SENSES APPROACHES TO NEW ANIMAL INDUSTRY DEVELOPMENT
IN AUSTRALIA

S.J. Eady
CSIRO Livestock Industries, Locked Bag 1, Armidale NSW 2350

SUMMARY
In order to take a sensible approach to new industry development, we need to think logically about the whole industry, including development of markets and brands, before embarking on research. Production systems overseas may not be the best option for local production. Where decisions are being made regarding breed importation, factors such as benefit:cost analysis, suitability to Australian environments and efficient flow of genetic merit into industry breeding programs need to be considered. Marketing must be planned, preferably on the basis of branded products, at the same time as production systems are developed.

Keywords: New industry development, meat rabbits, milking sheep.

APPROACHES TO NEW INDUSTRY DEVELOPMENT
The competitive strength of world commodity markets has made both efficiency and diversification of production crucial for the ongoing financial viability of rural communities in Australia. New animal industries provide an opportunity for such income diversification. However, new animal industries in our region are often characterised by the difficulty of importing suitable livestock. Consequently, a pattern of growth that is often repeated in new animal industries is determined by the limited availability of breeding stock. This inflates the value of animals, as we have seen in the past in Australia with Angora goats and more recently with alpacas. The scarcity of animals firmly pushes the new industry into a speculative stage where cost of breeding stock escalates as those investing considerable capital to import animals, seek to maximise returns. When the period of speculation invariably comes to an end, many people who have purchased animals at high prices sustain significant financial loss, and the resulting publicity often brings the industry into ill repute, stifling the shift to commercial production. Favourable tax treatment of new enterprise development exacerbates these problems, but against this, there are few other sources of capital for innovation at the enterprise level.

However, this almost forced speculation is not the only characteristic imparted by limited breeding stock. Production units remain small, hindering commercial scale operations and the development of effective and efficient husbandry, management, processing and marketing systems. Inbreeding is common and impacts on the productivity of animals, particularly reproductive fitness, which is a critical trait when farmers want to build up numbers. There may be varied sources of livestock in Australia capable of good production and, with some judicious genetic improvement, could yield comparable results to the very expensive introduction of exotic breeds. Where it is essential to introduce a new species or breed, then greater thought should be given to ways of disseminating the required genes, rather than simply allowing market forces, dominated by speculation, to determine
the outcome. These two issues are discussed in the following section on milking sheep and meat rabbits.

At the output end of the operation we need to have clearly defined markets and pathways for getting products into those markets. Although the initial focus of many new industries is on potential export markets, domestic markets should not be overlooked as these are much more accessible, providing income during the earlier stages of development before volume and continuity of supply enable exports to commence. Good examples of industries going through this process are the olive and meat rabbit industries. Both products have a sound market in Australia; the olive industry has been (and at this stage continues to be) serviced largely by imports from Mediterranean countries and the rabbit market by harvesting wild rabbits. Farmers have seen the opportunity to build or expand an industry in Australia initially to replace imports or to replace a drastically reduced population of wild rabbits.

New industries that languish or struggle are those reliant on markets which cannot be easily influenced or built by the enthusiasm of the farmers. This is often because the final product is not consumed in Australia (Angora fibre), no traditional market or supporting infrastructure exists in Australia (ostrich) or the individual farmer produces such a small volume in the system that they have no control (alpaca fibre). Understanding and analysing market demand and ways of getting products from the farm to the consumer is vital in ensuring healthy new industry development.

So where is this discussion leading? I think the most useful approach is that the “new” industry should perhaps be not so new, but more an extension or modification of an industry or market that already exists. We also need to focus on what we do well and what we have some natural advantages in. For instance, to argue that Australia’s production of the world’s best fine Merino wool gives us some inherent advantage in the production of other luxury fibres seems nonsensical. Our woolgrowers are price takers in a business environment where they have little control over the use of their product, as are producers of virtually all unbranded commodities.

Conversely, specialty cheese production in Australia is a growing industry, with both restaurant and home consumption increasing as we become more adventurous and discerning in our cuisine. There is also a strong shift towards Australian cheeses (RIRDC Report No 989-16, unpublished) as the expertise of our cheese-makers and market reputation of individual dairies grows. This is a distinctive feature contributing to the success of this developing industry: branding – the ability to differentiate product and build a reputation for individual cheese makers.

**SOME EXAMPLES OF ESTABLISHING INDUSTRIES**

As scientists, how do we support new industry development? With the exception of industries based on indigenous species, often our first response is to go to our colleagues overseas where the potential industry is well established. For meat rabbits and milking sheep, countries such as France, Spain and Italy are a good place to start. But before we make decisions on suitable production systems for Australia it is important that we understand the context of these industries in their “homelands”.

The first issue is financial. The European Union has a highly subsidised agricultural production system which provides protection to its farmers and allows industries to persist for reasons other than
economics. The industries I am discussing as “new” industries for Australia have been established for a long time in Europe and consumption of their products is part of the culture, traditional cuisine and habit of many people. Therefore, it is difficult to use European consumption figures to judge potential market size in Australia, though they may provide targets. As well, the Australian market in total size is small compared to Europe, and does not benefit from agricultural subsidies. This means Australia needs to develop extremely efficient enterprises and target products where there is export potential, as well as domestic demand. The second issue, not unrelated to subsidies, is history. When looking to Europe for ideas on production systems we should appreciate the historical context of these industries. A good example is production of sheep’s milk cheese in the Basque Country of Spain. This region has a long history of striving for independence and self-determination. Production of sheep’s milk cheese is seen as an important part of Basque culture to the extent where business profitability takes a secondary position amongst industry and government goals for the farming system. Primary goals are related to maintenance of history and culture in the region, supporting traditional community social structure including the shared grazing of high country, encouraging economic activity in poorer regions, and sustaining well grazed mountain landscapes. Government polices for support have seen the proportion of milk in the Basque country, going into Idiazabal Label of Origin cheese, grow from 5% in 1988 to 60% now. Over this period total production has increased by 17%, with 98% of the cheese being consumed within the Basque regions (Eva Ugarte pers. comm.).

Not all the sheep and goat milk systems in Europe are so deeply embedded with regional culture, but there still is a strong sense that the preservation of these industries in the countryside is culturally and socially important. However, it does place constraints on the production systems, e.g. only Latxa ewes can produce the Basque Idiazabal cheese and only Lacaune ewes can produce Roquefort cheese, so there is no opportunity for improvement through introduced breeds with higher milk yields. When assessing the merit of livestock for importation, we should not assume particular breeds are the highest producers just because they make up a significant proportion of the dairy sheep numbers.

While Europe needs to incorporate some traditional elements of production into their systems, Australia is not bound by such constraints, yet we can use the European tradition for cheeses to our advantage, borrowing their history, so to speak, to make and promote fine cheeses of our own. In the UK, a dairy in the Scottish Borders has made an important market niche for itself similar to what could be achieved in Australia. The cheese produced at this dairy is Lanark Blue, a blue mould farmhouse ewe milk cheese that has achieved market penetration based on its quality, traditional manufacture and the fact that it is British made (as opposed to its competitor, Roquefort from France). In Australia there is also a sense that we should be able to make good cheese (just as we now consider our wine to be competitive amongst the world’s best). Dairies such as the Meredith Dairy in Victoria are taking this very path with ewe’s milk products such as Meredith Blue, a natural crusty-rinded blue mould cheese, and Woodburne, a surface-ripened white-rind cheese.

The striking features of the meat rabbit industry in Europe are the methods by which producers control disease. Grimaud, Europe’s largest producer of rabbit breeding stock, has a huge capital investment in bio-secure housing facilities (at least equivalent to minimal disease piggeries in Australia) to keep their rabbits free of disease. There is routine inclusion of antibiotics in the feed,
including special off-label provision to use a specific antibiotic to control Epizootic Rabbit Enterocolitis (ERE), a serious gastrointestinal syndrome which appeared in 1997. Control of *Pasteurella spp.*, which cause a range of complaints from snuffles to mastitis, is also a major undertaking in the industry, with Grimaud recently implementing an “isolated weaning” program to reduce bacterial load in breeding stock. This involves early weaning at 21 days, before significant levels of bacteria are acquired from the doe, and housing the weaned rabbits in premises with a high level of bio-security (completely sealed units with filtered water and air).

Currently Australian rabbit farms have lower levels of bio-security, certainly none that compare with even the lowest level of protection observed in intensive rabbit production in Europe. However, we also have less intensive systems with lower stocking densities and diets with lower starch and protein (more fibre), both factors being important determinants of health. Industry has the option of going down two paths. One is to mirror the intensification seen in Europe, requiring an enormous capital investment in housing and sanitary controls, as well as the inclusion of antibiotics in the feed. The other alternative is to run our industry at a lower level of intensification and accept that productivity (but not necessarily profit) should also be commensurately lower. There are opportunities to use selection for host resistance to ensure our rabbits are less susceptible to disease.

**APPROPRIATE GENOTYPES**

Invariably planning genetic improvement programs for these new industries leads to consideration of suitable sources of livestock for importation. For meat rabbits and milking sheep this is not the only source of breeding stock as there are local populations already in commercial production. Genetic improvement in these populations should not be overlooked in preference to importing livestock. However, there are obvious benefits to be gained from judicious introduction of new stock. Recently, this has become much more feasible as AQIS have simplified quarantine protocols.

There is a clear need for objective evaluation of imported with local stock, allowing the real contribution of imports to be assessed in the light of the cost of buying imported or limited stock. Also there may be more sensible ways of introducing animals than having only private investors importing stock. For instance, the rabbit-breeding program at CSIRO (Armidale NSW) could be an avenue of introducing genes from European rabbits in a way that dampens speculation and makes the genes available to all rabbit farmers. There is also a need to match, to the best of our ability, the environments from which the imports come with the conditions under which they will run in Australia. As evidenced by the problems of footrot with Awassi introductions from Israel, mismatches can considerably limit the benefits of imports to Australian flocks.

**ACKNOWLEDGEMENTS**

The Centre for New Industries Development Fellowship 2000 and RIRDC provided financial support for a travel fellowship for the author in July 2000.