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LIVESTOCK EXPORT R&D PROGRAM STAKEHOLDER REPORT

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This report describes the current status of existing and new projects being undertaken by the Livestock Export R&D Program. Further information can be sought from David Beatty, Live Export R&D Coordinator on (02) 9463 9385 or dbeatty@mla.com.au

Highlights

Highlights of the Livestock Export R&D program since the July Stakeholder Report include:

- Completed and approved final reports
 - W.LIV.0261 Best practice design of crates for livestock export
 - W.LIV.0251 Quantitative assessment of cattle behaviour on ship
 - W.LIV.0130 Preparation of goats for export
 - B.LIV.0249 HotStuff version 3.0
 - W.LIV.0371 Independent review of cattle restraining boxes
 - B.LIV.0126 Effluent spillage and animal welfare during road transport
 - W.LIV.0359 Improved management packages for tropical and temperate dairy production technology
- Dairy management workshop held in Keningau, Malaysia
- New R&D projects
 - W.LIV.0383 Review of stunning and Halal slaughter
 - W.LIV.0378 Managing heat stress in Middle East feedlots
 - W.LIV.0270 Annual mortality report
 - W.LIV.0275 Investigating the incidence of scabby mouth in sheep to Middle East

PROJECT	DESCRIPTION	STATUS	CONTRACTOR
B.LIV.0126 Effluent Spillage and Animal Welfare during Transport	<ul style="list-style-type: none"> Summarise current knowledge and opinion from stakeholders regarding stock effluent spillage; Consider livestock limb protrusion from livestock transport vehicles (road & rail); and Provide a recommended way forward on these issues. 	Final report approved	FSA Consulting
W.LIV.0130 Preparing goats for export	<ul style="list-style-type: none"> Review current practices and performance for live goat export over the past five years against the Standards and previous work and recommend best practice guidelines for implementation by industry. 	Final report approved	SED Consulting
W.LIV.0132 Investigating the property effect on salmonella / inanition	<p>This project will identify the reasons for variation in the mortality rates between farm groups within the livestock export process. This will be achieved in 2 stages by:</p> <ul style="list-style-type: none"> Liaising with relevant experts with experience in this area (including exporters, producers and Government officers) and reviewing existing literature to document current knowledge of the causes of mortality in sheep during livestock export that are influenced by on-farm factors. Developing a scientifically justifiable methodology and robust implementation plan to address the current gaps in knowledge regarding the reasons for variation in the number of mortalities between farm groups. This methodology will be presented to the project advisory committee for acceptance and agreement to proceed. 	Revised final report received and awaiting approval	AusVet Animal Health Services
W.LIV.0361 Ovine Pink Eye	<ul style="list-style-type: none"> Establish the incidence and risk of sheep contracting ovine pink eye in pre embarkation feedlots. Establish a practical grading system to reliably grade the severity of ovine pink eye. Isolate pathogens which may have been responsible for causing the infection. Establish a best practice treatment protocol for ovine pink eye. 	Project progressing	Murdoch University

PROJECT	DESCRIPTION	STATUS	CONTRACTOR
<p>W.LIV.0133 Salmonella vaccine development</p>	<p>This project will determine whether the development of a salmonella vaccine for use by the Australian sheep industry can be justified from an economic perspective, as well as assessing the non-cash benefits. This will be achieved by referring to previous relevant work undertaken by the livestock export program and:</p> <ul style="list-style-type: none"> • Quantifying the cost / benefits of an ovine salmonella vaccine, including: <ol style="list-style-type: none"> 1. Reviewing the methods and costs associated with the production (including registration) of salmonella vaccines, including (but not limited to) the production of DNA adenine methylase live attenuated vaccines. 2. Assessing the potential market for a salmonella vaccine within the Australian sheep industry, including all potential users of such a vaccine. • Consulting with relevant Government and industry representative to qualitatively assess what non-cash benefits might be derived from salmonella vaccine development. 	<p>Revised final report received and awaiting approval</p>	<p>AusVet Animal Health Services</p>
<p>W.LIV.0383 Review of stunning and Halal slaughter</p>	<p>This Project will provide a practical summary of the current available methods of stunning that are used prior to slaughter as well as the currently practised methods of Halal slaughter in Islamic countries. The objectives of the study are:</p> <ul style="list-style-type: none"> • Describe the currently available methods of stunning prior to slaughter (according to the current OIE guidelines and the relevant Australian legislation) • Describe methods of Halal slaughter without prior stunning • Assess the impacts of slaughter with or without stunning from an animal welfare science point of view • Give an overview of the religious (Islamic) reasons for un-stunned slaughter 	<p>Project commenced</p>	<p>Helmut Pleiter</p>

PROJECT	DESCRIPTION	STATUS	CONTRACTOR
<p>W.LIV.0137</p> <p>Development of salmonella / inanition treatment strategies for the live export industry</p>	<p>This project will develop evidence based, best practice management strategies for the treatment of individual and groups of sheep suffering from inanition and salmonellosis. It will be undertaken in six phases:</p> <ol style="list-style-type: none"> 1. Review relevant literature relating to the treatment of salmonella and inanition. 2. Review the content and structure of other guidelines produced for the industry and discuss with MLA how the best practice guidelines produced in this project will be integrated into the overall best practice industry guidelines 3. Consult with relevant veterinarians, stockmen and other industry participants to identify the treatment strategies that have been applied to date to address salmonella and inanition. 4. Collate the input from industry in the context of the current state of knowledge derived from the literature review to produce best practice management guidelines. 5. Consult with AQIS regarding the proposed industry recommendations. 6. Prepare the best practice guidelines in the format agreed upon during phase 2 of the project for delivery to the industry. 	<p>Project progressing</p>	<p>University of Sydney</p>
<p>B.LIV.0249</p> <p>Hot Stuff Version III – inclusion of port specific risk into open deck analysis</p>	<ul style="list-style-type: none"> • Develop revised methods for calculating open deck mortality risk estimates based on both historical and real-time sea surface temperatures • Upgrade the HotStuff software to VB.Net • Repair current problems with the existing version of the software including printing problems with some installations, compatibility issues with newer operating systems and access to database files. • Implement the revised methods for risk assessment in the HotStuff model and deliver an updated version and associated manual/support material. • Communicate to industry stakeholders the changes to HotStuff through 3 workshops. 	<p>Final report approved</p>	<p>AECOM Australia Pty Ltd</p>

PROJECT	DESCRIPTION	STATUS	CONTRACTOR
<p>W.LIV.0250 Diagnosis manual</p>	<p>Produce a “Vade Mecum” style booklet that describes the causes, incidence, occurrence, recognition, treatment and prevention of the specific disease conditions known to occur in export livestock. This manual will include:</p> <ul style="list-style-type: none"> • Appropriate linkages to the Livecorp / MLA Best Practice Use of veterinary Drugs Manual; • Include specific and detailed management plans to address salmonella, inanition, heat stress and respiratory disease in export cattle. • Reference to the Livestock Export R&D project B.LIV.0123 Causes of Mortality in Export Sheep, undertaken by Dr John House, University of Sydney. 	<p>Project stalled due to researcher unable to be contacted</p>	<p>Dr Graham Best</p>
<p>W.LIV.0251 Quantitative assessment of cattle behaviours on board live stock ships</p>	<p>To quantify the proportion of time cattle spend performing key behaviours using the video recordings from the B.LIV.0240 “Assessing a method of incorporating jetting in the HS model and its commercial implications” project</p>	<p>Final report approved</p>	<p>Murdoch University</p>
<p>W.LIV.0253 Refining stocking densities</p>	<ul style="list-style-type: none"> • Build on the outcomes of previous research to develop justifiable stocking density standards. • To determine the animal welfare outcomes in cattle and sheep during sea transport at different stocking densities. • For each class of livestock there will be three stocking densities investigated <ol style="list-style-type: none"> 1. current ASEL or the allometric standard (LIVE.233) 2. 10% less than ASEL or allometric standard and 3. 10% greater than ASEL or allometric standard 	<p>Project progressing</p>	<p>CSIRO</p>
<p>W.LIV.0256 Fodder quality and quantity</p>	<ul style="list-style-type: none"> • Review the current requirements for the feeding of livestock during the preparation and export of livestock by ship and recommend improvements to the current requirements. 	<p>Final report received. Consultative committee being formed to assess recommendations from report</p>	<p>EA Systems</p>
<p>W.LIV.0261 Best practice stock crate design for export by air</p>	<ul style="list-style-type: none"> • A set of minimum structural specifications for the manufacture of livestock crates for air freight; • Oversee the construction of the first batch of crates under the new specification. 	<p>Final report approved</p>	<p>EA Systems</p>

PROJECT	DESCRIPTION	STATUS	CONTRACTOR
<p>W.LIV.0138 Emergency Management Plan</p>	<ul style="list-style-type: none"> Review arrangements various shipping companies have in place to deal with high mortalities Review the actions, processes and procedures employed to address actual high mortality incidents in the livestock export and other relevant industries (such as feedlotting) Develop a set of guidelines related to accessing a vessel for the removal of carcasses, including any equipment needed to move and dispose of both sheep and cattle carcasses Liaise with Shipping companies and identify preferred methods to supply and deploy such equipment 	Draft final report received and being reviewed	Shane Blakeley
<p>W.LIV.0252 Investigating cattle morbidity and mortality to the Middle East</p>	<p>This project has been initiated in response to concerns regarding elevated mortalities in some cattle voyages to the Middle East that were attributed to bovine respiratory disease (BRD).</p> <ul style="list-style-type: none"> This project aims to produce valid and credible descriptions of causes of death in cattle exported from Australia to the Middle East and to develop systems that can be implemented by industry to describe causes of death in a sustainable manner. 	Project commenced	AusVet Animal Health Services
<p>W.LIV.0259 Develop extension materials for small holders in destination markets (tropical and temperate beef cattle)</p>	<ul style="list-style-type: none"> Development of support and extension materials relating to the production, husbandry, health and welfare requirements for tropical beef cattle. Extension materials to be developed at two levels, for extension officers and producers. 	Project commenced	QDPI&F
<p>W.LIV.0359 Develop extension materials for small holders in destination markets (temperate and tropical dairy cattle)</p>	<ul style="list-style-type: none"> Development of support and extension materials relating to the production, husbandry, health and welfare requirements for tropical dairy cattle and temperate dairy cattle. Extension materials to be developed at two levels, for extension officers and producers. 	Final report approved	VIC DPI

PROJECT	DESCRIPTION	STATUS	CONTRACTOR
<p>W.LIV.0366, 0367, 0368, 0369, 0372, 0375, 0376</p> <p>SE Asian feedlot training modules</p>	<p>Consultation with feedlot owners in Indonesia has identified the need for the development of a modular training program that addresses the key issues associated with management of a feedlot. Modules for consideration include:</p> <ul style="list-style-type: none"> • Australian delivery and supply chain • Feedlot design • Feedlot induction • Livestock handling • Feedlot management • Feedlot animal health management • Livestock nutrition • Feedlot breeding programs 	<p>Projects progressing</p>	<p>Various</p>
<p>W.LIV.0371</p> <p>Welfare assessment of cattle restraining boxes</p>	<p>There is a need to independently review the capabilities and welfare impacts of the three types of MLA designed cattle restraining boxes. The mark I box has been installed in various abattoirs in SE Asia. The mark II and III restraining boxes are at the design stage. This project will provide a technical review of the design of each of the three restraining boxes and an operational assessment of the mark I restraining box.</p>	<p>Final report approved</p>	<p>Paul Whittington (university of Bristol) / Dr Leisha Hewitt (Murdoch University)</p>
<p>W.LIV.0373</p> <p>Testing of novel Indonesian feedstuffs</p>	<p>This project will establish a service whereby feedlots in Indonesia can send samples of potential new ration ingredients to a lab for analysis.</p>	<p>Project commenced</p>	<p>University of Queensland</p>
<p>W.LIV.0374</p> <p>Technical review and build of mark 3 cattle restraining box</p>	<p>The purpose of this project is to technically review the design of the mark 3 cattle restraining box before undertaking the building of a prototype. Subject to the technical review, approval may be granted to build a prototype of the mark 3 cattle restraining box.</p>	<p>Approval granted to build prototype</p>	<p>Stark Engineering</p>
<p>W.LIV.0131</p> <p>Relationship between pre-delivery factors and post arrival performance for SH cattle</p>	<ul style="list-style-type: none"> • Develop a representative model of the SH cattle trade to SE Asia and identify the key profit drivers within the model. • Identify knowledge gaps and/or constraints that limit the profit potential. • Develop a pilot system that enables the linkages between pre-delivery factors and post delivery performance to be determined. • Provide feedback to the industry in regard to the key factors involved. 	<p>Project progressing</p>	<p>AusVet Animal Health Services</p>

PROJECT	DESCRIPTION	STATUS	CONTRACTOR
<p>W.LIV.0352</p> <p>Undertaking a life cycle assessment for the live export trade</p>	<ul style="list-style-type: none"> • Following a request by industry to quantify the carbon footprint of livestock exports, the Livestock Export R&D Management Committee identified a significant amount of this work has or is being undertaken. • A review of existing work is currently being undertaken as a basis for determining if any further work is required. 	<p>Project progressing</p>	<p>CSIRO</p>

PROJECTS UNDER CONSIDERATION

The following projects are currently being considered for inclusion in the Livestock Export R&D Program:

PROJECT TITLE	DESCRIPTION	STATUS
ON FARM / PRE EXPORT		
<p>W.LIV.0142</p> <p>Backgrounding and feedlotting strategies to address salmonella - inanition</p>	<p>This project will produce a set of best practice guidelines for the pre-embarkation treatment (backgrounding and feedlotting) of sheep that aim to minimise the impact of salmonella / inanition on the Australian sheep export industry. This will be achieved by designing and undertaking a series of experiments that will examine backgrounding strategies that will:</p> <ul style="list-style-type: none"> • Help sheep adjust from a pasture diet to a typical livestock export pelletised diet. • Reduce the stress that sheep experience on feedlot entry. • Feedlotting strategies that help sheep adjust from a pasture diet to a typical livestock export pelletised diet. • Assess the use of additives or other influences in the feedlot that increase uptake and consumption of a pelletised diet. • Assess the impact of time in the feedlot on inanition. • From the results, provide any recommendations regarding changes to the ASEL. 	<p>MLA and LiveCorp board approved. Contract sent to Murdoch for signing</p>
ON BOARD SHIP / AIRPLANE		
<p>W.LIV.0269</p> <p>Upgrade of LATSA software</p>	<p>The live export R&D program produced a software program that could evaluate the generation of heat, moisture and carbon dioxide and compare it to the ventilation capacity of the aircraft.</p> <p>The current version of the Livestock Air Transport Safety Assessment (LATSA) software requires review and upgrades to address further industry requirements</p>	<p>Terms of reference approved by LERDAC and tender process commenced</p>

PROJECT TITLE	DESCRIPTION	STATUS
<p>W.LIV.0270 Live export annual mortality report</p>	<p>The Project will report on the mortalities of sheep, goats and cattle during sea transport for the 2009 calendar year. Credible information and expertise on mortalities during shipping enables the industry, government and opponents of the trade to monitor mortality levels and assists rational consideration of the issues involved. The objectives or the report are:</p> <ol style="list-style-type: none"> 1. Produce a report which summarises the mortality of cattle, sheep and goats for the 2009 calendar year and provides an informed analysis of mortality trends in the livestock export industry. 2. Maintain data and expertise to provide analysis and informed comment. 	<p>Contract sent to DAFWA for signing</p>
POST DISCHARGE		
<p>W.LIV.0378 Managing heat stress in Middle East feedlots</p>	<p>The purpose of this project is to evaluate and quantify best practice management techniques of pen stocking density, water and feed trough availability upon the welfare of Australian livestock in the Middle East and North Africa (MENA) region during summer months. It will also develop a clear list of recommendations for pen densities bases on seasonal variation and the availability of suitable amounts of feed and water trough length.</p>	<p>Contract awarded to Sharon Dundon. Project to commence on signing of contract</p>
CROSS SECTOR		
<p>W.LIV.0275 Investigating incidence of scabby mouth</p>	<p>Anecdotal evidence is suggesting that the incidence of Scabby mouth in exported sheep is reducing. It has been proposed that a comprehensive review into the success of the two scratch scabby mouth vaccination program be undertaken.</p>	<p>Terms of reference approved by LERDAC. Contract being progressed with Dr Michael McCarthy</p>