Farmed Rabbit — The Industry and Research

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Before the release of calcivirus there were small but viable Australian industries based on the harvesting of wild rabbits. The annual value of products was $2.3m of meat for human consumption and $0.24m for both meat for pet food, and for pelts. About 270 persons were employed as field harvesters and product processors.

The economics of farmed rabbit production and marketing was addressed in two recent reports. Foster and Telford (1996) described the structure of the rabbit industry and made a preliminary analysis of its future after the initial effects of rabbit calcivirus disease (RCD). Foster (1999) stated that about 500 permits had been issued by Australian regulatory authorities to establish rabbit farms with 115 on a commercial scale of at least 10 does. By 1998-99 the farmed rabbit production in Australia from 84,000 rabbits was 106t of meat but this only represented 2 to 3% of the size of the wild rabbit industry in the first half of the 1990's.

Farmed rabbit production benchmarks were published by Michael (2001). He concluded that the economic challenge for producers was to develop a minimum size unit of at least 200 breeding does with labour input of less than 5hrs/doe/year, 8 kittens weaned/breeding doe/year and 8 litters per year, and feed cost of less than $0.30/kg.

A three-year research project costing approximately $400,000 was commenced in 1999 at the CSIRO Pastoral Research Laboratory, at Armidale NSW. The main objective is the establishment of a breeding program that defines the traits that significantly contribute to economic returns and how these traits can be optimised through selective breeding. Other objectives include the delivery of appropriate software for recording pedigree and production data, and the provision of basic production information by the publication of technical updates and the holding of field days.

Major outputs to date include:

- In the breed comparison research, larger litter size was obtained from purebred New Zealand White compared to purebred California or Flemish Giants. There was insufficient hybrid vigour to significantly improve reproductive traits by crossbreeding using these three breeds.

- For growth traits the NZ White and Flemish Giant purebreds and their crosses perform the best.

- Given the above results a breeding program has commenced to develop a composite strain of rabbits by selecting the best individual rabbits irrespective of breed.

- Selection is determined by ranking animals on an index combining Estimated Breeding Values for number weaned per litter (NW EBV) and average daily gain (ADB EBV in g/day). Each EBV is weighted by its relative economic contribution to profit. Index ($) = (NW EBV x $34) + (ADG EBV x $11).

At the Rabbit Field Day in September 2001 rabbit farmers were asked to identify future research priorities. Disease control was identified as being the major priority followed by survival of kittens and growers. An approach could be to undertake the disease component within a 'Production System' framework. Other components given moderate priority include growth rate, feed diets and the number of kittens born. Other priorities were rabbit importation to improve genotypes available in Australia and, identifying factors impacting on profit.