

# Farming meat rabbits in NSW

## Graeme Taylor

Livestock Officer Pigs

## Ian Kruger

Environmental Engineer

Intensive Industries Development, Tamworth

This Primefact provides a brief overview of the meat rabbit industry in Australia and the requirements for the farming of meat rabbits in NSW.

## Introduction

The NSW rabbit industry is still in the development stage, with an increasing number of small-scale producers. Many producers are selling breeding stock as well as rabbits for slaughter. The trend is for rabbit farms to locate in areas where processing plants are established or proposed, to reduce the costs and problems associated with transporting rabbits.

In metropolitan markets, rabbit meat is established as a high-value gourmet meat. Future market prices will continue to be determined by consumer acceptance.

There is a large capital outlay required in setting up or expanding a rabbit enterprise. It is important for potential investors to calculate the

return on capital invested and compare it with other long-term investment opportunities. Remember to include any tax advantages associated with each venture. This will help determine whether or not the rabbit enterprise is a worthwhile investment.

## Industry background

In the past, the Australian rabbit industry was based on harvesting wild rabbits. With the release of rabbit calicivirus disease (RCD), the number of harvested rabbits fell from about 2.7 million wild rabbits per year in 1990 to about 100 000 in 1999. It is now legal to farm rabbits in all states except Queensland and the Northern Territory. Therefore, the farmed rabbit industry has the potential to meet this shortfall for domestic and overseas consumption.

Important issues for prospective rabbit farmers include the following:

- Farmed rabbits must be a recognised domestic breed or a hybrid of domestic breeds—they cannot be crossed with wild rabbits.
- It is an offence to keep wild rabbits, or hybrids of a wild rabbit, without Rural Lands Protection Board (RLPB) approval. Also, if any domestic rabbits escape they are regarded as pest animals and there is an obligation for capture and control.

### The Australian rabbit industry

- In 2003 the estimated market size for rabbit farming in Australia was about 157 tonnes. This equates to about 119 000 to 132 000 rabbits from 80 to 100 farms averaging 55 does per farm and producing about 24 rabbits per doe.
- In NSW it is estimated that annual sales of meat rabbits is about 108 000 to 120 000 which would account for 4000 to 5000 breeding does.
- In mid 2005, prices for meat rabbits in NSW were about \$3.80 per kilogram liveweight or about \$7.02 dressed weight. On average, rabbits reach slaughter weights of about 3 kg liveweight or 1.5–1.6 kg dressed weight. Sale of skins was approximately \$6.10 per kilogram or about \$0.60 per skin.
- Profitability is very sensitive to feed prices, with costs in NSW for 2005 at about \$400–\$450 per tonne, depending on transport costs.
- The projected growth for the industry is about 10% per year. Expansion to date has been mainly through increases in average farm size rather than more entrants into the industry.



- Rabbits must be kept in a rabbit-proof enclosure.
- In Australia the use of vaccination to prevent myxomatosis is illegal. However, vaccinations can be used against rabbit calicivirus.
- SCARM Report No. 33, *The model code of practice for the welfare of animals — Intensive husbandry of rabbits*, specifies minimum cage sizes and provisions for supply of food and water to farmed rabbits. It also stipulates procedures for the correct handling and transport of rabbits.
- SCARM Report No. 59, *The Australian standard for hygienic production of rabbit meat for human consumption*, provides a guide for producers who operate processing plants.

## NSW planning legislation

For details of legislation governing establishment or expansion of rabbit farms, refer to 'Rabbit farming planning and development control guidelines' on the agriculture section of NSW Department of Primary Industries' website: [www.agric.nsw.gov.au/reader/an-rabbit](http://www.agric.nsw.gov.au/reader/an-rabbit)

When planning a new rabbit facility or expanding an existing unit, it is important to first contact the planning department of your local council for information on how to lodge a development application (DA).

## Housing and equipment

There is a need for purpose-built sheds with good ventilation to avoid problems with temperature extremes and odour build-up. Also, sheds should be insect-proofed to minimise infection with myxomatosis and rabbit calicivirus disease (RCD). Therefore, the cost of new housing is about \$500 per doe place for capital and equipment (excluding land value). For a viable rabbit enterprise of about 300 does, capitalisation of about \$150 000 would be required. However, many growers may be able to reduce this cost by adapting existing buildings.

In wet production systems, the concrete floor under the cages is periodically flushed or hosed with water. Manure, urine and washing water are channelled away from the shed to be stored and treated prior to disposal or use. In dry systems, the manure and absorbent litter such as straw or sawdust under the cages is periodically removed in a dry state. This is often preferred because there is less volume of waste and dry waste is more easily handled.

Equipment required for rabbit accommodation includes wire cages, nest boxes, feeders, waterers and temperature control systems.

In commercial enterprises, rabbits are raised indoors, typically with rabbits confined to cages

suspended above the floor. Each breeding doe is kept in a separate cage with her litter until weaning when the kittens are about 4 weeks of age. The growing young are then moved to another cage where they are kept until they reach approximately 12 weeks of age and are ready for slaughter. A target for doe productivity is seven litters per year with four to five rabbits produced per litter.

About three cages are required per doe to cater for the doe and her kittens plus two groups of weaned kittens. Buck cages are required at a ratio of 1 buck for every 10 does.

## Manure production

Manure production from rabbits eating balanced concentrate feeds and raised on mesh floors is about 153 kg faeces plus urine per day for a 100 doe rabbit farm. This is equivalent to about 1.95 kg of nitrogen and 0.9 kg of phosphorus per day. The amounts and composition of effluent vary according to housing, feeding and effluent systems. The manure, urine, spilled water and cleaning water should be drained, treated and reused in 'wet' production systems. Alternatively, in 'dry' production systems, the waste should be completely absorbed in sufficient under-cage litter.

Manure is a valuable asset and can be used as fertiliser on the property, sold off-site or used for other value-adding purposes such as worm farming or making compost.

## Breeding

The most commonly farmed rabbit in Australia at present is the New Zealand White. This rabbit has good growth characteristics and is capable of attaining a slaughter weight of approximately 3 kg within 12–14 weeks of age. The rabbit carcass dressing percentage is about 50% to 54% of live weight.

Breeding stock should be purchased from reputable breeders who use estimated breeding values (EBVs) in their breeding program and/or provide reproduction performance data of breeding stock.

Accurately assessing reproductive performance is critical to overall enterprise profitability. Excess high-quality breeding stock can be sold to other rabbit enterprises according to demand. To replace breeding stock, an average doe should be culled after weaning seven litters, which is about every 56 weeks. For a 100 doe rabbitry, this can be achieved by selecting four rabbits every 2 weeks to replace culled does.

Accurate recording of doe performance is also critical to improving genetic progress. A large rabbitry will need a computer-based system to cope with records for the large population of rabbits. The use of a hand-held computer system

that will scan bar-coded ID tags on rabbits would be an advantage.

## Reproduction

Does are ready for mating at about 16 weeks of age and bucks mature at 18–20 weeks. Does are often restless when ready for mating and are taken to the buck's cage. Does are fertile 24 hours after kindling (giving birth) and best conception occurs up to 5–6 days after kindling, and again after another 21 days. Good management will allow up to eight litters per doe per year; however, rabbits marketed can vary between 20 and 40 per doe depending on climatic conditions and rabbitry health status.

## Health and welfare

Rabbits must be kept in accordance with the *Model code of practice for the welfare of animals – Intensive husbandry of rabbits*.

High mortality rates in the industry have been mainly due to inadequate diets, heat stress and disease problems. Rabbits can be infected by a number of viral, bacterial and parasitic diseases including pasteurellosis, staphylococcus and coccidiosis.

Rabbit calicivirus and myxoma virus have been used for the control of wild rabbit populations in Australia. Does are usually vaccinated against RCD but in Australia it is illegal to use myxoma vaccine. Therefore, rabbit health must be monitored on a daily basis and any diseased stock removed as quickly as possible.

## Nutrition

Rabbits require diets specifically designed for each class of stock in order to achieve efficient performance. Diets are usually formulated with least-cost diet programs to formulate the most economical diets for individual farms according to availability of ingredients. Most farmers use only one ration; however, it would be preferable to have one breeder diet and one grower diet.

Feed quantities for a rabbit enterprise are generally lower than for other intensive industries. Therefore, careful negotiations will often be required with feed companies to ensure regular supply. Feed usage for 100 does plus about 700 progeny on-site at any one time would be about 130 g/day/rabbit. This is about 104 kg/day or about 38 tonnes of feed per year. Consider storing about 1 month's feed to ensure a consistent supply.

## Water supply

Drinking water requirements are about double the feed intake. Approximately 200 L/day or 73 000 L/year is required to maintain adequate feed intake and good health for 100 does and

progeny. If the water quality is uncertain, a laboratory analysis may be necessary.

For summer months, 50% more drinking water should be provided daily (300 L/day) for peak demand. Also, provide a header tank for at least 3 days' supply to cater for emergencies such as breakdowns.

Total water supply to the rabbitry will also need to include sufficient volumes for hosing and cleaning.

## Processing

It is essential that producers have access to reliable processing facilities to minimise production 'bottlenecks'.

At the time of writing, the following NSW abattoirs known to be operating were:

- Aussie Rabbits, Bundarra
- Bega Valley Gourmet Meats, Bega
- BunnyBiz, Alstonville
- Burrawong Quail Farm, Stuarts Point
- John's Farm P/L, Kyogle
- Macleay Valley Rabbits, Kempsey
- Manoka Park Gourmet Rabbits P/L, Narrabri
- M&V Cooke, Monteagle
- P Skinner, Young
- Snowy Mountains Gourmet Rabbit, Bredbo
- SS Johnson Rabbit Merchant, Hillston

## Marketing and sales

Before starting a rabbit enterprise, it is important to identify:

- a suitable market and potential buyers;
- the availability of a feed supply and slaughtering facilities;
- transportation costs.

The abattoir may pay according to either liveweight or dressed weight. The value of the skin may also be included in that price. Slaughter costs may or may not be charged to the grower, and profit will vary depending on negotiations between growers and abattoir management.

The greatest demand for rabbits is often seen over the winter months due to consumer preference.

## Economics

**Cost of production (COP)** in the rabbit industry is calculated by adding total feed costs with total non-feed costs. The profitability margin is then determined by subtracting total costs from total sales (including carcase and breeder sales). Calculations can be based on the dollar return

per kilogram of meat sold (dressed weight) or the dollar return per doe per year.

Table 1 outlines an example of the cost of production and the margin for a rabbit enterprise. These results will differ for individual properties due mainly to variation in feed costs, carcass prices and the level of production.

**Table 1. Example of the cost of production and the margin for a rabbit enterprise**

July 2004	\$/kg dressed weight sold
Total sales	8.06
Feed costs	3.32
Non-feed costs	1.19
Cost of production (COP)	4.51
Margin	3.55
<b>Dollar return / doe / year (producing 30 kits) = \$150</b>	

For a rabbit farm with 100 does producing 30 kits per doe per year (4220 kg meat) the margin would be approximately \$15 000. Costs do not include a labour component.

A detailed gross margin analysis can be completed using the CSIRO Crusader meat rabbit project enterprise model found on CSIRO's website:

<http://www.csiro.au/csiro/content/standard/psxo...html>

## Labour

Rabbit farming is labour-intensive, requiring work 7 days a week. The labour component can be up to twice that needed for the poultry industry, as one breeding doe requires about 8 hours of management time per year. With a 100 doe unit this would be equivalent to 800 hours per year or \$12 000 per year if the labour is costed at \$15.00 per hour.

One person can manage a 250–300 breeding doe farm depending on the level of automation.

## Further reading

Bobbitt, J 2003, *Buffalo, camel, crocodile, emu, kangaroo, Ostrich and Rabbit Meat – New value added products*, RIRDC Publication No. 03/036, RIRDC Project No. DAV – 182A, RIRDC, Canberra.

CSIRO 2001, *Farmed rabbits for growth in Australian agriculture*, RIRDC Research Project CSU – 1A, Annual Report, 10 December 2001.

Eady, SJ 2003, 'Farmed rabbits in Australia', report for the RIRDC, Rural Industries Research and Development Corporation, Publication No. 02/144, January 2003.

Foster, M 1999, *Australian farmed rabbit – prospects for industry development*, RIRDC Publication No. 99/88, RIRDC Project No. ABA – 7A, RIRDC, Canberra.

Gordon, J and Garrett, D 2004, 'Rabbit farming – an evaluation of the Crusader R&D Program', report for the RIRDC by the Centre for International Economics, Rural Industries Research and Development Corporation Publication No. 03/144, February 2004.

Lebas, F et al. 1997, *The rabbit – husbandry, health and production*, Food and Agriculture Organisation, Rome, Animal Production and Health Series No. 21.

Mo'ane, C and Carota, M 2003, 'The farmed rabbit industry in Australia – a commercial perspective', discussion paper prepared by Australian Rabbit Farms Pty Ltd, July 2003. [www.australianrabbitfarms.com.au](http://www.australianrabbitfarms.com.au)

SCARM Technical Report Series No. 33 1991, 'Intensive husbandry of rabbits', *Model code of practice for the welfare of animals – Intensive husbandry of rabbits*, CSIRO Publications, East Melbourne, phone (03) 9418 7217. [www.publish.csiro.au](http://www.publish.csiro.au)

SCARM Technical Report Series No. 59 1997, 'Australian Standard for hygienic production of rabbit meat for human consumption', *Model Code of Practice for the Welfare of Animals – Intensive Husbandry of Rabbits*, CSIRO Publications, East Melbourne, phone (03) 9418 7217. [www.publish.csiro.au](http://www.publish.csiro.au)

Watson, C and Stone, Y 2002, *Rabbit farming - planning and development control guidelines*, NSW Agriculture. [www.agric.nsw.gov.au/reader/an-rabbit](http://www.agric.nsw.gov.au/reader/an-rabbit)

Wondur Holdings 2001, *Benchmarks for new animal products – Alpaca, buffalo and rabbit production and duck processing*, RIRDC Publication No. 01/113, Project No. WHP-2A, RIRDC, Canberra.

## Websites

- **Australian Rabbit Farms** – a commercial rabbit farming group: <http://www.australianrabbitfarms.com.au>
- **Crusader meat rabbit project** commenced at CSIRO's Pastoral Research Laboratory at Armidale in 1999. The key aims were to develop a rabbit breeding program and to

increase the profitability of rabbit farming enterprises through their research and extension activities. Their website provides an extensive range of references and industry contacts:

[http://www.csiro.au/csiro/content/standard/psx\\_o...html](http://www.csiro.au/csiro/content/standard/psx_o...html)

- **Growtec** – an Australian commercial rabbit farming group: [www.growtec.com.au](http://www.growtec.com.au)
- **Sapphire Coast Producers Association** — a producer group that caters for special interests including the production of meat rabbits: [www.sapphirecoastproducers.com.au](http://www.sapphirecoastproducers.com.au)

## Industry contacts

- **Inland Rabbit Association**  
President: Fred Greutink, ph (02) 6754 2072.  
Secretary: Maria Greutink, ph (02) 6754 2072.
- **Farmed Rabbit Industries of Australia Ltd**  
President: Peter Hepples, ph. (03) 5687 1450.  
Secretary: Margaret James,  
ph. (02) 6561 7233.  
Web: [www.fria.com.au](http://www.fria.com.au)  
This website provides a wide range of information sources and links. It includes a list of processors, suppliers, news and events, and a newsletter.

---

Published by NSW Department of Primary Industries

© State of New South Wales 2006

**ISSN 1832-6668**

**Job number 6235**

**Replaces Agnote DAI-329**

**Check for updates of this Primefact at:**

[www.dpi.nsw.gov.au/primefacts](http://www.dpi.nsw.gov.au/primefacts)

Disclaimer: The information contained in this publication is based on knowledge and understanding at the time of writing (June 2006). However, because of advances in knowledge, users are reminded of the need to ensure that information upon which they rely is up to date and to check currency of the information with the appropriate officer of New South Wales Department of Primary Industries or the user's independent adviser.