

The Poultry CRC and the RIRDC – Current Research Topics And Their Objectives

P.J. Blackall

Research Manager, Poultry CRC and Research Scientist, Agri-Science Queensland
Animal Research Institute, Yeerongpilly, Queensland 4105, Australia

Introduction

This paper seeks to set out the broad focus of the two organisations associated with the funding of poultry research in Australia. The focus of the paper is to set out the general features of the research programs of the two bodies – the Poultry CRC and the Chicken Meat program within the Rural Industries Research and Development Corporation (RIRDC)

The CRC

The new Poultry CRC officially came into life on January 1st 2010. The CRC has three integrated programs of research. Program 1 is entitled Health and Welfare, Program 2 is entitled Nutrition and Environment while Program 3 is entitled Safe and Quality Food Production. At the time of writing, the formal decisions on which particular sub-projects (the CRC equivalent of an RIRDC Project) will be funded have not been made. However, the formal documentation for the CRC does provide broad outlines of the outputs expected from the three Programs. These outputs include:-

Program 1

- Novel vaccines for significant diseases
- Novel diagnostic tests
- Methods for sex determination in poultry
- Bacterial and viral vectors tested for delivery of NetB vaccine
- Novel anti-viral and anti-parasitic therapeutics
- New evidence-based welfare methods

Program 2

- A set of nutritional tools to maintain good gut health in poultry
- New feed formulations based on net energy of common Australian feed ingredients
- Commercialisation of odour and greenhouse gas (GHG) sensing systems and mitigation processes

Program 3

- Rapid detection methods for *Campylobacter* in poultry
- Management options that allow industry to adopt targeted, operation specific food safety programs to reduce *Campylobacter* levels in meat chickens
- Improvements in egg quality and safety

While no longer a separate program, education is a strong theme within the CRC. There are plans for an active post-graduate program. As well, direct industry associated education activities (VET, industry placements, internships) will have a high priority.

The RIRDC

The RIRDC has, at the time of writing, a total of 38 projects that are listed as current. The projects are at varying stages of the project cycle – from just commencing to awaiting approval of the final report. An overview of the broad areas of activities of these projects is as follows:-

Broad Area	Project Topics
Conference Sponsorship	<ul style="list-style-type: none">• AI
Conference Travel (Four projects)	<ul style="list-style-type: none">• <i>Campylobacter</i>,• PIX
Infectious Diseases (Eight Projects)	<ul style="list-style-type: none">• <i>Chlamydomphila</i>• <i>Pasteurella multocida</i>• AI• IB• IBD• ILT• MD
Food Safety (Eight Projects)	<ul style="list-style-type: none">• <i>Campylobacter</i> - abattoir surveys/workshops, effect of litter re-use, phages to control levels in live birds, rapid detection, typing, vaccines• <i>Salmonella</i> - abattoir surveys/workshops, effect of litter re-use, typing
Environment (Eight Projects)	<ul style="list-style-type: none">• Litter – broad-acre usage; biochar workshop; nutrient run-off, alternative fertiliser• Lifecycle Assessment• Mass Mortality Composting• Waste into Energy• Artificial Olfaction
Nutrition (Four projects)	<ul style="list-style-type: none">• Heat stress• Assessing available energy in grains• Steam pelleting of sorghum• New triticale lines
Others (Six projects)	<ul style="list-style-type: none">• Workboot Series• Biosecurity/Food Safety DVDs• Darkling Beetles• Nutrient composition of chickens• Human resources audits• Program Evaluation

Roles of RIRDC and CRC

The Australian poultry industry is in a unique position in the world. The industry has available two significant mechanisms of industry focussed, government supported research programs. These two programs have significant overlap in terms of research service providers as well as those making the decisions about which particular topics should be funded. This results in a co-ordinated research programs with each funding arm being aware

of the activities and focus of the other body. A good example of the co-ordination is in the food safety area where the CRC and the RIRDC have agreed that the CRC program should focus attention to on-farm interventions as the RIRDC structure is more suited for in-plant interventions.

The CRC has a mandate to work as a “family” organisation. All sub-projects are led from within the “family” and all work – where possible – is undertaken within the family. The CRC has a mandate to undertake a percentage of blue sky research (with the recognition of the NetB toxin of *Clostridium perfringens* being an outstanding example of blue sky research that has significant practical applications. A similar breakthrough example is the work of the CRC on sex determination – a project which has major economic and welfare implications. The blue sky research of the CRC is balanced by practical industry focussed work – with the suite of rapid molecular tests available from the University of Melbourne being a good example of this.

The RIRDC has a broader mandate and provides the industry with access to all interested, capable and relevant research organisations. The strong industry linkages of the RIRDC are well suited to those research program where practical, applied research with a short horizon is required. The RIRDC has been very active recently in education and industry focussed workshops. The Workboot Book on the meat chicken industry (also associated with the CRC) has proven a very effective communication tool (it is shortly expected to reach the New York Times best seller list!!). A particularly successful recent activity has been a series of workshops focussed on interventions in the processing plants to reduce levels of *Salmonella* and *Campylobacter*.

Overall, the two research mechanisms that support the chicken meat industry are quite distinct but – at the same time – quite co-ordinated. The bodies differ in their focus and their mandates. The Australian poultry industry will gain substantial benefits from both organisations over the next five years.