



# 2024-26 SALRC Producer RD&A Priorities

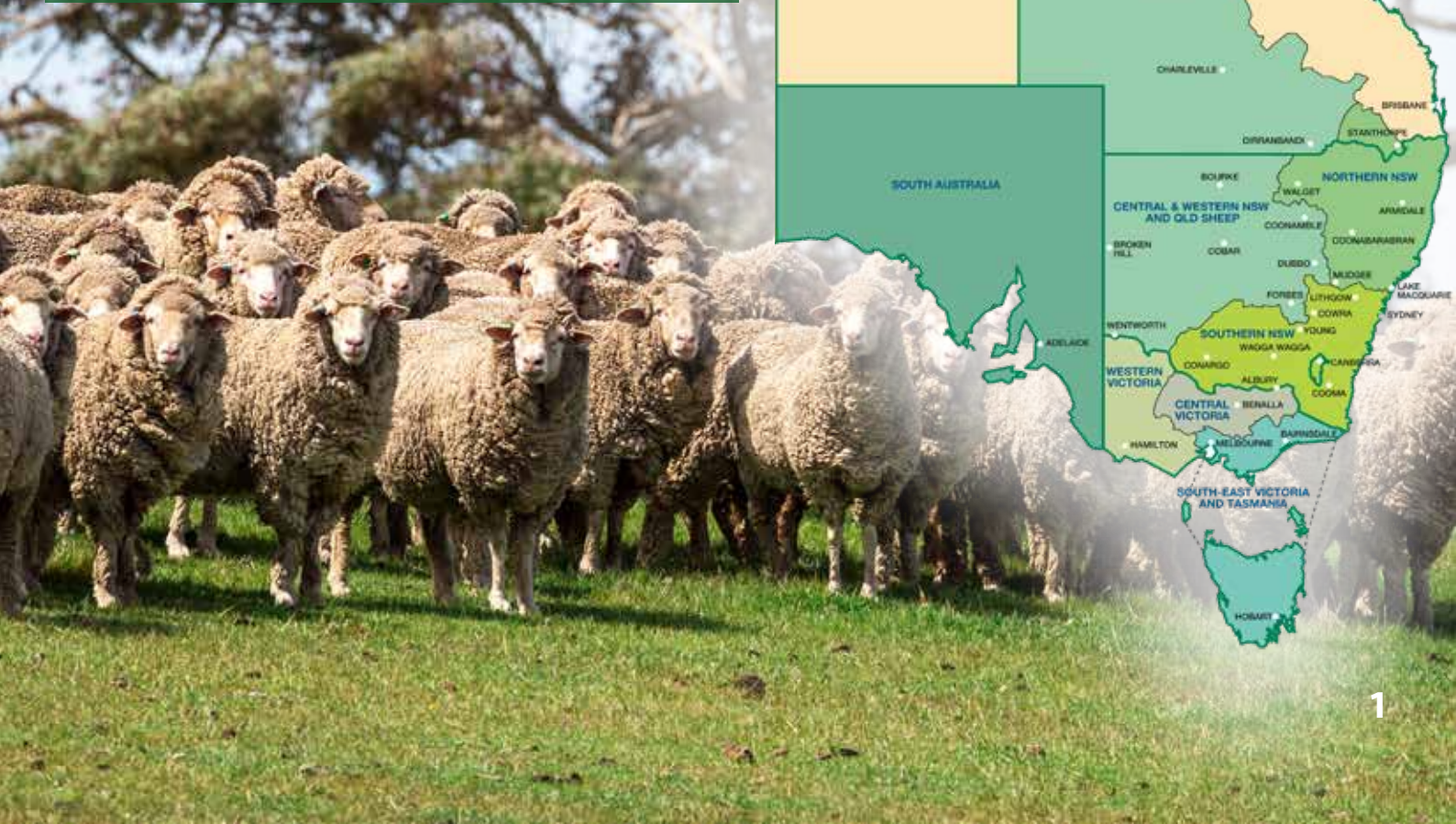


# ABOUT SALRC

SALRC is one of three Australian livestock research councils that provide recommendations on research and development (R&D) and extension and adoption (E&A) initiatives and investments for the benefit of Australian red meat and livestock industries.

SALRC is an independent Incorporated Association with a footprint that covers the area in Queensland where sheep are run and all of South Australia, New South Wales, Victoria, and Tasmania. SALRC members include Meat and Livestock Australia (MLA), all the State Agriculture Departments (within its footprint), Local Land Services (NSW), CSIRO, nine universities, Australian Wool Innovation (AWI) and Animal Health Australia (AHA).

In addition to the member bodies (above) SALRC has seven Regional Committees across four states and the Queensland sheep area, each with a Chair and six livestock producer members. SALRC is led by the SALRC Committee and has an independent Chair. All appointments to these positions are on an open and competitive basis and have limited tenure.



# SALRC RD&A PRIORITIES

Program Area	Rank	Issue / Outcome sought
Animal Wellbeing	1	<a href="#">Develop science-based options for improved prevention, treatment and management of pink eye in sheep and beef cattle.</a>
Animal Wellbeing	2	<a href="#">More effective management of ectoparasites in cattle (tick, buffalo fly, midges, paralysis tick) and sheep (lice, flies), particularly in unmulesed flocks.</a>
Grassfed Beef Productivity	1	<a href="#">Increase the ability of producers to respond to declining feed quantity and quality in pasture through strategic supplementary feeding. Supplementary feeding strategies and methodologies in the rangelands to maximise production and profit from available feed each season:</a> <ul style="list-style-type: none"> <li><a href="#">Minimise carbon intensity per kg beef through improving ADG birth to sale;</a></li> <li><a href="#">Protect natural resources and increase long term drought resilience.</a></li> </ul>
Grassfed Beef Productivity	2	<a href="#">Increased understanding of the impacts on red meat yield and quality, of early life experiences related to feed, health supplementation, pain relief and disease management.</a>
Sheep Productivity	1	<a href="#">Utilising in-paddock technologies to provide real time data and actionable insights to producers, to reduce labour intensity, increase labour efficiency and identify animal productivity improvement.</a>
Sheep Productivity	2	<a href="#">Maximising female sheep efficiency and reproductive success.</a>
Feedbase Production	1	<a href="#">Development of new pasture species and fodder crops to support production, profitability and resilience in response to:</a> <ul style="list-style-type: none"> <li><a href="#">Increasing climate variability</a></li> <li><a href="#">Changing rainfall patterns</a></li> <li><a href="#">Changing demands on environmental impacts (GHG emissions, carbon sequestration, biodiversity, nature protection).</a></li> </ul>
Feedbase Production	2	<a href="#">Optimisation of N fixation in southern feedbases.</a>
Environmental Sustainability	1	<a href="#">Edible hay and silage wraps and string commercially available.</a>
Environmental Sustainability	2	<a href="#">Fodder for the Future - Develop novel delivery mechanisms to decrease methane emissions in grazing systems, with focus on utilisation of drought and flood tolerant plants that inherently reduce methane production.</a>
Other	1	<a href="#">Novel labour saving technologies on farms, including robotics and data collection with mobile phones, drones, security cameras, digital ear tags.</a>
Other	2	<a href="#">Remote management and delivery systems for livestock nutritional supplements and methane reduction/inhibitor supplements.</a>



# ANIMAL WELLBEING PRIORITIES

## Animal Wellbeing Priority # 1

<b>Issue/outcome sought:</b>	Develop science-based options for improved prevention, treatment and management of pink eye in sheep and beef cattle.	
<b>Committee origin:</b>	Southern NSW, Western Vic, South-east Vic and Tas, Central Vic	
	<b>Research and Development Gap</b>	<b>Extension and Adoption Gap</b>
	<ul style="list-style-type: none"> <li>Identify predisposing and causal factors to assess risk of pink eye infection for livestock classes (calves at foot, weaners, yearlings etc; ewe, lambs, weaner lambs etc).</li> <li>An effective, long-acting vaccine that covers all strains (not just 3 bacterial strains).</li> <li>Develop and commercialise a process to make effective farm-specific vaccines from pink-eye infected animals on individual farms.</li> <li>Determine if vitamin AD&amp;E at weaning prevent pinkeye through improved immunity and eye health.</li> </ul>	<p>The adoption gap in preventing, treating, and managing pink eye revolves around the dissemination and uptake of currently available knowledge and effective solutions among stakeholders:</p> <ul style="list-style-type: none"> <li>Development of a clear, concise, and effective communication package that outline best practice management tactics to minimise pink eye. This includes addressing various causal factors such as environmental stress, eye damage, flies, and dust.</li> <li>PDS's and advice from service providers (stock agents, vets, livestock consultants) and producer group networks would assist adoption of knowledge.</li> <li>Develop a suite of resources for Producers that include fact sheets that can be downloaded and disseminated at extension events by extension professionals (vets, advisors), stock agents, rural merchandise stores. Include best practice management options. Include factors such as cost, accessibility, and perceived efficacy of preventative measures are influencing the willingness of stakeholders to adopt new practices.</li> </ul> <p><b>Further comment:</b> An effective preventative solution would be rapidly and widely adopted by producers.</p>

# ANIMAL WELLBEING PRIORITIES

## Animal Wellbeing Priority # 2

<b>Issue/outcome sought:</b>	More effective management of ectoparasites in cattle (tick, buffalo fly, midges, paralysis tick) and sheep (lice, flies), particularly in unmulsed flocks.	
<b>Committee origin:</b>	Northern NSW, Central Vic	
	<b>Research and Development Gap</b>	<b>Extension and Adoption Gap</b>
	<ul style="list-style-type: none"> <li>Engage with agriculture chemical / medical/ pharmaceutical entities to identify new actives and identify integrated use of actives on-farm that meet OH&amp;S, residue and environmental regulations, particularly in management and prevention of flystrike in sheep (i.e. alternatives to CLIK for long-acting control).</li> <li>New technologies that utilise an IPM approach to control of ectoparasites.</li> <li>Identify and develop Biocontrol management as part of an integrated management program.</li> <li>Map emerging endemic parasite movements and incursions.</li> <li>Identify and quantify genomics in sheep and cattle for ectoparasite tolerance.</li> </ul>	<ul style="list-style-type: none"> <li>Develop a farmer and government supported map of current, emerging parasite movements/ incursions movements to be hosted on MLA website and shared across extension sites DPI/ LLS. Initiate options for engagement and extension such as farmer citizen science for reporting parasite presence.</li> <li>Support farmer engagement and adoption with resource links and up to date information on management options and best practice. Ensure MLA/AWI courses such as Lifetime Ewe, Prograze and the suite of EDGE Courses utilise and include latest research findings in course content.</li> <li>Awareness and monitoring of the efficacy of actives on individual farms.</li> <li>Integrated ectoparasite management approaches that are contextualised to specific regions.</li> <li>Communication of results of current and recent PDS's for <a href="#">best practice management of unmulsed flocks</a> through stock agents, vets, livestock consultants and producer group networks.</li> <li>Use producer groups to discuss different management options in the local environment.</li> </ul> <p><b>Further comment:</b> The capability of <a href="#">ParaBoss</a> and the <a href="#">Ag360</a>.</p>

# GRASSFED BEEF PRODUCTIVITY PRIORITIES

## Grassfed Beef Productivity Priority # 1

<b>Issue/outcome sought:</b>	<p>Increase the ability of producers to respond to declining feed quantity and quality in pasture through strategic supplementary feeding. Supplementary feeding strategies and methodologies in the rangelands to maximise production and profit from available feed each season;</p> <ul style="list-style-type: none"> <li>• Minimise carbon intensity per kg beef through improving ADG birth to sale;</li> <li>• Protect natural resources and increase long term drought resilience.</li> </ul>	
<b>Committee origin:</b>	<p>South Australia</p>	
<b>Research and Development Gap</b>		<b>Extension and Adoption Gap</b>
<ul style="list-style-type: none"> <li>• Develop real time (in-paddock) diagnostic test for pastures to assess nutritional value (energy, protein, fibre) as well as quantity.</li> <li>• Real time testing of manure to identify impact of feed supplements on feed use efficiency.</li> <li>• Genetics for improving feed use efficiency and measuring the phenotypic expression.</li> </ul>		<ul style="list-style-type: none"> <li>• Demonstrate to producers a cost benefit analysis of supplement feeding in the rangelands more often than just drought time.</li> <li>• Southern Beef project extended to include a module for rangelands.</li> <li>• Expansion of the Northern Breeding Business Pathways to Practice (NB2) program to southern rangelands.</li> <li>• Use local producer groups to disseminate knowledge about nutrition management.</li> </ul>

# GRASSFED BEEF PRODUCTIVITY PRIORITIES

## Grassfed Beef Productivity Priority # 2

<b>Issue/outcome sought:</b>	Increased understanding of the impacts on red meat yield and quality, of early life experiences related to feed, health supplementation, pain relief and disease management.	
<b>Committee origin:</b>	South-east Vic and Tas, South Australia	
	<b>Research and Development Gap</b>	<b>Extension and Adoption Gap</b>
	<ul style="list-style-type: none"> <li>Quantifying the impacts of a range of management interventions to calves, weaners and yearlings, on KG of meat produced and meat quality eg feed quality, proactive health protocols, vaccination, supplementation.</li> </ul>	<ul style="list-style-type: none"> <li>Findings are condensed and communicated clearly and simply in terms of production gains and cost benefit analysis with communications packages which suit current industry trends related to how farmers access information.</li> <li>Develop a suite of resources for Producers that include fact sheets that can be downloaded and disseminated at extension events by extension professionals (vets, advisors, stock agents, rural merchandise stores). Include best practice management options.</li> <li>Credentials on management practices of young cattle that reduce stress be developed for supply chain data.</li> </ul>



# SHEEP PRODUCTIVITY PRIORITIES

## Sheep Productivity Priority # 1

<b>Issue/outcome sought:</b>	Utilising in-paddock technologies to provide real time data and actionable insights to producers, to reduce labour intensity, increase labour efficiency and identify animal productivity improvement.	
<b>Committee origin:</b>	Western Vic, South-east Vic and Tas, Central Vic, South Australia	
<b>Research and Development Gap</b>		<b>Extension and Adoption Gap</b>
<ul style="list-style-type: none"> <li>• Evaluation of smart sensors and technology such as accelerometers, GPS smart tags, pedigree match-maker, walk over weighing, facial recognition technology, to enable prompt treatment or adjustment of management practices.</li> <li>• New rapid timely sensors that evaluate wet/dry status and BCS for sheep in commercial situations. Dexus sensors that also assess fat and muscle for marketing purposes.</li> <li>• Develop additional technologies that diagnose pregnancy status to be brought to market and become available for commercial producers.</li> <li>• Ensure that the data capture and storage model is interchangeable and additive with existing platforms.</li> </ul>		<ul style="list-style-type: none"> <li>• Improved understanding of the cost/benefit (and or return on investment / break-even point) point of implementing new technologies (i.e. novel eID technology and tag retention).</li> <li>• PDS and communication of outcomes demonstrating use of in-paddock technologies.</li> <li>• Use local producer groups to trial new technologies.</li> <li>• Specific adoption strategies for Rangelands.</li> </ul>



# SHEEP PRODUCTIVITY PRIORITIES

## Sheep Productivity Priority # 2

<b>Issue/outcome sought:</b>	Maximising female sheep efficiency and reproductive success.	
<b>Committee origin:</b>	Northern NSW, Central and Western NSW & QLD Sheep, Southern NSW, South Australia	
	<b>Research and Development Gap</b>	<b>Extension and Adoption Gap</b>
	<ul style="list-style-type: none"> <li>• Merino weaner to maiden ewe development/growth and nutrition.</li> <li>• Extra benefits from timely weaning (emissions, labour, welfare, future ewe productivity, meat productivity, feedbase management).</li> <li>• Identify and measure indicators of stress on weaners, in particular weaner behaviour and metabolic indicators.</li> <li>• Model the most productive and profitable adult ewe size in different environments</li> </ul>	<ul style="list-style-type: none"> <li>• Correlation between ewe and lamb weights (assuming all lambs sold-Total Kg of lamb (meat) produced as a factor of total Kg's body weight of ewes producing it).</li> <li>• Scanning and mob management including nutrition, condition scoring.</li> <li>• Using containment feeding as a tool for reproductive management .</li> <li>• Improve lamb survival in rangelands-both Merino and shedding breeds.</li> <li>• Provide published case studies, comparing the correlations between ewe and lamb weights across different localities/environments.</li> <li>• Develop resources that compare ewe productivity relative to size, weaning times, welfare, labour, fertility, meat productivity and emissions.</li> <li>• Ensure MLA/AWI courses such as Lifetime ewe management, T90 and the suite of EDGE courses utilise and include latest research findings in course content and provide a mechanism for reporting increased utilisation of research findings in course content. Show clear costs and benefits, using local producer groups to share information for productivity improvement.</li> </ul>

# FEEDBASE PRODUCTION PRIORITIES

## Feedbase Production Priority # 1

<b>Issue/outcome sought:</b>	<p>Development of new pasture species and fodder crops to support production, profitability and resilience in response to:</p> <ul style="list-style-type: none"> <li>• Increasing climate variability</li> <li>• Changing rainfall patterns</li> <li>• Changing demands on environmental impacts (GHG emissions, carbon sequestration, biodiversity, nature protection)</li> </ul> <p><b>Note:</b> Linkage to Environmental sustainability priority #2</p>	
<b>Committee origin:</b>	<p>South Australia</p>	
<b>Research and Development Gap</b>		<b>Extension and Adoption Gap</b>
<ul style="list-style-type: none"> <li>• Continuous R&amp;D in the development of new pasture species and cultivars for a range of environments (including pastoral/rangelands areas).</li> <li>• Quantify Improvements in palatability, persistence and reduction in GHG emissions in feedbase systems.</li> <li>• Real time monitoring of feedbase quality (ME, NDF, protein, moisture and phosphorus) and quantity</li> </ul>		<ul style="list-style-type: none"> <li>• Producers have the tools for species selection fit for purpose: <ul style="list-style-type: none"> <li>• Rainfall</li> <li>• Soil</li> <li>• Grazing pressure management</li> <li>• Net carbon emissions</li> <li>• Length of growing season</li> </ul> </li> <li>• Adoption of improved pasture species for mixed cropping/grazing enterprises to be improved by education through the agronomist network and develop content specific for different farming systems (i.e. Mixed cropping/grazing, rangeland).</li> <li>• Increase producer group activity in rangelands.</li> </ul>

# FEEDBASE PRODUCTION PRIORITIES

## Feedbase Production Priority # 2

<b>Issue/outcome sought:</b>	Optimisation of N fixation in southern feedbases.	
<b>Committee origin:</b>	South-east Vic and Tas	
	<b>Research and Development Gap</b>	<b>Extension and Adoption Gap</b>
	<ul style="list-style-type: none"> <li>• Validation of N fixation across a range of legume mixes.</li> <li>• Quantification of kg per ha of units of N fixed in various rainfall and soil types.</li> <li>• Identification of different strains of rhizobia and effectiveness.</li> <li>• Identify how to introduce rhizobia strains into an existing legume pasture.</li> </ul>	<ul style="list-style-type: none"> <li>• Economic analysis of productivity and soil health benefits from rhizobia generated soil N.</li> <li>• Soil and plant management package for maximising rhizobia activity.</li> <li>• Education through producer groups and agronomist networks and development of educational materials and training programs for farmers on the benefits of nitrogen fixation and the selection of appropriate legume species. Focus on the cost benefit of improving plant base capacity to fix nitrogen verses purchasing synthetic fertiliser.</li> <li>• Organise field days, workshops, and demonstrations to showcase successful nitrogen fixation practices and technologies.</li> <li>• Develop content for dissemination by extension professionals and producers on monitoring and managing for effective N fixation by legumes in different farming systems i.e. Mixed cropping/ grazing, rangelands.</li> </ul>



# ENVIRONMENTAL SUSTAINABILITY PRIORITIES

Environmental Sustainability Priority # 1	
<b>Issue/outcome sought:</b>	Edible hay and silage wraps and string commercially available
<b>Committee origin:</b>	Central Vic
Research and Development Gap	Extension and Adoption Gap
<ul style="list-style-type: none"> <li>Review and test options available internationally under Australian conditions and develop new, suitable products if required.</li> </ul>	<ul style="list-style-type: none"> <li>Commercial pricing comparable to current wrap products will drive adoption.</li> <li>Animal health-reduced risk of gut blockages from livestock eating synthetic wraps.</li> <li>Dissemination of new, different products for demonstration through producer groups.</li> </ul>



# ENVIRONMENTAL SUSTAINABILITY PRIORITIES

## Environmental Sustainability Priority # 2

<b>Issue/outcome sought:</b>	Fodder for the Future - Develop novel delivery mechanisms to decrease methane emissions in grazing systems, with focus on utilisation of drought and flood tolerant plants that inherently reduce methane production. <b>Note:</b> linkage to Feedbase Production priority #1	
<b>Committee origin:</b>	South-east Vic and Tas, Central Vic	
<b>Research and Development Gap</b>	<b>Extension and Adoption Gap</b>	
<ul style="list-style-type: none"> <li>• Identify forage plants that possesses properties to reduce methane production in ruminants.</li> <li>• Research to identify saponin/tannin production in the plants and other genetic traits or biochemical pathways within the plants that contribute to methane reduction.</li> <li>• Identify the interaction of feed intake and rumen microflora on animal productivity from plant species identified with anti-methanogenic properties and the ability to fix nitrogen</li> </ul>	<ul style="list-style-type: none"> <li>• Need to engage supply chain stakeholders from seed companies through to red meat processors/retailers to drive adoption.</li> <li>• Education of producers about low methanogenic pasture species through agronomist networks and organisations such as Grasslands Society of Southern Australia.</li> </ul>	



# OTHER RD&A PRIORITIES

Other RD&A Priority # 1	
<b>Issue/outcome sought:</b>	Novel labour saving technologies on farms, including robotics and data collection with mobile phones, drones, security cameras, digital ear tags.
<b>Committee origin:</b>	Central Vic, Central and Western NSW and QLD Sheep, Northern NSW
Research and Development Gap	Extension and Adoption Gap
<ul style="list-style-type: none"> <li>Evaluate the application of robotics on farms to perform tasks in which there are current and emerging labour shortages.</li> </ul>	<ul style="list-style-type: none"> <li>Demonstration properties to share knowledge of new technologies</li> <li>Demonstrate and evaluate the use of the Ag Tech Return on Investment calculator tool</li> </ul>

Other RD&A Priority # 2	
<b>Issue/outcome sought:</b>	Remote management and delivery systems for livestock nutritional supplements and methane reduction/inhibitor supplements.
<b>Committee origin:</b>	Western Vic
Research and Development Gap	Extension and Adoption Gap
<ul style="list-style-type: none"> <li>Investigate the potential for using EID (or collars) and an individual remote supplementary feed delivery system to deliver supplements to animals accurately, efficiently and safely.</li> </ul>	<ul style="list-style-type: none"> <li>Case studies on demonstration properties using delivery systems.</li> </ul>