

Rural and Regional Affairs and Transport Legislation Committee

ANSWERS TO QUESTIONS ON NOTICE

Budget Estimates May 2014

Agriculture

Question: 174

Division/Agency: Rural Industries Research and Development Corporation

Topic: RIRDC funded projects

Proof Hansard page: Written

Senator RHIANNON asked:

1. May I have an up-to-date and complete list of all the RIRDC funded projects and research regarding kangaroos, the authors, the cost of each project, and the aim of the project?
2. May I also have a list of those projects and research regarding kangaroos delivered by other RIRDC research partners or supported by the RIRDC, but not published as an RIRDC publication?

Answer:

1. Rural Industries Research and Development Corporation (RIRDC) projects and research reports about kangaroos

ID	Project	Cost	Finish Date	Researcher	Objectives Summary
PRJ-008967	Characterising the Australian public and communicating about kangaroo management.	\$60,000	2/06/2014	Sharp, Trudy	The objective of this study is to provide two essential pieces of information that are required for effective communication of the issues surrounding kangaroo management. These are: i. an awareness of different 'kangaroo management mindsets' within the community, and ii. an understanding of specific characteristics of kangaroo management messages that are likely to influence these different mindsets.
PRJ-000089	Kangaroo meat awareness marketing research for	\$84,900	31/05/2010	Nathan, Mel	The project provided information about Kangaroo meat via magazine editorials, foodservice and consumer publications. Would see kangaroo meat editorial and

	foodservice and consumer				marketing research and analysis into a cross section of various foodservice and cooking magazines, newsletters, chefs association newsletters and chef focus groups.
PRJ-000303	Kangaroo and the China Free Trade Agreement	\$32,100	15/06/2009	Kelly, John	As a result of the research a presentation on kangaroo meat was developed and delivered to the Chinese government. Creating the most favourable possible regulatory environment in China for the sale of kangaroo products.
PRJ-000315	Obtain perceptions of consumers & foodservice operators regarding Kangaroo meat	\$32,000	29/04/2009	Ellis, Mark	Research report on the use, attitudes of consumers and recommendations to assist production. To research Foodservice decision makers in the mainstream restaurant trade to establish barriers/opportunities to be addressed in marketing to this important market sector. To provide insights to two objectives as outlined in the Kangaroo Industry Strategic Plan 2005-2010: 1) Informing Chefs about the Industry and it's products 2) Develop improved product image via increased communication within various industry publications.
PRJ-000681	Choosing kangaroo: product and industry attributes and consumer choice	\$81,000	1/07/2007	Ampt, Peter	Research report into the attitudes and issues concerning the use of kangaroo meat by smallgoods and other meat manufacturers. 1. Identify key attitudes and issues concerning the use of kangaroo meat by smallgoods and other meat manufacturers. 2. Ascertain which attributes of meat and smallgoods in general are important for consumer choice and determine how kangaroo is perceived on these attributes. 3. Investigate choice behaviour and potential demand among meat consumer segments to identify the triggers for increased consumption of kangaroo based on the attributes identified in objective 2. 4. Determine the change in the choice behaviour of smallgoods manufacturers based on the previous findings.
PRJ-000693	Kangaroo Meat Marketing Support	\$5,000	6/06/2007	Nathan, Mel	Market research to support domestic kangaroo meat market development. Support domestic kangaroo meat market development. To raise

					awareness with chefs and epicureans in the Australian meat. Campaign will include launch of Spring edition of Food Companion international + front cover feature on kangaroo including full summary on 'culinary name for Kangaroo giveaway' competition recipes interviews and nutritional advice.
PRJ-000694	Extending the sustainable management of kangaroo	\$46,440	31/05/2008	Kelly, John	Research report. The project will seek to extend the sustainable management of kangaroo populations into regions not currently covered by Federally approved Management Plans such as Victoria the Northern territory and parts of NSW and SA.
PRJ-000695	Maintaining the kangaroo industries freedom to operate	\$71,609	30/06/2008	Kelly, John	Web based information. Ongoing dissemination of positive media and factual information on the kangaroo industry to improve its public image and enable further growth in market size and value. In particular the project will ensure key personnel and decision makers in government and major industry clients (such as Adidas) are regularly updated with factual information on industry developments in order to maintain a positive impression of the kangaroo industry. This project addresses an Objective in the current Kangaroo Industry Strategic Plan given a highest priority ranking.
PRJ-000854	Nutritional Composition of Kangaroo Meat	\$48,514	29/02/2008	Tume, Ron	Research report. Determining the nutrient composition of specific fat components in four muscle cuts of two different species of kangaroo from two geographic locations. The work will provide the industry with information they require regarding specific nutrients in their products.
PRJ-000855	Research and Development for the US Market for Kangaroo meat and skins	\$34,481	5/05/2008	Topper, Brian	Assist the researching and development of effective material dealing with the history and lack of need for this legislation.
PRJ-002302	Taking the Kangaroo Industry to the internet community	\$110,000	30/06/2010	Kelly, John	Web based information. The new wave of threat to the kangaroo industry comes from unchallenged material on contributor generated internet sites such as Youtube, Myspace,

					<p>photobucket, Wikipedia and others. Or is this in fact an opportunity? This project will enable the kangaroo industry to ensure these types of sites are loaded with positive messages about the kangaroo industry and its products. It will also ensure ongoing resources are available to counter anti-industry campaigns and spread positive industry messages in more traditional media.</p>
PRJ-002352	Comparative carbon footprint for kangaroo products	\$40,180	29/05/2009	Begley, Richard	<p>The output of the project is a report summarizing the findings and setting out the detail of the analysis.</p> <p>To assess the greenhouse gas emissions of kangaroo products – focusing on table meat and leather production. To compare these to more traditional sources of red meat and leather.</p>
PRJ-003120	Research to assist market development for kangaroo products in California & NY	\$236,664	1/04/2011	Kelly, John	<p>A report researching potential pathways for a new Bill. Documents to support the Bills passage in California and to the law in New York.</p> <p>California is the largest single economy in the US. Sale of kangaroo products has been legalized in California via a short term amendment to their laws. This expires at the end of 2009, at which time the legislation will revert to its previous prohibition. This project aims to research mechanisms and provide supportive documentation to enable continuing sale of kangaroo products past 2000.</p>
PRJ-003129	Kangaroo survey in south east South Australia	\$6,305	30/11/2011	Stokes, Peter	<p>Research report.</p> <p>To determine kangaroo density in the south east To use this density information to support a trial extension of the commercial harvest zone.</p>
PRJ-004103	Improving the welfare and humaneness of commercially harvested kangaroos.	\$240,068	24/05/2013	McLeod, Steven	<ul style="list-style-type: none"> • Education and training materials for kangaroo shooters • Modified, spring operated captive bolt gun for use on pouch young by shooters • Standard operating procedures for the humane harvesting of kangaroos. These will include detailed information on the best practice euthanasia methods (including how they are performed, the welfare impact that they have, what action to take when things go wrong)

				<ul style="list-style-type: none"> • Depending on the outcomes, the project may complement the existing Code of Practice by providing support for and thus promoting use of the existing methods. The outcomes could also provide new or additional information/procedures/strategies to improving humaneness for inclusion in subsequent versions of the Code. • PhD thesis and associated research papers (e.g. review of euthanasia methods) <p>To provide scientific knowledge and other information on the animal welfare impact of kangaroo harvesting methods with the aim of determining the most appropriate euthanasia methods for young kangaroos which reduce, as much as possible, unnecessary pain, distress and suffering. This will be achieved by:</p> <ul style="list-style-type: none"> • Reviewing the literature, with an emphasis on current understanding of acceptable methods of euthanasia. The review will aim to address issues that were not covered adequately by the 2006 Hopwood report and will include current information on the development of conscious perception of pain and the implications for humane killing; • Determining the humaneness of current methods used to euthanase pouch young and young-at-foot including decapitation and a heavy blow to head; • Comparing currently used methods of stunning with a spring-operated captive bolt gun that has the potential for use in the field by kangaroo harvesters; • Determining the fate of orphaned young-at-foot that escape capture. Note that although this objective is essential if we are to provide practical strategies to reduce the welfare impact on orphaned young-at-foot, because of the experimental methods used RSPCA Australia cannot endorse it, in its present form. Therefore completion of this component is dependent upon securing additional funding from DEWHA and the Australian Animal Welfare Strategy (AAWS). We have included it here for completeness; • Evaluating the attitudes of commercial kangaroo harvesters as well as the general public and other relevant
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					<p>stakeholders (e.g. hunters, animal protection groups) toward animal welfare and humane killing; • Making recommendations to the kangaroo industry and Government management agencies to improve the welfare of euthanased pouch young and orphaned young-at-foot; and</p> <p>• Provide information for education of the general public.</p>
PRJ-004385	Advanced Meat Hygiene Training for Kangaroo Harvesters	\$29,999	30/04/2010	Kelly, John	<p>Project terminated.</p> <p>Maximising kangaroo meat hygiene standards.</p>
PRJ-005198	Exploring new products, technologies and markets for kangaroo leather	\$20,000	30/05/2011	Bois, Michael	<p>Project terminated.</p> <p>To increase the trade of kangaroo skins to these manufacturers for use in their existing product. Offering to develop the world's first completely kangaroo leather shoe sole.</p>
PRJ-005549	Kangaroo wildgame industry training initiative	\$420,000	1/11/2011	Mawson, Amanda	<p>There are three primary outputs from the project: - the development and conduct of a training course for wild game harvesters which addresses the immediate needs of the export market at the harvester level - the development and conduct of a training program and associated assessment tool for work place assessors - designed to assist those harvesters not meeting export requirements - the development of national competency standards and the associated qualifications framework and the placement of these in the appropriate national registers.</p> <p>The funding would be used to extend the Rural Industries Research and Development Corporation's current kangaroo harvester training program. The additional funds will be used to accelerate training delivery, update and enhance training materials, develop a competency-based qualification and on-the-job assessment framework to facilitate ongoing training, and retrain and assess skills and knowledge of harvesters. This training will ensure that kangaroo harvesters have the skills to meet international requirements and changing market conditions. All kangaroo harvesters receive training before they are first licensed—this program builds on that training to</p>

					<p>upgrade their skills on an on-going basis. A key part of the training will be the inclusion of a practical skills assessment where harvesters will need to demonstrate their competency through one of a number of assessment methods, such as an on-the-job demonstration. The project objectives include: 1. To provide extension training for wild game field harvesters and field depot operators on hygienic dressing and storage and handling of carcasses that links into a competency based framework for demonstration of skills and knowledge; 2. To develop and implement an on-the-job assessment framework for assessment and verification of wild game field harvester skills and knowledge; and 3. To identify national wild game field harvester and field depot operator competencies / identified Industry Skill Sets to be used as the basis for future training programs and industry development.</p>
PRJ-007258	The effect of Sulphur Dioxide on the Thiamine content of fresh kangaroo meat	\$52,000	30/09/2011	Hall, Duncan	<p>It was proposed that these findings may provide a basis for the KIAA to develop industry guidelines for the pet meat supply chain, highlighting the increased knowledge of the relationship between SO2 levels and thiamine degradation, and providing guidance regarding the level of exogenous thiamine supplementation in the presence of SO2 to meet AAFCO nutritional guidelines for dogs and cats.</p> <ol style="list-style-type: none"> 1. To provide guidance regarding the concentration of SO2 required to achieve an acceptable shelf life for fresh kangaroo meat. 2. To measure the impact of various concentrations of SO2 on thiamine in kangaroo meat over the normal product shelf life. 3. To indicate the degree of thiamine supplementation necessary to counter the inactivation of thiamine in kangaroo meats preserved with SO2, to ensure that the minimum nutrient level for thiamine in pet meat is met, as specified by the globally accepted nutrient guidelines for dogs and cats (AAFCO 2009b; AAFCO 2009a). 4. To provide the Kangaroo Industry Association of Australia (KIAA) with a selection of communication resources to allow efficient and widespread communication

					of the research findings within the industry.
PRJ-008154	Kangaroo Meat Sulphite and Thiamine	\$49,924	20/02/2012	Hall, Duncan	<p>National survey of major processors and pet meat packing companies using kangaroo meat for fresh pet food products with regards to inclusion of sodium metabisulphite and thiamine through the supply chain. Refined relationship of SO₂ levels resulting in kangaroo meat following addition of sodium metabisulphite at levels of 2.0, 2.2 and 2.5 X the target level of SO₂. Refined and more detailed understanding of the resultant thiamine levels in fresh kangaroo meat after 7 and 28 days (proposed shelf life of kangaroo fresh pet meats) at levels more closely proximating those used within the kangaroo processing industry.</p> <p>1. To assess the relationship between various concentrations of SO₂ and thiamine concentrations in kangaroo meat over the normal product shelf life (deemed 28 days). 2. To explore the the degree of thiamine supplementation necessary to counter the inactivation of thiamine in kangaroo meats preserved with SO₂, to ensure that the minimum nutrient level for thiamine in pet meat is met at levels consistent with current industry practice.</p>
PRJ-008402	Kangaroo sulphur dioxide and thiamine relationship study (supplement)	\$24,400	27/04/2012	Hall, Duncan	To elucidate the relationship of sulphur dioxide and thiamine in chilled kangaroo meat for pet consumption, building upon the previous RIRDC funded study (RIRDC project: PRJ-007258), completed in August 2011.
PRJ-008460	Kangaroo sulphur dioxide and thiamine relationship study Supplemental study # 2	\$30,000	30/08/2012	Hall, Duncan	<p>Increased knowledge and potentially advice regarding the degradation of thiamine in the presence of sulphites in chilled kangaroo meat over a 28 day trial period.</p> <p>To elucidate the relationship of sulphur dioxide and thiamine in chilled kangaroo meat for pet consumption, building upon the previous RIRDC funded studies (RIRDC project: PRJ-007258 and PRJ-008420).</p>
PRJ-008557	Building confidence in kangaroo meat for pet	\$17,860	20/12/2012	Hall, Duncan	<p>1. Thiamine and sulphites in kangaroo meat, a review of published data – (part 1).</p> <p>2. Thiamine and sulphites in kangaroo</p>

	nutrition			<p>meat, a review of recent research findings and recommendations (part 2).</p> <p>3. Representation of research findings to key stakeholders.</p> <p>4. Communicating research findings to the pet owning public.</p> <ul style="list-style-type: none"> •Widespread awareness throughout the kangaroo industry about the importance of adequate dietary thiamine in pet meat being fed to dogs and cats to support pet wellbeing. •Awareness across the industry of recognized nutritional guidelines for the (minimum) levels of thiamine in dog and cat foods (AAFCO nutrient guidelines), and the importance of thiamine as a key nutrient consideration for cats and dogs. •Enhanced pet health status, through reduced incidence of clinical thiamine deficiency in pets fed kangaroo meat as industry members include levels of thiamine supplementation and sulphite inclusion that have been shown in studies to result in levels that meet AAFCO nutrient guideline recommendation for inclusion of thiamine in foods for dogs and cats throughout the expected shelf life of chilled pet food products. •Presentation of the KIAA (and RIRDC) as a proactive industry organisation, attuned to consumer concerns and interest in regards to the issue of thiamine sufficiency and pet health when feeding uncooked kangaroo meat to companion animals. •Provide empirical, research-based data regarding thiamine and sulphites inclusion in kangaroo meat to key influencers including: veterinarians, pet owners, organisations within the kangaroo industry supply chain and regulators to enable more informed discussion and agreement regarding appropriate meat processing to achieve adequate thiamine levels in kangaroo meat for pet nutrition for the duration of the shelf life of kangaroo meat products. •Enhanced confidence in the thiamine status of (thiamine supplemented) uncooked kangaroo meat as pet food.
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None	Roocipes	Not available	Not available	Nathan, Mel	Kangaroo meat recipes.
UA-59A	People and the Kangaroo Harvest in the South Australian Rangelands	\$72,972	1/06/2006	Thompson, Dana	<p>Research report.</p> <p>The purpose of this research was to develop understanding of the social, institutional and cultural factors that influence the use of commercial kangaroo harvesting as a strategy for promoting sustainable rangeland landscapes. In-depth information gathered through interviews with industry stakeholders in South Australia has highlighted issues which are important to designing effective institutions for management of commercial harvest which are not revealed in any other research on kangaroo management or industry development.</p>
LEC-4A	Kangaroo Industry Strategic Plan	\$37,500	30/07/2005	Kelly, John	To develop strategies and R&D priorities to overcome key industry issues.
US-94A	Meat quality of kangaroos	\$71,000	30/09/2003	Wynn, Peter	<p>Research report.</p> <p>The aims of this research were:</p> <ol style="list-style-type: none"> 1. To develop relationships between genotype, sex and age of kangaroo at slaughter with the key meat quality parameters of tenderness, flavour and juiciness. 2. To establish an understanding of the effect of harvesting and post-slaughter carcass storage methods on the rate of change of muscle pH, the ultimate pH, muscle shortening, losses due to drip from meat, cooking losses and ultimately consumer evaluation of the product. 3. To develop a series of recommendations will be developed in close collaboration with the industry partners to establish the major factors controlling kangaroo meat quality for human consumption.
LEC-1A	Kangaroo Industry - Its image & market	\$37,000	31/07/2002	Kelly, John	<p>Research report.</p> <p>This project focused on:</p> <ol style="list-style-type: none"> 1) Generating positive media coverage on the kangaroo industry 2) Informing the Australian government and environmental academic

					community of the responsible and ethical nature of the kangaroo industry. 3) Facilitating incorporation of kangaroo industry information into environmental management curricula in Australian tertiary training.
PAC-2A	Kangaroo pet meat survey	\$16,000	30/09/2002	Cook, Trevor	Research report. The objective of this study, flowing from an earlier industry workshop (RIRDC Report PACNo1), is to examine opportunities to increase consumer acceptance of Kangaroo meat as a valuable addition to a pet's diet: In particular the opportunity to gain endorsement from vets and breeders to such a proposition.
CWT-1A	Enhancing the Unique Properties of Kangaroo Leather	\$184,852	30/04/2002	Looney, Mark	Research report. This collaborative project funded by CSIRO Textile and Fibre Technology, Packer Tanning and RIRDC aimed to determine the factors during the various stages of the processing of raw skins through to the final leather which have a significant effect on the strength. This report identifies components related to preservation and the chemical and mechanical operations that influence the strength of the finished leather.
None	Kangaroo Specifications and Selected Meat Cuts		30/08/2002	Evans, Peter	Kangaroo meat manual. To review, research, and communicate with the Kangaroo Industry operators to revise and develop the next edition of the Kangaroo Specifications for Selected Meat Cuts publication. Prepare a proposal for RIRDC to consider funding the development and printing of the next edition of the meat manual. Communicate with a selected group of the Australian Kangaroo Industry organisation (KIAA) to evaluate the extent of the review. Produce draft version of the next edition for review by the evaluation group. Print hard copy for stocks and prepare web-site files for the Industry to use on their web-site.
None	Improving Consumer Perceptions of Kangaroo Products	Not available	Not available	Purtell, Des	Research report. To analyse and assess perceptions of the kangaroo industry and its products and formulate strategies to exploit market opportunities.

None	Kangaroo Industry Commercial Practices	Not available	Not available	Macarthur Consulting Pty Ltd	<p>Research report.</p> <p>To provide a review of all State and Federal Government policy initiatives, rules and regulations that have both a positive and negative impact on industry development. To identify the level of policy inconsistency and/or consistency across states in light of mutual recognition legislation.</p>
None	Profitable Marketing of Kangaroo Products	Not available	Not available	Macarthur Consulting Pty Ltd	<p>R&D plan.</p> <p>Examine the marketing research and development priorities for the kangaroo industry across the prime product groupings of game meat, pet meat, skins and leather.</p>
AM-4A	Kangaroo meat trading language and specification manual	\$33,000	30/06/1998	Evans, Peter	<p>Kangaroo meat specifications.</p> <p>To provide a document or specification for the trading of kangaroo meat for human consumption.</p>
AM-5A	Specifications for kangaroo skin trading inception project	\$10,380	30/04/1999	Evans, Peter	<p>Will establish contacts within the kangaroo skins industry through consultation with the organisations associated with the processing and trading of kangaroo products. Evaluate the effectiveness of the current specification and marketing practices and determine, with the assistance of the industry, the need for an improvement to the system. Will make recommendation to RIRDC should the industry recognise that the system requires a review, how best this can be achieved and implemented through the documentation of a technical publication.</p>
AM-6A	Kangaroo skins trading project	\$61,700	30/05/2001	Evans, Peter	<p>To establish an advisory group from the Kangaroo Skins processing industry. Prepare project plans and determine the requirements and the resource required to progress recommendations. Publish the agreed guidelines/Codes of Practice</p> <p>Establish the requirements for research and development to gather the necessary data to determine the benchmark for industry agreements and to progress and document that reflects the findings.</p>
MAC-3A	Assessment of the Impact of Government Regulations	\$26,500	13/08/1995	Yates Warwick	Not available.

	on the Commercial Operation of the Australian Kangaroo Industry.				
LEC-2A	Assisting ongoing kangaroo market growth by facilitating public industry acceptance	\$74,000	1/06/2004	Kelly, John	An improved public perception of the environmental wisdom, sustainability and responsible controls of the kangaroo harvest, leading to improved kangaroo product sales. A professional 10 min video on the industry as well as suitable footage for use in TV programs broadly.
LEC-3A	Ongoing kangaroo industry up-imaging	\$44,000	1/06/2006	Kelly, John	An improved public perception of the environmental wisdom, sustainability and responsible controls of the kangaroo harvest, leading to improved kangaroo product sales.
UNS-19A	Choosing kangaroo: product and industry attributes and consumer choice behaviour	\$81,000	1/06/2007	Kelly, John	<ol style="list-style-type: none"> 1. Identify key attitudes and issues concerning the use of kangaroo meat by smallgoods and other meat manufacturers. 2. Ascertain which attributes of meat and smallgoods in general are important for consumer choice and determine how kangaroo is perceived on these attributes. 3. Investigate choice behaviour and potential demand among meat consumer segments to identify the triggers for increased consumption of kangaroo based on the attributes identified in objective 2. 4. Determine the change in the choice behaviour of smallgoods manufacturers based on the previous findings.
RIT-1A	Kangaroo meat awareness program	\$45,000	30/04/2004	Thompson, Neville	The overall objective of the kangaroo meat awareness program is to increase demand for kangaroo meat in the hospitality and food service sectors. This would be achieved by the development of an innovative learning package which can be used by cookery teachers and trainers nationally. This learning package will be developed in line with the nationally accredited cookery training package unit, 'Prepare and cook poultry and game meat' (THHBCCO5B).
JUD-1A	Increasing human consumption of kangaroo	\$500	30/05/2007	Davie, Judith	Market development of human consumption of kangaroo meat via website and newspaper articles.

	meat				
NAP06-24	Kangaroo meat access into China	Not available	30/05/2007	Maher, Marcus	Not available.
LPA-1A	Research to consolidate export access for kangaroo skins	\$7,600	31/12/2006	Packer, Lindsay	In association with various Australian Kangaroo interests in the trade of kangaroo products.
FSA-7A	Nutritional Composition of Kangaroo Meat	\$48,514	1/08/2007	Tume, Ron	Determining the nutrient composition of specific fat components in four muscle cuts of two different species of kangaroo from two geographic locations. The work will provide the industry with information they require regarding specific nutrients in their products.

2. All kangaroo-related research projects involving RIRDC - either as a major contributor or partner - have been included in the answer to question 1.