R&D Plan for the

Deer Industry

Program

2000-2005

RURAL INDUSTRIES RESEARCH
& DEVELOPMENT CORPORATION

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Foreword

Within the context of the Corporation's Five Year Plan, we have committed ourselves to the development of five-year plans for each of the major RIRDC programs. Deer R&D has been supported by the Corporation and its predecessor since the mid 1980's. This is the second plan for the Corporation and one more step to meeting our commitment of having plans for each of the major programs that we manage.

The majority (at least 90%) of commodities produced by Australian Deer Industry are sold in export markets. This makes the industry especially vulnerable to international market forces over which it has no control (international exchange rates, international import requirements etc) and to international competition from the world's largest industry and close neighbour, New Zealand.

RIRDC and the industry believe that production research is not sufficient to encourage expansion of the Deer industry but a program of research that is inextricably linked to programs of extension and communication of the practical messages determined from the research are essential.

The plan identifies eight key objectives for the R&D investments made on behalf of the deer industry and the Commonwealth Government. Each of the objectives is important in its own right and all mutually supports each other towards the development of a deer industry, which is a highly profitable and efficient mainstream agricultural enterprise.

This publication was developed with reference to the RIRDC Deer Research and Development Program 1996-2000 and in consultation with industry, especially the Deer Industry Association of Australia (DIAA), the Deer Industry Processors Association (DIPA), the Australian Venison Processors Association (AVPA), Australian Deer Horn and Co Products Pty Ltd (ADH), Deer Projects and Developments Pty Ltd (DIC) University Researchers and various state departments of Agriculture. The plan details the agreed strategic R&D needs of the industry, that RIRDC will pursue in partnership with industry, according to available funds.

The plan is for all stakeholders in the industry. It will be distributed widely by the Corporation and used by RIRDC's Deer Industry Research and Development Advisory Committee to guide ongoing R&D investments. Details of this committee are set out at Appendix 1 of the plan. The plan is in accordance with the provisions of the *Primary Industries and Energy Research and Development Act 1989.*

Peter Core
Managing Director
Rural Industry Research and Development Corporation

Contents

1 Purpose of the Plan

This plan has four main purposes:

- To present the rationale for the Corporation's Deer Industry R&D program that RIRDC manages on behalf of industry and the Commonwealth Government.
- To provide clear direction regarding Deer Industry R&D needs and priorities for the period 2000 to 2005
- To encourage, and support, discussion and interaction between RIRDC, Deer Industry stakeholders and the wider research, development and extension community.
- To ensure the needs of the industry are identified and incorporated, into immediate and long term planning decisions.

This plan, which is a logical progression from the 1996 – 2000 five year plan, is developed from extensive national consultation with producers, DIAA, AVPA, ADH, DIC, University researchers and State Departments of Agriculture. Where practical, consultation was undertaken by direct interview of stakeholders but generally was via post, telephone, fax and email communication.

The Plan reflects recommendation that levy expenditure is reasonably apportioned between velvet and venison R&D considerations.

Readers should regard the Plan as a living document that Industry will update as circumstances require. The Plan provides a basic framework through which all sections of the industry and providers of R&D support will be encouraged to work towards achieving the objectives of the Plan to enhance the sustainable development of the Australian Deer Industry.

2 Vision and Mission Statements

The vision and mission for the future shared by industry stakeholders, RIRDC and those involved in research development and extension is:

Vision Statement

An Australian deer industry which is a profitable and efficient mainstream agricultural enterprise, based on the growth and development of participants, producing internationally competitive premium products.

Mission Statement

To be a professionally organised and coordinated industry working to world's best practice by:

- *increasing financial viability for all sectors of the industry;*
- *improving organisational integrity and leadership;*
- *developing premium products of quality assured international standards to world markets;*
- *improving education and development within the deer industry; and*
- *increasing promotion and research for all aspects of the deer industry.*

3 Background

Industry Summary

Deer are not indigenous to Australia. They were introduced into Australia during the Nineteenth Century under the Acclimatisation programs governing the introduction of exotic (non native) species of animals and birds into Australia. Introduced animals, representing six species of deer were released at various locations. The animals dispersed and established wild populations at various locations across Australia mostly depending upon their points of release into the wild, and formed the basis for the deer industry in Australia today.

Commercial Deer farming in Australia commenced in Victoria in 1971 with the authorised capture of rusa deer from the Royal National Park, NSW. Until 1985, only four species of deer, two from temperate climates (reds, fallow) and two tropical species (rusa, chital) were confined for commercial farming. Late in 1985, pressure from industry to increase herd numbers saw the development of import protocols and in turn, the introduction of large numbers of Red deer and Red deer/North American Elk (Wapiti) hybrids from New Zealand and North American Elk (Wapiti) directly from Canada.

Statistics compiled during 1997/99 suggest that in 1997/98 there were approximately 190,000 deer in Australia. Fallow deer comprise about 49%; Red deer (including red hybrids) comprise about 39%, Elk/Wapiti about 3%, Chital about 2.5% and Rusa 6.5% of the total farmed deer population.

The national farmed deer herd is distributed through all states although the majority are in NSW and Victoria.

The number of animals processed annually has continued to increase, despite the downward trend in venison prices, since 1997. Of concern is the apparent increase in the number of female animals processed (may suggest that the industry's production capacity is reduced) and the number of 'whole herds' committed for processing. With more than 40,000 animals processed in 1998/99 and 60,000 in 1999/2000, there is justified concern that future years may see a dramatic drop in production.

Average venison prices (weighted to consider variations of price paid relative to hot carcase weight and less the industry levy) did improve from an industry low of approximately $1.60/kg hot carcase weight in June 1999 to approximately $2.70/kg in June 2000.

From 1997 average prices (weighted to consider variations in price paid for different grades within and between species) for velvet antler were similarly depressed (about $22.50/kg) but 1998 prices showed a slight recovery (up to about $36.50/kg). The recovery continued into 1999 where average prices exceeded $100/kg.

At least 85% of all venison produced in Australia is exported, principally to Europe and at least 90% of all velvet antler produced is exported in an unprocessed state to Asia.

The industry has embarked on a Quality Assurance program that is slowly growing, in an effort to increase client confidence in the commodities it produces and to guarantee international market access for those commodities.

The Australian Velvet Accreditation scheme continues to have a positive effect on quality that in turn has a positive effect on price paid to growers.

The industry appears to be showing limited signs that it is emerging from a state of depression caused by both internal and external factors that include: (i) the Asian currency downturn; (ii) the industry's lack of competitive advantage in influential markets (particularly in respect to New Zealand competition), and; (iii) within industry processing and marketing competition for limited product volumes of venison.

Industry Structures

From the formation of the Australian Deer Breeders Federation in 1979, the industry representative body has evolved through the Deer Farmers Federation of Australia to the Deer Industry Association of Australia Ltd (DIAA), which was registered in 1995.

The DIAA represents all sectors of the Australian Industry and members subscribe directly or through state branches, breed societies or processing associations.

The industry has established two product development and marketing companies, the Australian Deer Horn and Co products Pty Ltd (ADH) and the Deer Industry Projects and Development Pty Ltd, which trades as the Deer Industry Company (DIC).

ADH collects and markets Australian deer horn and co products on behalf of Australian deer farmers. It promotes the harvest of velvet antler according to the strict quality assurance (QA) program promoted by the industry. The company also plans and co-ordinates regular velvet accreditation courses for Australian deer farmers.

DIC undertakes project work to assist the industry achieve its goals as described in the Industry five year plan, or otherwise as required by the DIAA.

Industry Development

Industry estimates suggest that until the early 1990's the rate of the annual increase in the number of farmed deer was up to 25% but after 1993 this rate of increase fell to probably less than 10%. Main reasons for the decline in the deer herd growth rate at such a critical time in industry development were: (i) severe drought conditions up to 1998 affecting Eastern Australia during 1993-96 (in some areas the drought lasted until 1998) and (ii) the consequent slaughter of large numbers of breeding females, at very low prices. These factors combined to decrease confidence within the industry. Lack of confidence saw a drop in new investment within the industry and a lack of willingness of established farmers to expand their herds.

With the development of strong overseas markets for venison (RIRDC funded venison market development program) and velvet (Australian Deer Horn and Co Products Pty Ltd) and prospect of better seasons ahead in 1996, the trends described were seen to have been significantly reversed. However, the relatively small size of the Australian herd was seen to impose undesirable restraints on the rate at which herd numbers could be expanded to meet the demands for products.

Supply difficulties were exacerbated when the supply of products, particularly venison was maintained by the slaughter of young breeding females. The net result was depletion of the industry's female breeding herds.

Research and Development

Industry research and development programs are funded by statutory levies on sales of animals for venison, velvet antler sales and the sale live animals into export markets. The bulk of funds are collected from levies raised by the deer slaughter levy (venison).

RIRDC funded projects within objectives of the 1996 – 2000 five year plan including animal nutrition, pasture quality, carcase quality, antler harvesting, promotional material, technical bulletins). All have generated a significant volume of research information, which compliments similar research undertaken in New Zealand and other deer farming countries.

Major projects funded by levy funds include the Venison Market Development project during 1992 to 1996, which saw a dramatic increase in international demand for Australian venison and increase in the domestic consumption of venison.

However, the rapid increases in exports of venison were accomplished at the expense of maintaining the size of the national herd, (depletion of female stock through slaughter for venison and live exports).

In an effort to maintain existing venison markets in the short term and to increase them in the long term, the industry's top priority (in 1997) became the increase in size and production capacity of the national herd. However, since 1997, the decline in farm gate returns has significantly reduced industry confidence and has seen an increasing number of producers leave the industry and a decreasing interest in new investment in the industry.

The average annual budget allocated for Deer Industry research during the 1996-2000 Deer Industry Research and Development program ranged from $100,000 to $250,000. Although the majority of these funds have been obtained from the deer slaughter levy in the past, the current contribution of velvet antler levies to total levies receipts is significantly greater than in the past.

Industry stakeholders recognise the greater contribution of velvet antler levies to R&D funds and this Plan reflects industry support for a reasonable allocation of R&D resources between the Industry's major commodities.

Future discussions on levy reduction should be undertaken objectively and must consider:

(i) Future production forecasts
(ii) Likely funds available for research sourced from an amended levy linked to realistic production forecasts
(iii) Industry expectations of its research and development programs
(iv) The availability of research funds to meet research and developed expectations.

4 Key Challenges for the Industry

Key Challenges in Production

Production Efficiency and Understanding Consumer/Market Requirements

Many producers do not understand that they ultimately control most of the attributes of commodities required by consumers. They must be more willing to adopt feeding and general management regimes that see the industry's sale products consistently meet consumer needs and so increase average farmer returns.

RIRDC has funded many worthwhile production related research projects on behalf of industry. Reports of all projects are produced for appropriate scientific journals, in industry publications and at various industry forums throughout Australia.

Technology to improve production is available from completed Australian and International research. However, many of those involved in farm production manage their production system using anecdotal information. They are reluctant to change and accept that many early practices do not equate with commercial and profitable production of meat (venison) and antler.

Product Quality and Strategic Alliances

Available data show a considerable decline in farmer returns for venison during 1998/99. Although a major reason for the decline is traceable to factors beyond industry control, venison production data clearly show that Australian producers can significantly improve some aspects of poor carcase quality. New Zealand information presented at the 1998 Industry AGM discussed the benefit of cooperative alliances between producers and processors in that country. It appears reasonable that strategic alliances compel producers to ensure animals offered for sale meet minimum quality standards and compel processors to develop long term business relationships with clients based on supply of quality products at mutually acceptable prices.

To survive, Australia's deer farmers need to receive relatively high returns, compared with other livestock species for the meat they produce. Consistently high returns are only achievable when direct within industry competition in markets is minimised, Quality Assurance programs are developed and adopted, and strategic supply alliances that guarantee clients consistently receive products that meet all of their specifications is implemented.

Economics of Production

Many existing deer farms are unprofitable because they lack economies of scale. Small, likely uneconomic, units will continue to persist while owners do not rely on their deer enterprise for their primary source of income. Until this situation changes, industry issues of poor quality of production from unprofitable production systems are likely to persist.

However, estimates suggest that 60 to 80% of the deer in Australia are owned by 20 to 30% of the owners. Research and extension programs should concentrate on those commercial producers whose enterprise size suggests their commercial sustainability.

Key Challenges in Marketing

International and domestic market access continues to be compromised by a lack of understanding or acceptance of market requirements.

Producer commitment to programs that overtly demonstrate industry's collective commitment to meeting market specifications of product quality, animal welfare, disease status and absence of contaminants is essential for the immediate and long term future of the industry.

Although some issues of market access are of a political nature and so are not generally influenced by research programs, most issues related to consistency of product quality and consistency of supply relate to the availability of improved technologies and preparedness of producers and processors to use them.

Key Challenges in Communication

Anecdotal information suggests that producer confidence in Industry organizations is low and in particular, that DIAA does not always represent whole of Industry views. However, research funded by RIRDC, (Deer Industry Development Project 1997 to 1999) shows that in 1997/98, more than 50% of deer farmers were members of the DIAA and that farmers that were members of the DIAA owned about 75% of the known farmed deer population. The research also shows that in excess of 60% of the farmers that manage small deer herds, (less than 100 deer) were not members of the DIAA.

The challenge for Industry organizations and in particular the DIAA is to strengthen linkages with their farmer members by facilitating appropriate industry extension programs and communication/liaison infrastructures.

A significant aspect of this challenge is to encourage producers to read and objectively consider information provided to them, especially that generated by research undertaken with industry funds.

5 SWOT Analysis

An analysis of the Australian Deer Industry recognises that the industry has strengths, weaknesses and opportunities and faces threats outlined in tables below. Each factor is identified with major industry challenge areas described in section four above.

Strengths

Factor	Production	Marketing	Commun-cation
Established industry in all states	Y		
Generally good health status of existing national herd	Y		
Broader spectrum of species farmed than in any other deer farming country	Y		
Existing markets for all products		Y	
Wide range of internationally recognised products, particularly venison and deer horn (velvet antler) that allows year round supply (venison) to markets		Y	
Ability to process venison for Hal-Al markets		Y	
Health and nutritional advantages of deer products are accepted by international consumers		Y	
Developing industry Quality Assurance program and quality marks for major products	Y	Y	
Independent Quality Assurance Board	Y		Y
Existing Velvet Accreditation Scheme		Y	
Established industry organisational structures			Y
Established good working relationships with key government support organizations (RIRDC)			Y
Well established industry communication channels (national industry journal, RIRDC newsletter, branch publications)			Y
Statutory levies in operation since 1992 that provide funds for R&D projects and residue testing, although some industry stakeholders currently question high levy rates	Y	Y	Y
Availability of research facilities and experience and interest of researchers	Y	Y	Y
Technical production data available	Y		
TAFE training courses for deer farming operating in Victoria	Y		Y
Excellent promotional material available		Y	Y
The R&D plan for the deer program provides R&D guidelines to RIRDC and the Deer Industry for 2001 to 2005	Y	Y	Y
The Clean-green image of Australia's agricultural production		Y	
Quality genetics for all breeds available relatively cheaply	Y		

Y = Yes

Weaknesses

Factor	Production	Marketing	Commun-ication
Inconsistent quality of animals sold for venison (management)	Y	Y	
Inability of producers to objectively and accurately assess live animals	Y	Y	
Production not matched to market demand	Y	Y	
Forward selling contracts generally not available to producers		Y	
Gambling mentality of producers (lack of loyalty, short term view)		Y	
Lack of quality assured deer transporters	Y	Y	
Perceived lack of trust/confidence between producers and processors			Y
Industry size does not generate the volume of product required for an export oriented industry		Y	
Perceived poor information flow from DIAA and RIRDC to industry members			Y
Industry dominated by small, non commercial scale, enterprises	Y		
Industry representative groups are predominantly controlled by people who manage small (likely uneconomic) production systems			Y
Perceived lack of commitment to the "big picture" by industry organizations			Y
High statutory levies compared to other livestock industries	Y	Y	Y
Farmers lack interest in membership of industry organizations formed for the benefit of the industry at large			Y
Strong industry marketing support structures do not exist for coordinated development of export and domestic markets, and marketing is generally based on opportunist enterprise marketing		Y	
Most farmers do not have a background in livestock management and do not rely on their deer enterprise as their primary source of income	Y		
Current economics do not encourage traditional farmers to diversify into deer farming	Y		
Lack of uptake of available research and market requirement data			Y
General lack of appropriate handling facilities on many farms which has direct affect on product quality	Y		
Between species competition that is negative to industry development		Y	Y
Significant within industry competition to market limited production		Y	
Lack of government funded extension services available to other industry groups			Y

Opportunities

Factor	Production	Marketing	Commun-ication
Diverse nature of production areas combined with the existing range of farmed species ensures an ability to supply international markets throughout the year		Y	
Increase fallow deer herd to take advantage of existing export markets and compete in parallel with New Zealand rather than directly	Y	Y	
Existing established markets available for target marketing programs		Y	
Piggy back on NZ investment in markets		Y	
Develop "cooperative farms" to improve economics of scale	Y		
Develop long term strategic alliances between groups of farmers and processors to guarantee minimum prices for guaranteed supply of product guaranteed to meet strict quality specifications		Y	
Encourage adoption of the industry QA program and the industry QA trade marks		Y	
Establish an email register for industry members to improve communication efficiency			Y
Establish a register of domestic wholesalers of Australian venison			Y
Explore cost effectiveness of value adding velvet antler products and direct marketing opportunities for processed Australian antler products		Y	
Explore specific advantages of each species (both venison and velvet antler) and cooperatively exploit them in the market for the benefit of the whole industry		Y	
Availability of low cost breeding stock for new enterprises	Y		
Existing sheep and cattle properties easily adapted for deer farming	Y		
Potential for collaborative international involvement in international R&D programs especially those relevant to meat quality and animal welfare issues	Y	Y	Y
Broaden genetic base of the national herd by selective introduction of superior stock that increase industry ability to meet market specifications for products	Y	Y	
Develop within breed strains of deer specialised for either velvet antler or venison production		Y	
Establishment of State government industry specialists			Y

Threats

Factor	Production	Marketing	Commun-ication
Dominance and control of International markets by the New Zealand industry		Y	
International currency exchange rate fluctuation (reliance on export markets)		Y	
Failure to meet export market requirements imposed by governments of importing countries	Y	Y	
Relative price of competitor products in domestic markets (kangaroo)		Y	
Potentially restricted access to European venison markets related to velveting concerns		Y	
EU regulations including CITES with respect to Mesopotamian fallow deer		Y	
Gradually increasing production in main export markets (Europe) that may eventually depress demand		Y	
Ill founded animal welfare concerns, particularly related to velveting	Y	Y	
Continued reduction in the national herd by drought and female slaughter	Y		
General lack of solvency within the industry	Y		
Lack of viability of small herds	Y		
Costs of government legislation including residue testing, Johne's disease testing and velvet harvesting	Y		Y
Transmission of diseases from other livestock	Y		
Accidental entry to Australia of exotic diseases of pests to which deer or susceptible or which subsequently compromise access to product markets	Y		
Lack of new market development		Y	
Basis of support for industry organizations is increasingly narrow			Y
Ongoing lack of cohesion between breed groups and state interest groups			Y
Insufficient investment by industry in R&D and extension programs	Y	Y	Y
Negative perceptions of the industry by some consumer and animal welfare groups			Y
Within industry personality conflicts			Y
Limited social interaction within the industry			Y
Under capitalised industry organizations			Y
Reluctance of skilled people to undertake industry organizational tasks			Y

6 Key R&D Priorities for the Industry

The only Deer Industry issues considered and included in this plan are those that can be directly addressed by R&D programs. Other issues can only be addressed by non R&D programs and rely directly on industry imports for solutions. The following are key issues identified during consultation with industry:

Y = Yes

Y = Yes

INDUSTRY ISSUE				BACKGROUND	R & D PRIORITIES
Description	General	Venison	Velvet		
1. Small Australian herd	Y			The Australian deer herd is too small to reliably service a sustained demand for product. This has been exacerbated during the recent period of low prices.	• Increase the annual production of Australian venison and velvet antler and, • Encourage adoption of known production technologies to improve reproduction performance of the Australian herd
2. Low on-farm production efficiency	Y			Production efficiency on-farm is low because of slow uptake of new livestock management techniques and nutrition technologies.	• Improve profitability of commercial deer farms by improving on-farm production efficiency including: i Reproductive performance ii Feeding efficiency iii Transport efficiency • Encourage adoption of known nutrition technologies and management techniques to improve farm productivity
3. Slow producer uptake of QA	Y			Australian producers have been slow to adopt quality assurance measures (QA) on-farm. QA helps to establish benchmarks for carcase quality. QA enhances product integrity and this has positive implications for market acceptance of Australian product.	• Enhance product integrity by: i Increasing the adoption of the industry QA accreditation program ii Strengthening links between the industry QA program and the industry QA trade marks iii Researching issues of product safety, venison eating quality and community health issues and animal welfare concerns.

4. Market base for Australian product too small	Y			Australia directly competes directly with other countries (NZ) in existing markets	• Build demand by broadening the specialty international and domestic market base
5. Low farm profitability	Y			The industry is based on farms that were profitable during the speculative expansion phase of the industry. The industry must be based on deer farming enterprises that are profitable and sustainable.	• Improve farm profitability by establishing supply chain infrastructures, particularly strategic alliances that link production, processing and marketing, that help supply high quality products
6. Poor live animal assessment skills		Y		Australian farmers' live animal assessment skills are poor as reflected in the average quality of stock sold for processing and subsequently average prices paid by processors.	• Improve growers' practical skills by developing a live animal assessment system that can be applied accurately on-farm to help maintain quality and consistency of product.
7. Potential future adverse impact of chemical velvet harvesting on consumer acceptance			Y	There is an adverse public reaction to velveting generally. Future Quality Assurance may dictate freedom from analgesics and sedatives in velvet antler used as a food product.	• Develop a painless non-chemical means of harvest that meet community animal welfare and QA standards and may add to farm profitability.
8. Existing markets for deer antler may be over supplied if significant increases in inter-national production occurs			Y	Velvet antler price remain relatively high yet volatile. Prices principally determined by demand from Korea and Chins. The domestic Australian market is untapped and more information is needed to help identify market opportunities.	• Identify and develop a domestic market for value added deer antler to help improve the economics of production on-farm.
9. Poor industry livestock manage-ment handling skills	Y			Australian deer farmers are slow to adopt improved livestock management techniques and handling technologies. There is a need to encourage a more commercial approach to venison and velvet production	• Encourage the uptake of known and new techniques and technologies through extension programs, so that on-farm productivity and profitability can be improved and the Australian deer herd size increased so that producers can sustain a reliable supply of quality product to available markets.

10.General lack of knowledge and appreciation of the uses and effects of deer antler			Y	There is a poor appreciation among the Australian community of the benefits to health from deer antler products.	• Document existing information and research therapeutic and other uses of deer antler products and encourage consideration by health food businesses.
11. Generally poor under-standing or acceptance of animal nutrition require-ments	Y			Australian farmers have a poor understanding of the nutritional requirements of deer.	• Research the pasture species requirements of deer. • Improve growers understanding of the nutritional requirements of deer, particularly for different climatic regions.
12. lack of genetic predictors for venison and velvet production	Y			Genetic predictors to help identify future venison and antler production potential in young male stock are not available in Australia or are poorly researched.	• Research genetic predictors to help identify future venison and antler production potential in young male stock
13. Poorly developed market information database	Y			Consistent velvet and venison market data have only been compiled for the last few years.	• Further develop the database and seek ways of better analysing and presenting data to meet industry needs.
14. Poor intra-industry communi-cation	Y			Assistance and information need to be communicated to growers so that they can upgrade their on-farm performance. Improved intra-industry communication will enhance industry cohesiveness and accelerate industry development.	• Improve communication within the industry, and particularly between the DIAA and its member growers and encourage greater involvement of and interaction between members. • Encourage industry members to read and consider data that is provided on a regular basis.

7 The R&D Plan for 2000-2005

The overall objective of the plan is to encourage the sustainable expansion of the Australian Deer industry.

R&D objectives for 2000 to 2005 are separated into three groups that reflect either general, across industry R&D objectives or R&D objectives that more specifically relate to venison or velvet aspects of the industry.

General R&D objectives are:

1. Improve profitability of the industry for all stakeholders.
2. Improve on farm production efficiency
3. Facilitate adoption of improved production technologies
4. Improve confidence in industry representative groups

Venison specific R&D objectives are:

1. Improve average quality of animals sold for processing
2. Develop international and domestic markets for Australian venison and develop supply chain management programs

Velvet specific R&D objectives are:

1. Develop domestic and international markets for processed deer antler
2. Develop a non chemical means of harvesting velvet antler

G1 - General Objective One

To improve the profitability of the Australian industry for all stakeholders

Background

The average number of deer available for processing annually is less than 40,000. Although about 65% of all deer are concentrated in NSW & VIC the Australian population is dispersed through all states. The industry is unable to maintain cost effective processing and reliability of supply.

The industry's aim is to improve the profitability of all sectors of the industry and so encourage the expansion of the industry by the establishment of new large herds or expansion of existing herds to provide enterprises with sustainable economics of scale.

Strategies

Increase new interest in development farming by improving average per head returns to growers through improving average quality of stock sold for slaughter.

Develop and implement extension programs that encourage the adoption of known production technologies

Increase average reproduction performance of the Australian herd

Continue to gather, collate and disseminate venison and velvet market information

Targets

Increase the average turn off of the Australian herd to 45,000 animals by 2005

Increase the average size of Australian deer herds by 50% by 2005.

Performance Indicators

Ongoing statistical analysis of deer slaughter numbers

Census of Australian deer industry in 2004/2005

Available venison and velvet market statistics

G2 - General Objective Two

Improve on farm production efficiency

Background

The average reproductive rate of the Australian deer herd is lower than should reasonably be expected. Reasons for the low rate include (i) that many producers do not allow all females to be joined and (ii) management of deer (nutrition) limits the ability of females to conceive and carry pregnancies.

Strategies

Develop and implement extension projects to extend known technologies on best known animal nutrition and management techniques

Justify costs of feeding deer

Improve the economics of scale of deer farms by increasing the average industry farm size

Determine predictors of future velvet antler production of young males

Develop a performance recording program for Australian deer herds

Targets

Increase the average annual reproductive rate of female deer in Australia to at least 85% by 2005

Increase the average hot carcase weight of deer slaughtered above those recorded for 1998/99

Performance Indicators

Increased average annual turn off by 2005

Increase in the statistical average reproduction of Australian deer herds.

G3 - General Objective Three:

Increase adoption of improved production technologies

Background

RIRDC and other groups have funded and undertaken research into many deer farming production technologies. New information and technologies have been reported in industry magazines and at industry seminars. However, new technologies and management practices have not been widely adopted by industry.

Reasons for lack of adoption include a disinterest in new information, a lack of understanding of reports, a lack of understanding of practical messages from research, strong belief in traditional concepts and lack of understanding of the cost/benefits of the research.

Strategies

To develop practical extension modules for delivery to small and large farmer groups that emphasise both specific and holistic approaches

To develop economic models that demonstrate the cost/benefit of implementing improved technologies.

Ensure all Australian deer farmers have ready access to practical technology messages.

To produce an industry standard specifications and language manual for velvet antler and co-products (similar to the completed venison manual, RIRDC project DIP-2A)

Support the development and networking of people involved in research, development and extension

To link live animal assessment to marketable venison yield and profitable production

Targets

Increase the reproductive rate of the Australian deer industry to about 85% by 2005

Increase the percentage of processed deer carcases that meet client specification

Increase the percentage of deer that are QA accredited to 50% by 2005

Better match venison demand with supply.

Performance Indicators

Improved average price for deer carcases

Improved profitability of all deer farmers

Increased market demand for products

G4 - General Objective Four

Improve confidence in industry representative groups

Background

Since the rapid depression in venison and velvet prices in 1997 membership of and confidence in existing industry organisations has fallen. Although the peak industry body (DIAA) appears to represent the ownership of the majority (60%) of farmed deer in Australia the membership of such groups can be attributed to a range of factors including membership fees and an apparent lack of confidence in industry leaders.

Strategies

Strengthen communications between industry bodies and membership
Encourage wider contribution and active participation of industry members in industry representative bodies
Develop industry extension programs tailored for specific area needs
Review the membership of RIRDC research and advisory committee
To encourage more active participation in industry organizations
Encourage a more cohesive national approach to industry decision-making and R&D programs

Targets

Increase regular reporting of project activities undertaken by RIRDC on behalf of industry and increase dissemination of results to producers and processors
Organisational support for regular field days throughout Australia that give members an opportunity to put their view to industry elected representatives
Encourage greater participation in the industry's biennial conference.

Performance Indicators

Increased membership of DIAA
Improved support for industry representative groups

V1 - Venison Objective One

Improve the average quality of animals processed

Background

Published reports demonstrate that the average quality of animals processed by the Australian deer industry varies greatly and is generally poor. Poor quality relates to lack of live animal visual assessment standards, lack of management (nutrition) skills, lack of understanding of cost/benefits of improved management (nutrition) and absence of economics of scale.

Strategies

Encourage the uptake of venison technologies related to nutrition management

Demonstrate the cost/benefit of improved nutrition regimes particularly with respect to reduced variation in live weight of animals offered for sale

Link live animal assessment to grower profitability

Encourage the adoption of the industry Quality Assurance program

Targets

Improved quality (meeting target specifications) of Australian venison available to markets

Improved profitability of commercial deer farms

Improved demand for Australian venison in international and domestic markets

Performance Indicators

Improved average carcase weight for each species processed

Improved average carcase price ($/kg hot carcase weight)

Decreased percentage of over fat carcases and very lean carcases

V2 – Venison Objective Two

Develop specialty international and domestic markets for Australian venison and develop supply chain management programs

Background

The volume of venison produced annually by the Australian industry is small by most meat industry standards and the volume available to each of the groups involved in marketing product is even smaller. The industry must develop specialised niche market demand to which it can guarantee continuous supply of product that meets exacting specifications. Ongoing attempts to develop market demand that industry is incapable of supplying will have a negative influence on future industry development.

Strategies

- Develop the visibility of industry quality trademarks and promote the quality specifications they suggest
- Promote the trade marks in specialty international and domestic markets and encourage the purchase of product displaying the industry guarantee of quality
- Produce a booklet of venison cut specifications for domestic markets to encourage informed use of venison.
- Overcome the negative perception of a broad cross-section of the Australian food industry, to the Australian Deer industry, in particular targeting `up and coming' chefs at TAFES and catering schools

Targets

- At least 50% of Australian venison sold displaying industry quality marks by 2005
- Recognition of quality marks by clients and their request for quality stamped product
- Venison cut booklets available for domestic market clients
- Positive perception of the deer industry by the Australian food industry by 2005

Performance Indicators

- Number of processors using industry quality marks
- Venison cuts booklets available and widely distributed
- Venison whole sale lists maintained on an industry internet site
- Increase in domestic consumption

A1 – Velvet Objective One

To develop domestic and international markets for processed deer antler

Background

The Australian deer industry's production of velvet antler continues to increase (estimated to be at least 30 tonnes in 1998/99). However, almost all of Australian production is exported as frozen raw product to Asian countries. Australia is a destination for many Asian tourists whose cultures traditionally use velvet antler and there is an increasing interest in velvet antler from people looking for 'natural' remedies for many ailments.

Strategies

From available international research, document health benefits and range of applications for velvet antler.

With assistance from tourism groups and health food groups identify likely target markets for specific velvet products

Develop and evaluate a range of velvet antler products for specific domestic Australian markets

Test market the range of velvet products in specific niche target markets

Investigate the therapeutic and other health benefits of velvet antler

Encourage the adoption of the industry Quality Assurance and Velvet Accreditation programs

Targets

Improve the average quality of velvet antler produced in Australia

Increase value of velvet antler to Australian producers

Improved profitability of Australian deer farms

Performance Indicators

Increased percentage of Industry's velvet antler production sold into domestic markets

Greater percentage of velvet classified into high quality grades

Statistical increase in the average value paid to farmers for velvet antler

A2 – Velvet Objective Two

To develop a non-chemical means of harvesting velvet

Background

Anaesthetics used in humanely velveting may leave residues that could threaten trading of velvet and deer products. In addition, more humane and better handling of deer will enhance the product and contribute to the welfare of the deer.

Strategies

To closely monitor and report on Australian and international research and international community opinions related to harvesting of velvet antler

To encourage mechanical rather than chemical restraint of deer for velvet harvesting

Ongoing R&D into humane, non chemical means of velveting

R&D into improved mechanical restraint of deer

Targets

Report on Australian and international research and international community opinions related to harvesting of velvet antler by December 2001

Less than 25% of all deer velveted using chemical restraint by 2005

100% of all deer farms have QA approved mechanical handling systems in yards by 2005

New harvesting methods approved by 2005

Performance Indicators

Statistical assessment of the use of chemical restraint for velvet harvesting

Adoption of QA recommendations for deer handling

New velveting techniques in use

8 Allocation of R&D Resources

Funding for industry R&D is provided by levies allocated from the sale of venison, velvet antler and live exports.

Negligible revenue is obtained from live animal exports. Since the introduction of the industry levies, average annual revenue available from current venison levies ($0.18/kg hot carcase weight) and levies on velvet antler (5% of gross value) for R&D progress has been about $200,000.

Increased production and sale prices realised by producers has seen a recommendation for the levies to be reduced. However general industry opinion suggests that despite a reduction in levy rates, net receipts for R&D will remain unchanged.

Table 1 below summarises complimentary objectives for the 2000-2005 Deer Industry Plan and demonstrates the flexible boundaries of the objectives than enables key issues to be considered in parallel or in sequence.

Suggested allocation of funds described below (figure 1) is based on a general indication of current industry priorities identified during recent industry consultations. The allocations are only a suggested guide as many of the objective overlap in their strategies and targets.

Table 1 - R&D objectives addressing key issues

ALLOCATION (%)	KEY INDUSTRY ISSUES														
	RESEARCH OBJECTIVES	1. Small Australian Herd	2. Low On-Farm Production Efficiency	3. Slow Producer Uptake Of QA	4. Market Base For Australian Product Is Too Small	5. Low Farm Profitability	6. Poor Live Animal Assessment Skills	7. Negative Impact Of Chemical Velveting On Consumer Sentiment	8. Few Deer Antler Markets	9. Poor Industry Livestock Management And Handling Skills	10. Limited Knowledge Of The Use Of Deer Antler	11. Poor Understanding Of Animal Nutrition Requirements	12. Lack Of Genetic Predictors For Venison And Velvet Production	13. Poor Ly Developed Market Information Database	14. Poor Intra-Industry Communication
10 %	G1. Increase Profitability	M	M			M				Y				M	Y
5 %	G2. Improve On-Farm Production Efficiency	M	M	M		M	M			M		M	M	M	Y
20 %	G3. Increase Adoption Of Improved Production Technologies	M	M	M	Y	M	Y			M		M		Y	Y
5 %	G4. Improve Confidence In Representative Groups			M		Y				M				Y	M
10 %	V1. Improve Average Quality Of Animals Processed	M	M	M	M	M	M			M		M	Y	Y	Y
30 %	V2. Develop Markets For Australian Venison				M	Y				Y			Y	M	
10 %	A1. Develop Markets For Processed Deer Antler				M	Y		Y	M		M		Y	M	
10 %	A2. Develop Non-Chemical Velvet Harvesting							M	Y	M					

Y = Minor contribution; M = Major contribution.

Table 2 - Proposed funding allocation

G1. Improved Profitability	10%
G2. On-farm Production Efficiency	5%
G3. Increase Adoption of Improved Production Technologies	20%
G4. Improve Confidence in Industry Representative Groups	5%
V1. Improve Average Quality of Animals Processed	10%
V2. Develop Speciality Markets for Australian Venison	30%
A1. Develop Markets for Deer Antler	10%
A2. Develop Non Chemical Velvet Harvesting Techniques	10%
TOTAL	100%

Appendix 1

RIRDC Deer Industry R&D Advisory Committee

Terms of Reference

1. To foster and initiate R&D in areas identified by the Deer Industry R&D Plan.
2. To invite, commission and consider proposals for R&D support in accordance with the Deer Industry R&D Plan and general Corporation guidelines.
3. To prepare an annual operating plan program for RIRDC Board consideration.
4. To facilitate the dissemination, adoption and commercialisation of the results of research within the industry.

Membership

1. Chairperson of the Advisory Committee to be nominated by the Deer Industry Association of Australia (DIAA) President and agreed with the RIRDC Chairperson.
2. Four members nominated by the DIAA.
3. One member nominated by RIRDC who, in the first instance, will be Mr Peter Core.
4. The Deer Research Manager.
   (Industry nominees who are directors of Deer Industry Projects and Development Pty Ltd or the Australian Deer Horn Company are precluded from being on the R&D Advisory Committee due to potential conflict of interest situations).

The membership of the Committee at end September 2000

CHAIRPERSON

Ms Nola Anderson
Ph: (03) 9431 2360
26 Arcadia Way
ELTHAM NORTH VIC 3095

MEMBERS

Dr Laurence Denholm
Ph: (06) 3913 863 (w)
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RIRDC RESEARCH MANAGER

Mr Peter Core
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Email: peterc@rirdc.gov.au
Rural Industries R&D Corporation
PO Box 4776
KINGSTON ACT 2604
(Level 1, AMA House,
42 Macquarie St
BARTON ACT 2600)

Terms/Fees

Industry members will be appointed to the R&D Advisory Committee for a period of two years.

Advisory Committee members nominated by industry will be paid for their services in accordance with the determinations of the Commonwealth's Remuneration Tribunal.

The sitting days for the Advisory Committee will be determined by the Chairperson of the Committee in accordance with Commonwealth guidelines.

Operations

The operations of the Deer Industry R&D Advisory Committee will be consistent with the Corporation's charter under the *Primary Industries and Energy Research and Development Act* and RIRDC's Corporate Five Year Plan.

Advisory Committee members are expected to declare any conflict of interest relating to membership of the Advisory Committee to the Managing Director of the Corporation before appointment or at any time as such conflict may arise during membership of the Committee.

Accountability

The Deer Industry R&D Advisory Committee is a Committee of the Corporation but is expected to develop and maintain strong links to industry with particular reference to the Deer Industry Association of Australia Ltd, through the DIAA's R&D Policy Committee.

The Committee is expected to operate in accordance with the Deer Industry R&D Plan which will be drawn up jointly by RIRDC and DIAA.

The DIAA will make one of the industry members responsible for liaising with the DIAA's R&D Policy Committee, for providing them with written advice on the R&D Committee's activities and decisions and for alerting them to matters impinging on research policy.

Appendix 2

RIRDC funded research projects initiated and completed during 1996 - 2000

Project No.	Project Title	Start Date	Finish Date
ADH-1A	Australian Deer Horn & Co Products trip to China and Korea to investigate marketing options of deer horn and deer co-products for the Korean and Chinese markets	10/31/97	5/29/98
ADH-2A	Microbial Flora of Velvet: A Pilot Study	11/1/97	6/30/98
CSS-1A	Adding value to venison trimmings using cold set binders	8/1/97	8/18/98
DAS-43A	Development of an Ecchymosis grading chart	7/13/95	10/31/95
DAV-100A	Maintaining year-round production of quality venison: the use of "immunocastration" vaccines to control "rutting" behaviour	7/1/95	10/31/97
DEN-2A	Deer products R&D newsletter	11/9/95	9/30/96
DEN-3A	Consultancy: Production of 'Deer Products R & D Newsletter'	12/1/96	9/30/97
DIA-1A	Venison Market Development in Europe	7/1/98	6/1/99
DIP-1A	The development of the deer industry as a major Australian livestock industry	5/1/97	6/30/99
DIP-2A	Venison Carcass Specifications Manual	5/17/99	11/1/09
FPL-1A	Exporting Venison to Israel	12/21/98	3/31/99
MS967-15	John Andrews travel to attend the Tas and SA deer conferences	7/6/96	8/15/96
MS967-16	Deer R & D Plan	10/1/96	10/31/96
MS967-37	Editing and typesetting of the Short Report on Vension Market Development Program (VMD-2A)	4/1/97	4/30/97
MS978-07	Sponsorship of Deer Industry Association of Australia Conference 19-21 Sep 1997	9/19/97	9/21/97
MS978-23	Trip to New Zealand to explore deer velveting and Associated Workshop	12/4/97	6/30/99
MS978-34	Australian Deer Industry Manual No. 1 (publication)	11/21/97	11/21/97
MS978-35	2nd World Deer Farming Congress, Limerick, Ireland, 24 June to 27 June 998	6/24/98	6/30/98
MS978-38	Australian Deer Industry Manual No. 2 (publication)	3/4/98	6/30/98
MS978-39	Report of Operations to the Deer Industry Association of Australia	3/13/98	6/30/98
MS978-41	Australian Deer Industry Manual No. 3 (publication)	3/9/98	6/30/98
MS989-44	Sponsorship of Deer Industry Association of Australia Conference 27-28 March 1999	2/27/99	2/28/99

MS989-45	Meat Inspection Costs for Emerging Industries	1/1/99	6/30/99
TA989-42	Attendance at the 6th International Colloquium on Paratuberculosis	2/1/99	6/30/99
US-56A	Non-chemical means of harvesting deer antler	11/1/98	5/30/99
UWS-12A	Identification of factors associated with ecchymosis (blood splash) in deer	7/1/95	2/28/99
WS967-12	Deer Nutrition Workshop	3/2/97	3/2/97
WS967-26	Deer Prograze Workshop 25 July 1997	7/25/97	7/25/97
WS989-04	Venison Marketing Workshop	2/5/99	2/5/99

RIRDC funded research projects initiated during 1996 – 2000 and ongoing

Project No.	Project Title	Start Date	Finish Date
BRN-1A	The influence of pre slaughter conditions on the occurrence of ecchymosis (blood splash) and high pH in deer carcasses	5/1/97	1/31/00
COW-1A	Deer R&D Newsletter - Publication and Distribution	1/1/98	12/31/00
DAQ-246A	Decision support system for managing red and Rusa deer in Queensland	7/1/98	11/30/99
DEN-4A	Deer R&D Newsletter - Editorial Services	1/1/98	12/31/00
DIA-2A	Development of niche European market opportunities - Follow up to DIA-1A	12/1/99	6/30/00
DIP-3A	Development of niche regional domestic and Japanese markets for differentiated specific cuts of venison	7/1/99	6/30/01
DIP-4A	Quality assurance, strategic alliances and industry development	7/1/99	6/30/01
FSA-1A	Eating qualities of venison from red and fallow deer	7/1/99	3/31/00
HES-1A	Domestic Venison Marketing: A Test Case	4/1/99	12/30/99
MS990-03	Sponsorship of Deer Industry Association of Australia Conference 10-12 September 1999	9/10/99	12/30/99
MS990-28	Sponsorship of Deer Industry Association of Australia Conference 25-26 March 20000	2/2/00	6/30/00
OVH-1A	A study of reproductive performance and pre weaning mortality in farmed red deer in Australia.	7/1/95	10/30/99
SAR-21A	Defining energy and protein requirements of fallow deer under a Mediterranean environment	7/1/99	6/30/02
TUC-1A	Development of a new Five-Year Deer Industry Research and Development Plan for 2000-2005	1/1/00	7/31/00
UA-46A	Overcoming summer/autumn nutritional constraints to deer production in Southern Australia	7/1/98	6/30/01
UQ-78A	Drought feeding - Early weaning strategies	7/1/98	12/31/00
UWS-16A	Nutritional requirements and growth characteristics of pregnant and lactating red and fallow deer	7/1/97	6/30/00