & Development Corporation. AgriFutures is a trade mark owned by Rural Industries Research & Development Corporation.