ALMTech News

No. 2

Meat for thought

In a short time much can happen in Australian meat production. The ALMTech Project will continue to focus on key objectives, but also needs to respond dynamically to this changing environment. Our process of Annual Review hard-wires this responsiveness, with a new operational plan developed each year that builds upon existing progress and captures new opportunities, ensuring that the project remains dynamic.

Recent plans announced by MLA to install DEXA technology across the industry are exciting for this Project, with our existing research plan central to the successful roll-out of these devices. This research includes further development and calibration of the DEXA system for lamb and beef, and also a system for calibrating and auditing these devices on a national scale. In addition to this, industry will require significant support to make use of this new measurement and the resulting data flow. Future research in this area will be refined at the Review meeting next year.

Around 15 per cent of the total Project funding is designated to research specifically involving DEXA technology. The remaining funding has been assigned to lamb and beef algorithm refinement, eating quality research and live animal measures, data base alignment, and importantly to promote Producer-Processor feedback.

December will bring several firsts for the Project. The first PRIPCC (Progress Review and Intellectual Property and Commercialisation Committee) meeting, chaired by Alan Bell will take place. This independent committee will review and provide input into the Project, particularly with regard to operations, IP and commercialisation. It will report directly to the Steering Committee.

The first Steering Committee meeting will take place soon after the PRIPCC. Richard Apps, the Project manager from MLA, will be the Committee Chair. This committee is responsible for providing management directions, monitoring and supporting the Principal Investigator and for making timely decisions. As there is significant public funding in the Project, the Steering Committee is responsible for ensuring that public benefits are delivered to cattle, sheep and pig producers.

The first Milestone Report is also due in December. This report will focus on Project initiation and initial planning and management.

The ALMTech Project is not a typical research project with a static plan. It is important that we ensure that the Project outcomes and outputs are relevant in a technically changing world. As always any comments are welcome.

Graham Gardner

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This project is supported by funding from the Australian Government Department of Agriculture and Water Resources as part of its Rural R&D for Profit programme in partnership with Research and Development Corporations, Commercial Companies, State Departments and Universities.

Program E: Program Executive

Program leader: Graham Gardner

The Progress Review and Intellectual Property and Commercialisation Committee (PRIPCC) currently has the following members: Alan Bell (Chair), Darryl D'Souza, Brad Mathers, John Thompson and George Waldthausen

The Steering Committee (SC) currently has the following members: Richard Apps (Chair), Heather Channon, Graham Gardner, Paul Gibson, Mark Inglis, Stella Lee, Tom Maguire and Jo Pluske.

Garry Griffith has agreed to conduct the Project evaluation. He will assess the expected impacts generated by the outcomes and outputs of the Project to determine their contribution to the beef, lamb, and pork industries. This will involve ex ante and ex post analyses.

P1: Development of Lean Meat Yield technology

Program leader: Graham Gardner

An experiment involving 3-D camera, DEXA and CT scanning at Brooklyn has been completed. The team did a spectacular job at sourcing bodies across a diverse range in weight and fatness which will provide an excellent resource from which to construct the first DEXA body-composition equation in beef. A report should be complete by the end of 2016.

This report will provide important background information for the beef system. In addition, it will provide additional support for the aforementioned MLA announcement regarding installing DEXA technology in up to 90 AUS-MEAT registered slaughter facilities.

P2: Development of eating quality (EQ) measurement technology

Program leaders: Dave Pethick & Pete McGilchrist

Predictions for intramuscular fat percentage in beef loin scores and consumer meat quality scores have been made. The results showed that Meat Image Japan's (MIJ) camera technology could improve the accuracy of marbling prediction across the Australian beef industry, reducing the impact of human graders.

The MIJ camera prediction of Consumer Meat Quality Score (CMQ4) also produced no loss in accuracy when compared to the current MSA grading model, with R^2= 0.703 and 0.683 respectively.

MIJ marbling had a significant impact ($P<0.001$) on the prediction of CMQ4 score. Likewise the coarseness and fineness of marbling, as well as the red, green and blue of the lean had a significant impact ($P<0.01$) on the prediction of CMQ4 score.

The inclusion of these terms in the model reduced the impact of traditional MSA carcass traits such as hump height and rib fat. This means that variation in eating quality has the potential to be explained by various traits that can be measured using technology.

P3: Development of robotic technology

Program leader: Christian Ruberg

Airline baggage CT has the potential to be used for generating carcase health data, and to facilitate automation in the meat processing industry.

Rapiscan Systems is owned by OSI Systems and provides high-resolution CT imaging. It has the potential to work in processing plants particularly on 3D carcase modelling, for precise robotic cutting lines, and 3D offal inspection.

An instrument will be sought for this project and if it can be procured, an evaluation process will begin in 2017.

P4: Industry Databases

Program leader: Daniel Brown

One of the key outcomes for this project will be to deliver enhanced phenotypes for driving more rapid genetic gain across key production traits focused on lean meat yield and eating quality.

Proposed research in this Project will be compatible with relevant work being done both in the Northern and Southern zones. Hence a sound understanding of the resource animals that could be pertinent for this Project will be documented in a brief report. This report will then provide additional direction for best practice for producing and storing Project data.

P5: Data Decision Systems

Program leader: Wayne Pitchford

Decision making tools that will improve the beef, lamb and pork markets, within the context of this project, will be developed in this Project. An inventory of tools already in this space will be completed as the first step.

To fill in the gaps specific tools will be developed in this program. It is expected that there may be a need for tools pertaining to quantity of particular products supplied to the market and determinants of this supply, benchmarking boning room yield, product optimisation, quantity of particular products demanded over time and determinants of this demand, and risk associated with supply and demand.

Collaboration with industry is fundamental to this Program. A position paper will be written to ensure that there is a healthy alliance between this Project and all relevant parties.

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