

Populated with Workshop findings
ARMIDALE 9 SEPTEMBER 2010

VISION: Grow the wool industry to be profitable, acceptable and sustainable, as an industry in its own right
Research should address cause, not the symptoms
Collaboration between researchers to reduce duplication as a guiding principle

Vision: the challenge for 2030	Themes: milestones to achieve vision	Strategy: plan to achieve milestones	Action: actions implementing plan	Priority	Time frame
Increased on farm profitability	Increased productivity and reduced input costs	Refined animal husbandry	Literature review to predict and respond to events to maintain wool staple strength – assoc with events (rain), supplementation **cross reference with DAFWA's current work Develop biological control for internal and external parasites Investigate environmental impacts at birth on lifetime wool production for hairy birthcoat v fine birthcoat genotypes, the wool quality implications, primary v secondary fibres, in the mature sheep's fleece and any relationship to the coefficient of variation Define unexplained variation in fly strike risk factors eg relationship between improved pastures and dags, and effect of supplementation	High High Low High	Short Short

		Labour efficiency improvements	<p><i>Wool shearing:</i> Research and literature review into alternative fibre cutting mechanisms (laser literature review and scoping) in light of current technologies Portable/ mobile (chain shearing) shearing infrastructure Shearing ergonomics: upright shearing and crutching, as well as positioning of the animal Robotic shearing, skirting and classing: revisit with current technology and computer capabilities</p> <p><i>Wool harvesting:</i> Biological chemical for use in all ages of sheep and pregnant ewes: revisit with new process and chemical Reduced skirting of fleece ** cross reference to Accurate supply chain intelligence</p> <p><i>Animal husbandry:</i> Parasite vaccines Develop vaccine for blow flies Identify Immune system boost, specific to parasite infection Cost benefit analysis for use of precision management system and other farm automation by regions</p>	High High Commercial issue High	Long Long Long Ongoing
		Genetic tool development and uptake	<p>Research effect (correlation) of parasite resistance traits on wool production Development of on-farm genetic marker test Cost benefit analysis of traits Identify 4 teat ewes for Merino Select database Identify effect of 4 teat ewes on increasing lambing percentage Research traits which reduce cost of production ** cross reference with information distribution</p>	High High High Low Low	Ongoing

		Feed efficiency	Identify impact on productivity of feed conversion and methane and its impact on marketing (include the full carbon on farm cycle within this assessment) **link with other ruminant industries	High	
		Reduced on farm mortality	Cost benefit analysis of wild dog control ** collaborate with other RDCs Investigate and extend the advantages of block baiting and timing of block baiting over a significant sized area. Identification and quantification causes of lamb mortality and economic impact Lowering mortality rates through targeted extension of risk factors for mortality	High Medium Medium	
		Adaptable pasture systems	Management of native grass in merino systems Literature review comparing nutrient value of pastures in fertilised systems (traditional vs. non traditional) vs. non fertilised systems (CSIRO Chiswick) and identify research gaps Collaborate with other RDCs on National Pasture Strategy http://www.surveymonkey.com/s/DQTB5HB#hp=highlight1&article=Feedbase%20survey Develop new drought and heat tolerant pasture species with high palatability Accuracy measuring dry matter/ protein/ mineral components of pastures on farm adapting existing tests (rapid on farm) or technology advancements in infra red spectroscopy Determine cost of kangaroos to grazing industries ** collaborate with other RDCs Rabbit control: not explored Investigate ways to recycle phosphorus Scientific validation of concept of livestock interaction with composting and pasture growth with reduced fertiliser use and increased carrying capacity (whole system knock on	High High Medium Medium High Medium- High Medium- High	 Short Short Short

			<p>effect) (Reference Sheep Camp concept, Ian Richard Innis, South Africa)</p> <p>Cost benefit analysis of Sheep Camp concept</p> <p>Investigate alternative fertilisation programs (chemicals and applications eg microbes and nutrient recycling) in different systems in different climatic zones. Analysis includes assessment of individual techniques and decision support system for designing a fertilisation program</p>		
<p>Sharing in the value chain at low risk</p>	<p>Effective, efficient and open communication supply chains **</p> <p>check terminology vertical integration?</p>	<p>Accurate supply chain intelligence</p>	<p>Communication across supply chain about fitting tested wool types to product</p> <p>Establish baseline knowledge levels through supply chain on different wool types and their use: promote producer awareness</p> <p>Analysis of traditional market</p> <p>Invest in wool processing technology adoption (longer staples and longer measuring tops to reduce fibres in cross section and increase fineness of yarn)</p> <p>Common language established through each part of the supply chain</p> <p>Promote the improved consistency of a top from minimal skirting, preshear crutch, belly and fleece combined (Sud Woola)</p> <p>Wool blending: not explored</p>	<p>Low Commercial ownership/private funds High</p>	

		Managing risk of sharing in value chain	<p>Assess alternative wool selling systems and their risk management and new impact of new technologies, including cost benefit analysis and value propositions as to why to change selling system</p> <p>Identify new markets for wool and analyse their investment potential, compared with traditional markets</p> <p>Define principles for decentralised wool marketing system, not subject to the order in which the lots are sold and which discovers true price of wool Wool described as recognised brands/ varieties and grades in the selling system</p> <p>Commercialisation of CSIRO research into perspiration (sports wool)</p>	Low High High	Long Short Ongoing
		Developing confidence in wool product	<p>Develop ISO standards for fire resistance breathability (learn from other industries, comparative analysis with alternative products)</p> <p>Science to support ISO standards</p> <p>Retail brand development and linking wool with retail brands: not explored</p>	High High	Short Short
		Increasing efficiency of processing	<p>Establish new standards for spinning using existing research</p> <p>Review existing research (scour baths) and investigate opportunities for decreasing processing costs</p>		
		Reduce steps of wool handling in supply chain	<p>Use current technologies to assess potential for transponders in wool bales including value proposition **cross reference to Assess and Address credence characteristics</p>	High	
Consumer confidence	Meet market demands for	Assess and address credence	<p>Market research to identify acceptable credence characteristics in the wool industry that require scientific proof</p> <p>Investment to support existing industry</p>	High High	

in wool products	product integrity and quality	characteristics	<p>position in regards to current husbandry procedures currently being used (tailing, castration, hot knife)</p> <p>Research alternatives to current husbandry procedures and identified future risks</p> <p>Traceability post farm gate, including technology to enable scanning of swing tags with mobile phone to learn about where product comes from</p> <p>Improved traceability post farm gate through using current technologies and value proposition to assess potential for transponders in wool bales **link to</p> <p>Reduce steps of wool handling in supply chain</p> <p>Universal consistency in on-farm QA in terms of requirements and reporting to reduce duplication or individual brand requirements eg ISO for Australian Land Management (ISO 140000), NWD forms. ** where reporting is compulsory, reducing red tape is a high priority</p>	<p>Low</p> <p>Commercial interest</p> <p>Commercial interest</p>	<p>Commercial interest</p> <p>Commercial interest</p>
Consumer confidence in the wool farming system	Recognised environmental and farming system credentials	Farming sustainability	Cost benefit analysis of pig control Prove farm management systems compliment natural environments **link with other ruminant industries	High	
		Addressing climate variability	Information to allow adaptation of farming systems to balance impact of climate variability on different wool enterprises and their responses: learn from other industries ** cross reference with Information Adaptation	Low-Medium	
		Identify carbon baseline, the carbon cycle and its relevance	<p>Quantify on-farm Australian carbon footprint of segments (in wool enterprise, in fleece, in product, in soil)</p> <p>Compare on-farm carbon footprint against synthetics and promote if favourable promotion story</p> <p>Quantify off-farm Australian carbon footprint of segments (in wool enterprise, in fleece, in product, in soil)</p> <p>Compare off-farm carbon footprint against synthetics and promote if</p>	<p>High</p> <p>High</p> <p>Commercial interest</p> <p>Commercial interest</p>	<p>Short</p> <p>Short</p> <p>Commercial interest</p> <p>Commercial interest</p>

			<p>favourable promotion story</p> <p>Research to support industries position and mitigation strategies for wool portion of carbon from the sheep system **link with other ruminant industries</p> <p>Inform future ISO standards for sustainability rating including carbon accounting</p>	st	st
		Identify water, energy and chemical use	<p>Quantify on-farm Australian energy, water and chemical use of segments (in wool enterprise, in fleece, in product, in soil) and</p> <p>Compare on-farm energy, water and chemical use against synthetics and promote if favourable promotion story</p> <p>Quantify off-farm Australian energy, water and chemical use of segments (in wool enterprise, in fleece, in product, in soil) and</p> <p>Compare off-farm energy, water and chemical use against synthetics and promote if favourable promotion story</p> <p>Research to support industries position and mitigation strategies for wool portion of water and energy use from the sheep system **link with other ruminant industries</p> <p>** link with Information Adaptation</p>	<p>Medium</p> <p>Medium</p> <p>Commercial interest</p> <p>Commercial interest</p> <p>Medium</p>	<p>Short</p> <p>Short</p> <p>Commercial interest</p> <p>Commercial interest</p>

			<p>Promotion of wool production to other farmers, to increase profile of wool industry and attract new entrants</p> <p>Easier access to publications and journal articles: through online availability</p> <p>Communication network for production: online forum/ chatroom (? moderator)</p> <p>Improved technology and format for webinars: interactive, personable electronic medium (not lecture style)</p> <p>Link with other established information networks, eg LandCare</p> <p>Mimic MLA's "Tips and Tools" publication</p> <p>Information distribution through producer led and driven extension programs</p> <p>Field days: not explored</p> <p>Targeted investment allocation to leading producers and "early adopters" vs. general farming community: not resolved</p> <p>Targeted investment allocation to practice change vs. awareness: not resolved</p> <p>Low cost, low input farm case studies</p>		
		Information adaptation	<p>Revisit commercialisation "failures" in order to make them available for future use</p> <p>Information to allow flexibility of farming systems to balance impact of climate variability on Merino systems ** cross reference with addressing climate variability</p> <p>Link water sustainability extension with National Landcare Network and CMA: understand soil water cycle, factors that impact on soil moisture</p>	Low-Medium	High
		Support for strategic thinking	<p>Ongoing industry level benchmarking cost of production for wool portion of enterprise</p> <p>Cultural shift towards learning and innovation uptake</p>	High	

		Skills development	Development of voluntary courses and registered training to recognise producer capabilities, for use if verification required Offer PhD opportunities in extension		
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