

PRESIDENTIAL ADDRESS

ANIMAL PRODUCT EXCELLENCE - AN AUSTRALIAN CHALLENGE FOR THE  
TWENTY-FIRST CENTURY

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In the 1820s wool surplus to the needs of the fledgling colonies became Australia's first rural export. The impact of the Spanish and Saxon Merinos on the fibre quality from the national flock was soon apparent.' Tallow exports became possible from the development of rendering plants to process surplus stock. Butter began to be exported, preserved with boric acid. The introduction of refrigeration, leading to the first shipment of frozen meat to Britain in 1879, and the subsequent shipment of dairy products opened up wider markets for Australian animal produce. The introduction of the Babcock test in 1892 for determining the fat content of milk allowed the first objective compositional testing of a major animal product.

Yet at the time of the convening of the first biennial conference of the Australian Society of Animal Production nearly 35 years ago, yield maximisation remained the primary aspiration of the Australian farmer. Visual appeal and product mass were the principal interests of the buyer. Much of the developed world had only just emerged from post-war stringencies, and the achievement of food self sufficiency was high on the national objectives of Europe, an objective only too effectively secured by subsidies since then.

The growth of the Society has been paralleled by a series of changes in animal production emphases. Early conferences gave attention to increasing production through nutrition and breeding. By the early 1970s, when additional research funds were becoming available from producer levies, and farmers were becoming more aware of the endeavours of animal scientists, attention turned to better integrating the results of animal production experimentation through what came to be known as "systems research" projects. Computer modelling techniques were introduced to society members, and the potential was recognised for this approach, albeit even now yet to be fully realised.

This period coincided with an heightened appreciation of marketing and an awareness of consumer demands. The Australian philosophy of "fair average quality" (FAQ), often implicit, but in some industries explicit, as a basis of trade was coming to an end.

Over the past fifteen years, there has been a revolution in the marketing of wool, with objective measurement before sale. The meat industry learned to its embarrassment, that overseas importers expected truth in labelling, and had developed the technology to see they got it. The dairy industry has changed its compositional testing to reflect the relative worth of the fat and protein components of milk. All these new measures are, however, a measure of the gross compositional quality of animal produce as demanded by the consumer.

Over the past decade, we have seen an increasing emphasis given to the quality of produce as reflected in its freedom from unwanted additives.

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Prior to the last Biennial Conference of the Australian Society of Animal Production, the detected presence of organochlorine residues in meat exported to North America threatened a major disruption to our international trade. Industry and government combined at considerable expense to ensure that organochlorine residues were removed from being a threat to our future exports. Although the use of organochlorines had previously been prohibited in livestock production, the Commonwealth and the States mounted a joint campaign to collect all remaining stocks of these chemicals from farms. A total of 550 tonnes was collected Australia-wide, some of it dating back over twenty years since its original purchase by farmers. More recently, the Australian Wool Corporation has been testing wool for arsenic and organochlorine residues, to ensure that these prohibited chemicals do not contaminate the national wool clip. Other pesticide and heavy metal contaminants represent further potential threats to the quality of our livestock products.

Non-point environmental contamination of pastures and waterways can also represent a potential risk to livestock production in Australia. Despite the endeavours of the Murray Darling Basin Commission to develop strategies to overcome the compositional problems of the River Murray waters, irrigated dairy production in South Australia was threatened in February 1990 by toxic algal blooms on Lake Albert, attributable to hot weather and high levels of inorganic nutrient contamination of the River Murray system.

Yet by the standards of most of the developed agricultural economies, Australia still operates relatively low input agricultural production systems. Unlike Europe and North America, we do not have price support and subsidy policies which encourage product maximisation without regard to the economic or environmental costs. Our production from ruminants is still primarily dependent on pasture-based production systems. It does not directly compete with the human population for food sources. There is growing awareness of the potential for Australia to produce high quality livestock products for international markets based on production systems which make the best use of modern technology through the benefits of genetic improvement, integrated pest control systems, the careful and strategic use of chemicals in a manner which allows sustainable use of our farm resources, and yet allows profitable rewards to be secured by the farming community. We are fortunate that the intensity of resource demand on this continent is such that we have remained free of major threats from nuclear contamination and chemical pollution as compared with our northern hemisphere cousins.

Nevertheless, whilst these production systems do offer potential quality advantage in many export markets, we must not let our dependence on and acceptance of science and technology blind us to the fact that quality determinations are increasingly being made on a basis of community perceptions without regard to -the scientific fact.

The banning of the use of hormonal growth promotants in the European Community several weeks in advance of receipt of Professor Lamming's report, which advised that there was no reason to impose a ban, is well known. Bovine somatotropin is under temporary prohibition for eighteen months in Europe, a ban which I predict is likely to become permanent. Within the horticulture industry, Alar (R), a chemical which promoted colouring of apples, was withdrawn from production by its manufacturer in the face of community pressure, even though it has been widely accepted that there is no scientific evidence to necessitate its withdrawal.

Analytical chemists are able to detect more and more minute levels of chemicals in foodstuffs, enabling us to better understand the variability in naturally occurring components in our products, but also to more readily detect the presence of exogenous chemicals arising from our production systems.

This community concern is expressed by the increasing market demand for low "chemical" content - pesticide free produce and even produce from "organic" production systems which use no synthetic chemicals. Though the market for "organic" produce is currently estimated to be only 2-4 per cent of total market demand, the "organic" market is recognised as a real market niche which some producers may wish to supply. To that end, the European Community has recently developed a draft protocol for certification of "organic-biodynamic" produce, albeit partly motivated by the potential of such systems to reduce the level of over-production, induced by the high input agricultural systems. The latter were developed in response to the artificial incentives of the Common Agricultural Policy .

At the end of the day, we must remember that "the consumer is right". As expectations rise in the community, and as a wider range of alternative foodstuffs is available to consumers as a result of the bounty from agricultural science, Australia must be at the forefront of animal product excellence as it enters the twenty-first century.

Animal scientists and producers alike have an obligation to continue to strive for more efficient animal production systems to help feed an ever-expanding world population. At the same time, new technologies must be developed to meet the quality and purity expectations of better educated and more discerning consumers. These new technologies must also be developed and adopted in such a way as to gain acceptance on economic, health, environmental and ethical grounds by those consumers. That is the challenge ahead of us all.