



Completed Projects in 2001 - 2002 and
Research in Progress as at June 2002

Sub-Program 2.3

DEER



July 2002

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- 2.3 Deer".
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RIRDC Deer Research Manager

Mr Peter Core
RIRDC
Level 1, AMA House
42 Macquarie Street
BARTON ACT 2600
PO Box 4776
KINGSTON ACT 2604

Phone: 02 6272 5920
Fax: 02 6272 5877
Email: peterc@rirdc.gov.au

RIRDC Publications Manager

Rural Industries Research and Development Corporation
Level 1, AMA House
42 Macquarie Street
BARTON ACT 2600
PO Box 4776
KINGSTON ACT 2604

Phone: 02 6272 3186
Fax: 02 6272 5877
Email: cecilef@rirdc.gov.au
Website: <http://www.rirdc.gov.au>

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Foreword

This year RIRDC has produced *Research in Progress, June 2002*, which contains short summaries of continuing projects as well as those that were completed during 2001 - 2002 for all of the Corporation's 20 program areas.

The complete report on all the programs is only available in electronic format on our website at <http://www.rirdc.gov.au>

The following report is a hardcopy extract covering sub-program 2.3. It contains all entries from continuing and completed Deer research projects funded by RIRDC – Deer. This program aims to foster an Australian deer industry as a highly profitable and efficient mainstream agricultural enterprise.

This report is the newest addition to our extensive catalogue of almost 800 research reports, videos and CD-Roms of projects supported by RIRDC. Please contact us for the latest publications catalogue or view it on our website.

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Peter Core
Managing Director
Rural Industries Research and Development Corporation

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2.3 DEER COMPLETED PROJECTS

Project Title:	Development of domestic markets for value added Australian Velvet Antler and Deer Co Products Part B
RIRDC Project No.:	BII-2A
Researcher:	Chris Tuckwell
Organisation:	Rural Industry Developments PO Box 1105 Gawler East SA 5118
Phone:	08 8523 3500
Fax:	08 8523 3301
Email:	cdtuckwell@bigpond.com
Objectives	<p>Follow part 'A' of the project, the major emphasis of this project was the development of a manual that documents specifications for Australian deer industry velvet antler and venison co-products.</p> <p>Discrete objectives were to:</p> <ul style="list-style-type: none"> • Improve returns to Australian fallow deer farmers by developing profitable, sustainable domestic Australian market demand for fallow deer velvet antler • Improve returns to all Australian deer farmers by developing profitable demand for co products (liver, sinews, hearts, blood and kidneys) • Initiate production of value added deer antler and venison co-products according to specifications documented by Part A of this project <p>Develop a promotional manual that documents specifications for fresh and value added, Australian deer industry velvet antler and venison co-products</p>
Background	<p>One of the major reasons for the consistently greater returns realised by New Zealand farmers from animals sold for slaughter is that New Zealand marketers have created ongoing, profitable demand for co products collected during animal processing. In the past, the many processors of Australian deer have been unable to separately market their small volumes of co products. Improvement in information about co products produced by deer in Australia and the development of standard specifications for the products will contribute to improved returns for Australian deer farmers.</p> <p>Our investigation (Part 'A' of this project) of Australian tourist markets, in particular health food shops and Asian herbalist shops, suggests that this market sector's knowledge of the Australian deer industry generally and the availability of deer co-products specifically, is almost nonexistent.</p> <p>There are some commercial outlets serviced by Australian companies that have limited knowledge of the Australian industry. However there has been little or no commercial development of these markets and the only promotional material available to retailers is that produced by New Zealand.</p>
Research	<p>A velvet and venison co-products specifications manual for farmers and marketers was developed in consultation with the New Zealand Game Industry Board, Australian Deer Horn and Co-products Pty Ltd, Tong Ren Tang Australia, The Alpine Deer Group (NZ) and Bilby International.</p> <p>This manual will provide the basis for a confident expansion of market development programs that are linked to and compliment the Australian deer industry Quality Assurance programs.</p>

Outcomes	<p>The velvet antler and venison co-products manual produced by this project provides those involved in marketing products with a ‘user friendly’ publication that will inform purchasers of the standard specifications for products produced in Australia and of the Australian industry’s commitment to Quality Assurance in production and supply of the products it produces.</p> <p>The manual also provides farmers with an ‘easy to update’ summary of velvet grading charts and general information about venison co-products.</p> <p>The velvet antler and venison co-products manual compliments the Australian Deer Industry’s Quality Assurance program is well placed to aid the confident production of products that meet processor/marketer quality standards.</p>
Implications	<p>This manual should be regarded as a ‘living’ document that will progressively meet changing requirements. It was developed with input and cooperation from a wide range of Industry personnel, all of whom we thank sincerely. In particular a special note of thanks is given to the New Zealand Game Industry Board for its consent to include information from their Velvet Grading Charts for Red deer and Wapiti in this manual.</p> <p>All processors and purchasers of Velvet Antler and Venison Co-products are urged to use the manual and make recommendations for amendments to further the aims of excellence within the Australian deer industry</p>

Project Title: Quality Assurance, Strategic Alliances and Industry Development

RIRDC Project No.: DIP-4A
Researcher: Chris Tuckwell
Organisation: Rural Industry Developments
 PO Box 1105
 Gawler East SA 5118
Phone: 08 8523 3500
Fax: 08 8523 3301
Email: cdtuckwell@bigpond.com

Objectives To develop and implement strategies that will consolidate and expand production of Australian deer products and position the Australian Deer Industry as a commercial livestock industry that complements Australian's traditional livestock industries.

Background The expansion of the Deer industry in Australia will continue to be dependent on promulgation of positive market information. Positive market information will only become available when all negative aspects of production and marketing are minimised and clients develop confidence in the Industry's ability to develop long-term supply contracts for high quality products. Cooperation between production and processing sectors must be encouraged and developed quickly and openly. Databases of industry statistics must be maintained and accessible. Without doubt promotion and adoption of quality assurance programs are an integral part of this development Australian deer industry's background has been well documented.

Research The four major components to the project were: (i) maintenance an development of existing databases; (ii) development of strategic alliances between processors and between producers and processors; (iii) the development of documentation for the of documentation for the licensed used of registered of industry QA marks and facilitation of QA adoption by industry; and (iv) continued collection and open reporting of market and other industry trends.

Outcomes Database development has continued and statistical data has been collected and reported to industry. Reference databases are available interested persons on the RIRDC and DIAA websites. A simple venison price schedule calculator has been developed for industry as well as an integrated venison statistic recording and analysis program (VenStat). VenStat will the continued collection and analysis of venison statistics that can be used in conjunction with the industry quality assurance program and for the production of industry development and marketing statistics. Venison promotion and marketing programs mean that venison is now included in the Food and Beverage Association's Source Book. The Source Book, widely used by Australian Chefs and food purchasers, is a compilation of details of food and beverage available in Australia and how to obtain product as required. A quality assurance facilitator workshop was undertaken to train industry QA facilitators in the accreditation of deer farms and deer transports and a Code of Practice for Facilitators was developed to meet legal requirements of industry and the facilitators. Revised truck cleaning procedures were negotiated by industry to better meet industry needs and meet EU quality assurance expectations. Documentation for five industry quality assurance marks has been developed and submitted to the trade marks office and the ACCC for registration. Although returns to producers have increased significantly during this project increases in venison prices have been principally due to a devaluation in the Australian dollar and demand for red meat other than beef by European consumers as a result of BSE. The average quality (HCW) of Australian venison has changed little since April 1998. Promotion of the industry Quality Assurance Program is ongoing. Statistical data collected includes industry information on average venison prices by carcass weight range within breeds.

Implications

The industry should actively encourage the use of the VenStat program by all venison processors and make it available to all Australian processors at a price that encourages them to use it. Data collected by the VenStat program will add to the Industry's growing database and provide detail not previously collected on sex of animals processed and in the future details about condition score, age at slaughter and amount of bruising. This information is vital requirement for planning marketing and production strategies and for identifying quality assurance issues that can influence farmer returns.

Current venison prices are principally a function of factors that are beyond industry control and average venison quality (as determined by average hot carcass weight data) has changed little since April 1998. To provide a more stable basis for venison prices the average hot carcass weight venison must be improved and the variation around the average must be reduced. Research in Australia and New Zealand along with the wide variation in hot carcass weight of animals processed in Australian abattoirs suggests that improved producer management of deer can improve aspects of poor carcass quality.

Strategies that should be considered to improve the average hot carcass weight of deer processed in Australia include:

1. Bench Marking of a series of properties to demonstrate management techniques to achieve ideal carcass weight;
2. Detailed cost benefit analysis of achieving ideal hot carcass weight;
3. Training of Australian deer farmers and processors in live body condition score (BCS) assessment of deer;

A continuation of the regular and open reporting of market information to industry.

Project Title: Defining energy and protein requirements of fallow deer under a Mediterranean environment	
RIRDC Project No.:	SAR-21A
Researcher:	Dr Yingjun Ru
Organisation:	South Australian Research and Development Institute
Phone:	08 83037787
Fax:	08 8303 7977
Email:	ru.yingjun@saugov.sa.gov.au
Objectives	<ul style="list-style-type: none"> • To monitor seasonal nutrient intake by deer under grazing conditions. • To determine energy and protein requirements of fallow deer under a Mediterranean environment. • To develop strategies for supplementary feeding during summer and winter. • To improve liveweight gain or reduce the time taken to reach target finishing liveweight by using cost-effective diet formulations based on the nutrient requirement of deer and nutritive value of feed ingredients. • To disseminate research outcomes to deer farmers by the ALFI database, seminars, workshop and scientific publications. • To improve deer farmers profitability by feeding more nutritionally sound diets.
Background	<p>The Mediterranean environment is characterised by wet cold winters and hot dry summers. The herbage availability for grazing deer under such environment fluctuates with the season, resulting in a low availability of green feed in autumn and winter, a surplus of green feed in spring, and a dry feed period in summer/ autumn. The seasonal feed supply results in a significant variation in growth rate of deer. Supplementary feeding in early winter and summer is required to achieve economic production. However, supplementary feeding for deer is either commenced at the incorrect time or is not meeting the animal requirements, resulting in significant additional costs for the industry. To develop an economic supplementary feeding strategy, it is essential to understand the seasonal variation in nutrient intake from pastures of grazing deer and the nutrient requirements of deer at various productive levels.</p>
Research	<p>To define the nutrient requirements and forage intake of grazing fallow deer, four trials were conducted. The experiments demonstrated that there was difference in digestibility between sheep and deer, depending on the type of pastures. Forage intake was low in early winter and influenced by the amount of supplementary feed available. There was seasonal variation in energy and protein requirements for fallow deer for each kg of body weight gain. Energy level in diets is the key factor limiting deer growth. Oats and triticale are good supplementary feeds.</p>
Outcomes	<ul style="list-style-type: none"> • Data on chemical composition and nutritive value of 11 feed ingredients were obtained for use in inclusion in least cost supplementary feed diets. • The data obtained on forage intake and energy and protein requirements can be used to for the development of supplementary feeding and pasture management strategies. • Oats and triticale are effective as supplements for deer, but the inclusion of lupins as additional protein source had no benefit.
Implications	<p>The data obtained in this study can be immediately adopted by the deer farmers for the development of supplementary feeding and pasture management strategies during the season. This will ensure that southern Australia deer farmers are using cost effective feeding strategies to produce quality venison.</p>

Publications

- Miao, Z. H., P.C. Glatz, A. English and Y.J. Ru (2001). Managing red and fallow deer for animal house research- ANZCART December 2001.
- Ru, Y. J., Z. H. Miao, P. C. Glatz and M. Choct (2002). Predicting feed intake of fallow deer (*Dama Dama*) using alkanes as a marker. *Asian-Australasian Journal of Animal Science*. 15, 209-212.
- Ru, Y. J., P. C. Glatz, Z. H. Miao, K. Swanson, S. Falkenberg and S. Wyatt (2002). Comparison of the digestibility of grain and forage by sheep, red and fallow deer. *Asian-Australasian Journal of Animal Science*. 15, 800-805.
- Ru, Y. J., J. A. Kruk, M. Fischer, M. Choct and P. C. Glatz. (2002). Predicting n-alkane concentration in pastures and deer faeces for dietary composition and digestibility measurement using near infrared spectroscopy. *Asian-Australasian Journal of Animal Science* (in press).
- Ru, Y. J., W.K. Peng, J.A. Kruk, P.C. Glatz, M. Fischer and K. Swanson. (2002). Predicting crude protein content and *in vitro* digestibility of pastures for fallow deer using near infrared spectroscopy (NIR). *Asian-Australasian Journal of Animal Science* (in press).
- Ru, Y. J. and P. C. Glatz (2002). Energy requirements of 28-32 kg fallow weaner deer in southern Australia. *Asian-Australasian Journal of Animal Science* (in press).
- Ru, Y. J. and P. C. Glatz (2002). The digestibility of feed ingredients for sheep, red and fallow deer. *Australian Deer Farming* (submitted).

Project Title:	Overcoming nutritional constraints to growth of weaner fallow deer in southern Australia.
RIRDC Project No.:	UA-46A
Researcher:	Dean Revell & Philip Tow
Organisation:	Department of Animal Science & Department of Agronomy and Farming Systems Adelaide University Roseworthy Campus Roseworthy SA 5371
Phone:	(08) 8303 79711
Fax:	(08) 8303 7972
Email:	dean.revell@adelaide.edu.au
Objectives	<ul style="list-style-type: none"> • Provision of cost-effective strategies for nutrition of weaner deer in dryland farming regions in southern Australia that will reduce nutritional stress in the dry autumn post-weaning period and maintain high growth rates. • Through dissemination of research results, improve deer production and foster expansion of the deer industry into dryland farming regions of southern Australia.
Background	Weaning fallow deer in southern Australia usually coincides with low pasture availability and quality. The use of feed supplements (grain or conserved roughages) or alternatives such as dryland lucerne are required. No comparisons between feedstuffs available for weaner fallow deer in southern Australia were available, and there was no information on the extent of any compensatory growth of fallow deer during late winter and spring when feed quality and quantity are non-limiting.
Research	This project investigated the use of grain supplements (barley and lupins), hay, silage or in lucerne (either in a cut-and-carry or grazing system) on growth performance of weaner deer. The use of annual medic pasture in winter and early spring, combined with lucerne in late spring/early summer was also investigated.
Outcomes	<p>To maximise post-weaning growth rates, the best supplements to natural pasture in autumn were barley/lupin grain (70:30 mix) or barley grain alone. Fallow deer fed these supplements have outperformed those that received hay, silage, or cut-and-carry lucerne as supplements. The use of standing lucerne as an autumn feed source has shown great promise. Weaner deer performed as well, or better, on standing (ie, fresh) lucerne than on grain supplements.</p> <p>The provision of grain supplements or access to fresh lucerne did not completely overcome slow rates of growth that characteristically occur during the first 2-4 weeks immediately post-weaning. The improvement in early growth performance from supplementation continued after supplementation ended, resulting in improved live weight at the end of spring, and/or a reduction in the number of days required to reach a target market weight. Annual medic pasture provided a suitable feed source that can be used to attain acceptable bodyweight gains per hectare, as long as stocking density is optimised.</p>
Implications	This project has demonstrated the feasibility of the combined use of grain supplements, annual medic pasture and lucerne pasture to achieve marketable weights of fallow deer by early summer. Success depends on high standards of both deer husbandry and pasture management.
Publications	Revell, D.K., Tow, P.I. and Malycha, M. (2000) Feeding strategies for profitable venison production in southern Australia. <i>Australian Deer Farming</i> 11 , 23-24.

Project Title:	Drought feeding - Early weaning strategies
RIRDC Project No.:	UQ-78A
Researcher:	Gordon Dryden
Organisation:	School of Animal Studies, The University of Queensland, Gatton Q 4343
Phone:	07-5460 1255
Fax:	07-5460 1444
Email:	gmd@sas.uq.edu.au
Objectives	To investigate the feasibility of early weaning of red deer calves, and its effects on growth, health, food intake and digestion, of early-weaned calves.
Background	<p>Early weaning/artificial rearing is an intensive feeding system which could give deer farmers additional control over their enterprise. It should be useful in the normal management of deer, because rapid weaner growth gives more flexibility to meet seasonal demands for venison. It may help to reduce the adverse effects of predation and mismothering. It is especially relevant to the management of deer herds in droughts.</p> <p>Little is known about how early weaning/artificial rearing might be best accomplished under Australian conditions.</p>
Research	Red deer (<i>Cervus elaphus</i>) calves were weaned at either 7 or 9 weeks of age. The variables monitored were acceptance and consumption of solid food, any occurrence of ill-health (such as diarrhoea, dehydration, and laminitis), the growth of the early-weaned calves during the period of artificial rearing and throughout the subsequent year, and the calves' abilities to digest solid food constituents.
Outcomes	<p>These red deer calves accepted solid food immediately, and there were few incidences of dominant behaviour between the paired calves. There were no cases of diarrhoea or laminitis (two conditions which may occur in ruminants which have been allowed free-choice access to concentrate-rich foods), or any other adverse effects on animal health.</p> <p>It is concluded that (1) early weaning at 7 weeks is feasible, (2) early-weaned calves will show the effects of a growth check at weaning, and may be smaller than their normally-reared counterparts for several months, (3) these effects will be largely overcome during the next season of good pasture growth.</p>
Implications	The monetary benefits of early weaning may be \$50,000 per year in saving orphaned calves, nationally, and \$3 million over 10 years in Queensland alone in drought mitigation.
Publications	Dryden, G.McL. (2000). Food consumption and growth of female red deer fawns after early weaning. <i>Proceedings of the Nutrition Society of Australia</i> , 24: 257.

2.3 DEER RESEARCH IN PROGRESS

Project Title	Improving Deer Industry Profitability through Research Uptake - Pilot Project																																																											
RIRDC Project No.:	CAM-1A																																																											
Start Date:	01/09/01																																																											
Finish Date:	30/08/03																																																											
Researcher:	Ms. Gaye Cameron																																																											
Organisation:	RMB 6590 Shady Creek Road WARRIGUL VIC 3820																																																											
Phone:	(03) 5626 6232																																																											
Fax:	(03) 5626 6232																																																											
Objectives	<ul style="list-style-type: none"> • The project will consider the farming enterprise from the viewpoints of 'Costs and Production, Production Techniques and Marketing' and implement the existing research data to improve the industries profitability. • The project will (i) analyse the costs of production, and set benchmarks as industry standards. (ii) address the production issues of meeting carcass specifications and weaning percentages, and (iii) assist farmers to market their products at the optimal time. 																																																											
Current Progress	<p>Results of Analysis of data collected from eleven deer farming enterprises in the Gippsland area.</p> <p>BizCheck for Meat 2000/01 Season - Warragul Deer Data Summary Sheet Selected Indicators</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 45%;">Indicator</th> <th style="width: 10%;">Deer Group Middle Range</th> <th style="width: 10%;">Deer Average of highest 25%</th> <th style="width: 15%;">#Target B'mark Red Meat Medium</th> <th style="width: 15%;">#Target B'mark Red Meat Strong</th> </tr> </thead> <tbody> <tr> <td>Production: Water use-Farm Income/ha/100mm High rainfall (>800 mm) (\$/ha/100mm)</td> <td style="text-align: center;">70</td> <td style="text-align: center;">188</td> <td style="text-align: center;">35-45</td> <td style="text-align: center;">Above</td> </tr> <tr> <td>Size DSE/Household ('000 DSE/HH)</td> <td style="text-align: center;">2.2</td> <td style="text-align: center;">11.9</td> <td style="text-align: center;">5-10</td> <td style="text-align: center;">Above</td> </tr> <tr> <td>Operating Costs (%)</td> <td style="text-align: center;">117</td> <td style="text-align: center;">41</td> <td style="text-align: center;">60-50</td> <td style="text-align: center;">Below</td> </tr> <tr> <td>Debt as a ratio of Farm Income (ratio)</td> <td style="text-align: center;">1.4</td> <td style="text-align: center;">0</td> <td style="text-align: center;">1.5-0.7</td> <td style="text-align: center;">Below</td> </tr> <tr> <td>Livestock Investment: Value of livestock as a % of Livestock income (%)</td> <td style="text-align: center;">390</td> <td style="text-align: center;">130</td> <td style="text-align: center;">200-150</td> <td style="text-align: center;">Below</td> </tr> <tr> <td>Machinery Investment: Machinery clearing sale value as ratio of Farm Income (ratio)</td> <td style="text-align: center;">1.34</td> <td style="text-align: center;">0.34</td> <td style="text-align: center;">0.6-0.4</td> <td style="text-align: center;">Below</td> </tr> <tr> <td>Farm Profit/ Household (\$'000/HH)</td> <td style="text-align: center;">-13</td> <td style="text-align: center;">42</td> <td style="text-align: center;">30-60</td> <td style="text-align: center;">Above</td> </tr> <tr> <td>Non-farm Income Net non-farm income/Household (\$'000/HH)</td> <td style="text-align: center;">43</td> <td style="text-align: center;">88</td> <td style="text-align: center;">5-15</td> <td style="text-align: center;">Above</td> </tr> <tr> <td>Disposable Income/Household (\$'000/HH)</td> <td style="text-align: center;">33.5</td> <td style="text-align: center;">80</td> <td style="text-align: center;">30-60</td> <td style="text-align: center;">Above</td> </tr> <tr> <td>Net Worth or Equity/Household (\$'000/HH)</td> <td style="text-align: center;">702</td> <td style="text-align: center;">1,541</td> <td style="text-align: center;">400-800</td> <td style="text-align: center;">Above</td> </tr> </tbody> </table>					Indicator	Deer Group Middle Range	Deer Average of highest 25%	#Target B'mark Red Meat Medium	#Target B'mark Red Meat Strong	Production: Water use-Farm Income/ha/100mm High rainfall (>800 mm) (\$/ha/100mm)	70	188	35-45	Above	Size DSE/Household ('000 DSE/HH)	2.2	11.9	5-10	Above	Operating Costs (%)	117	41	60-50	Below	Debt as a ratio of Farm Income (ratio)	1.4	0	1.5-0.7	Below	Livestock Investment: Value of livestock as a % of Livestock income (%)	390	130	200-150	Below	Machinery Investment: Machinery clearing sale value as ratio of Farm Income (ratio)	1.34	0.34	0.6-0.4	Below	Farm Profit/ Household (\$'000/HH)	-13	42	30-60	Above	Non-farm Income Net non-farm income/Household (\$'000/HH)	43	88	5-15	Above	Disposable Income/Household (\$'000/HH)	33.5	80	30-60	Above	Net Worth or Equity/Household (\$'000/HH)	702	1,541	400-800	Above
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Target Benchmarks BizCheck for Meat EDGE Network r MLA

This data will allow deer farmers to evaluate differences between top performers and themselves. As well as assist them in the analysis of the performance of their individual farm business. This will provide a starting point to monitor trends in farm productivity and profitability over time. These are the first benchmark for deer properties in Gippsland. Participants are not selected randomly, the figures generated cannot be taken to represent averages and any comparisons drawn from the results published should be treated with caution.

As well as the Business Program there has been six other Discussion Group meetings held. Hosting the meetings on farm has stimulated discussion on a wide range of topics including: weaning percentage of fallow deer, Johne's, shed and yard design, pasture quantity and quality. Valuable discussion with the host farmer prior to the meetings has helped them with specific problems e.g. weaning percentage and weaner growth rates required to take advantage of marketing options.

Project Title	Evaluation of diagnostic methods for johnes disease in deer
RIRDC Project No.: Start Date: Finish Date: Researcher: Organisation: Phone: Fax: Email:	DAV-194A 01/09/01 29/05/02 Dr. Robin Condron Department of Natural Resources & Environment (Vic) Victorian Institute of Animal Science 475-485 Mickleham Road ATTWOOD VIC 3049 (03) 9217 4200 (03) 9217 4299 condronr@woody.agvic.gov.au
Objectives	<ul style="list-style-type: none"> Development and evaluation of the performance of diagnostic serological test and pooled faecal culture (PFC) for detection of <i>Mycobacterium avium</i> subsp <i>paratuberculosis</i> (Mptb) infection in deer. A report detailing the test performance and methodology will be provided for consideration and endorsement by SCAHLS and Veterinary Committee for the test to be included in the Australian Standard Diagnostic Techniques (ASDT). Characterised specimens will be included in the National Serum Reference Panel maintained by the OIE reference laboratory for use in test quality assurance and test validation.
Current Progress	<p>Following the previous milestone report (March 30 2002), one property that had been sampled for sera and faeces as a candidate for our “negative property” samples has been found with a low number of positive animals by faecal culture. The impact of this positive finding has meant further testing of sera from other negative properties has been required, plus retesting of sera and faeces from this property to establish the degree and source of infection. Pooled faecal culture and most probable number experiments have each been conducted on three occasions. Repeat experiments have been necessary to obtain suitable sample numbers for analysis as some of the faeces used in the experiments were of apparent low numbers of <i>M. paratuberculosis</i>.</p> <p>Serology</p> <ul style="list-style-type: none"> Testing of extra sera from negative properties is in progress to re-establish specificity estimates. Comparative test performance analysis between the ELISA, AGID and CFT is currently in progress. Further testing of false positive sera is in progress using an improved ELISA absorbent . <p>Pooled faecal culture</p> <ul style="list-style-type: none"> A final pooled faecal culture experiment is in the initial stages of preparation and is expected to be completed in 10 weeks. Faeces from the positive properties will also be pooled in a small field trial. <p>The final report is anticipated to be completed by August 31 2002 as discussed by email on the 7/6/02.</p>

Project Title	Improving Deer Industry Profitability
RIRDC Project No.: Start Date: Finish Date: Researcher: Organisation: Phone: Fax: Email:	DIP-5A 25/07/01 30/07/02 Mr. Chris Tuckwell Deer Industry Projects & Developments Pty Ltd PO Box 1105 GAWLER SA 5118 (08) 8523 3500 (08) 8523 3301 cdtuckwell@bigpond.com
Objectives	<ul style="list-style-type: none"> • To continue the improvement of deer farming profitability and increase new interest in the industry by: • Ongoing collection, interpretation and reporting of deer industry statistics and databases. • Regular reporting of project outcomes and industry activities to media and industry stakeholders. • Reproducing new industry QA manuals produced by DIP-3A part B for dissemination to industry. • Producing computer CD's that holds an electronic format of new manual. • Encouraging and training new industry QA facilitators as required. • Updating the accreditation status of existing facilitators.
Current Progress	<p>Statistical data continues to be collected and reported to industry through regular industry publications and a summary report of industry statistics and project outcomes was presented to industry at its biennial conference in September 2001.</p> <p>Industry QA manuals were reproduced and distributed, along with a CD containing the new Deer QAMA program, to every person who owns a registered industry manual earlier in the project year.</p> <p>Training and reaccreditation of facilitators in each state is almost complete so they will be the future resource for industry people seeking information on any aspect of the Deer Industry QA program including the use Deer QAMA. Deer QAMA was demonstrated at the fourth World Deer Congress in Texas during February 2002 and interest in the program, particularly from the UK and Canada was high.</p>

Project Title	Determining the tolerance of fallow and red deer to salt
RIRDC Project No.:	SAR-26A
Start Date:	01/07/00
Finish Date:	31/08/02
Researcher:	Dr. Yingjun Ru
Organisation:	South Australian Research and Development Institute Pig and Poultry Production Unit Roseworthy Campus ROSEWORTHY SA 5371
Phone:	(08) 8303 7787
Fax:	(08) 8303 7977
Email:	ru.yingjun@saugov.sa.gov.au
Objectives	<ul style="list-style-type: none"> • To examine the effect of salt concentration in water on growth rate of fallow and red deer under grazing conditions. • To quantify the effect of salt intake on feed intake and growth rate of fallow and red deer. • To disseminate research outcomes to deer farmers by field days, fact sheets, seminars, workshops and scientific publication.
Current Progress	<p>An experiment with fallow deer is under way. A total 40 weaners (fallow deer) were divided into four groups based on body weight and fed <i>ad libitum</i> on a pelleted diet. The diet was formulated with lupins, oats, lucerne, oaten hay, minerals and molasses. Two groups were offered fresh water as controls, and the other two groups were offered water with added salt. Salt concentration in water is being adjusted every two weeks, increased gradually from 0.3%, 0.6%, 0.9% until there is a noticeable decline in feed intake. Deer were weighed before being offered the salty water.</p> <p>Experiment has not been carried out with red deer because there are no red calves on Roseworthy Deer Farm. This experiment will be completed next year.</p>

Project Title	Study of the Relationship between body condition score, carcass composition and consumer perception of venison quality
RIRDC Project No.:	UWS-18A
Start Date:	01/10/01
Finish Date:	30/11/04
Researcher:	Ms. Christine Hutchison
Organisation:	University of Western Sydney Environmental Management and Agriculture Building K8 Bourke Street RICHMOND NSW 2753
Phone:	(02) 4570 1438
Fax:	(02) 4570 1383
Email:	c.hutchison@usw.edu.au
Objectives	<ul style="list-style-type: none"> • A concise overview of the proposal work under the headings of: • Outcomes and deliverables of the proposed research • Background, relevance and potential benefits • Research strategies and methodology • Communications/adoption/commercialisation strategy • Time-lines
Current Progress	<p>A condition scoring system for fallow deer has recently been developed (RIRDC Project UWS 16A) which allows a common language to be used by producers and processors when describing carcass characteristics. The 5 score assessment ranges from 1 (emaciated), 2 (lean), 3 (prime), 4 (fat) and 5 (over fat). The extreme scores of 1 and 5 are not being examined in this study as these scores are not used commercially.</p> <p>Experimental work has been carried out on bucks and castrates (havers) 18-24 months old with body condition scores between 2 & 3. Initial results indicate that there is no difference between bucks and havers for the quality parameters of intra-muscular fat, meat colour, tenderness and moisture content. There was also no difference in moisture content and tenderness for samples collected 5 days and 10 days post-mortem. There was significantly more fat ($P=0.014$) and moisture ($P<0.001$) in the forequarter loin when compared with mid-loin samples.</p> <p>These data suggest that commercial carcasses can be processed at a range of times after slaughter, without changing venison quality parameters. Further work will compare data from bucks, does and havers of condition scores 2,3 and 4, killed at different times of the year, to establish the relationship between body condition score and venison eating quality.</p>