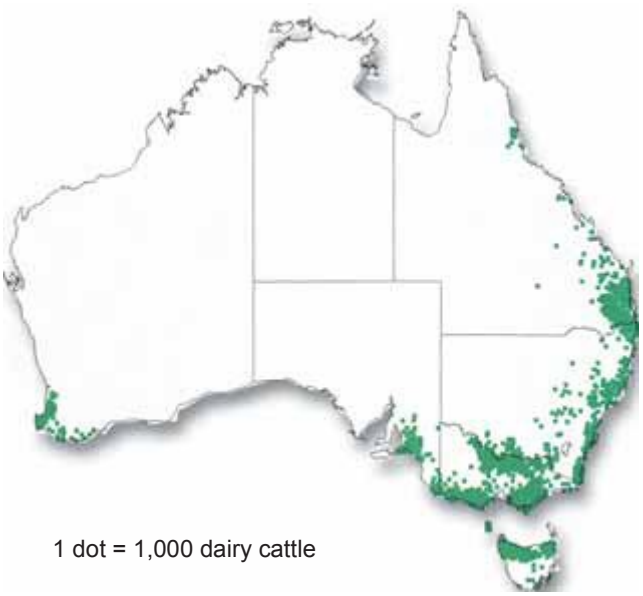
Dairy Cattle — Background Information

Dairying is another major Australian rural industry in which production significantly exceeds domestic requirements and Australia has emerged as one of the world's major exporters of dairy products.



The history of Australian dairying dates back to the arrival of the First Fleet in 1788. The early dual-purpose Shorthorn cattle and goats provided the fledgling colony with much of its milk and meat needs. The Jersey breed arrived towards the middle of the 19th century and the Holstein-Friesian was imported around 1850.

The national dairy herd grew gradually with most production concentrated around the major population centres. The industry peaked in numbers in 1970 with 2.8 million head of milk producing cows. Numbers subsequently declined to a low of 1.6 million in 1989. Since then numbers have increased to around 2 million with a concurrent increase in per head productivity.

All Australian states have dairy production, supplying fresh milk to nearby cities and towns, although Victoria, with its temperate climate, is by far Australia's largest producing state. In addition, a wide range of high quality manufactured products are produced in most Australian states. These vary from products such as yogurt, to specialised powders and a variety of cheeses.

In contrast to most of the world's major dairying countries, the Australian industry is based on extensive grazing rather than feedlot type systems.

While per cow production is not as high as in intensive systems, cost per litre is still extremely competitive. As a supplier of dairy cattle for export, these production systems give Australia the advantage of being able to select animals based on their environmental adaptability. These attributes are potentially vital when developing new dairy projects in relatively

inhospitable areas and, as a result, international demand for Australian dairy cattle has grown. The use of feedlots to produce dairy products in Australia remains unusual, although the supplementation of pasture with grain and other feeds has become an accepted management practice.

Victoria accounts for about 65% of Australia's total dairy production, and also dominates the production and export of manufactured dairy products. New South Wales is the second largest producer at around 12% while the other states all have smaller dairy sectors.

Today approximately 50% of Australia's milk production is exported in manufactured form. More than half of that is to Asia, in particular Japan and South East Asia. A significant portion also goes to the Middle East.

While Australian dairy exports have increased significantly over the past two decades, restricted access to many international markets has limited potential growth of the industry.

Dairy breeds in Australia

Dairy cattle, semen and reproductive material have all been successfully exported from Australia to countries across the globe. The major dairy breed in Australia is the Holstein-Friesian, comprising nearly 80% of the total dairy herd. Jersey cattle, at around 10%, are the second major breed, while a number of other breeds are present in lesser numbers. These traditional breeds are the Guernsey, Ayrshire and the Dairy Shorthorn, all of which have long and proven histories in Australia. The Australian-developed breed, Illawarra, has shown a continued surge in popularity, particularly in the humid coastal and hotter northern areas. The Australian Red Breed and the Brown Swiss each have small niches in the marketplace.

Two composite tropical breeds have been developed in Australia. These are the Australian Friesian Sahiwal (AFS) and the Australian Milking Zebu (AMZ). Both breeds are well adapted to the heat, humidity and tick parasites of the tropical and sub-tropical areas of Australia, but their development has been limited.

Various breeds of Australian dairy cattle have been exported to many destinations around the world including the Middle East, Indian sub-continent, China, South East Asia, Pacific Islands, New Zealand and Central America.

The major export interest has been in Holstein Friesian, Jersey and the two tropical breeds, the AFS and the AMZ.

Australian dairy production

Australian dairy cattle are managed on pasture with feed supplementation. This means that their milk production levels are on average, lower than reported production levels of cattle from traditional dairy producing countries such as the Netherlands, Germany, Canada and the US. Cows from these countries are fully fed large quantities of grain and high protein supplements and are able to maximise their productive potential because of their balanced, high energy, high protein, grain-based ration.

Australian Holstein Friesian cattle, bred along the same genetic blood lines as their counterparts in these northern hemisphere countries, cannot achieve these production levels while they are fed mainly on pasture.

Australian dairy cattle, however, are more selected for converting grass into milk than American, Canadian or European cattle. The low level of supplementary feeding means the production cost of a unit of milk in Australia is considerably less than it is for our overseas competitors.

Unfortunately, importers of dairy cattle tend to look for milk production in absolute terms, ignoring the feeding regimes and efficiencies of animals producing less milk under entirely different management systems. When examined in this context, Australian dairy cattle are ideal for the countries looking to develop their local dairy industry.

Potential customers can select Australian dairy cattle with the knowledge that they are likely to perform well in any environment. Environmental adaptability and selection for extensive grazing systems are important advantages exhibited by Australian dairy cattle.

Australian dairy cattle producers have access to the Australian Dairy Herd Improvement Scheme (ADHIS), which is one of the most advanced genetic performance and evaluation systems in the world.

Australian Dairy Herd Improvement Scheme (ADHIS)

ADHIS is a national scheme of genetic evaluation for the dairy industry. It began in 1982 under the management of the Australian Dairy Farmers' Federation. Data on production, 'workability', conformation, fertility and health is collected by breed societies and various herd recording organisations, and then

forwarded to ADHIS, which calculates Australian Breeding Values (ABVs) for cows and bulls. ABVs are calculated for milk, fat, protein, milking speed, temperament, likeability, calving ease, survival, type conformation, fertility, cellcount (mastitis) and liveweight traits.

ABVs for these traits are then combined into an index called the Australian Profit Ranking (APR), according to their contribution to profit. The APR ranks bulls according to the profitability of their daughters.

ABVs are calculated using an animal model and Best Linear Unbiased Predictor (BLUP) method which is being constantly enhanced and upgraded. Each year, the ADHIS publishes lists of elite animals.

Complete lists of individual cow's results are returned to owners through their herd

recording organisation. Sire ABVs are available to dairy farmers through herd recording organisations, Artificial Breeding Centres and via the ADHIS website.

Further information from:
Australian Dairy Herd Improvement Scheme
Phone: +61 3 9642 8042
http://www.adhis.com.au

Dairy Cattle Breeds in Tasmania

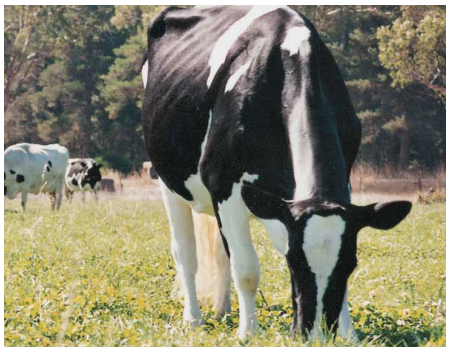
Jersey

Dairy Shorthorn

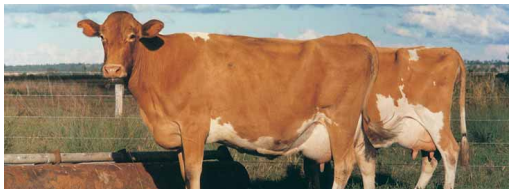
Illawarra

Ayrshire

Holstein



Guernsey



Australian Red

Brown Swiss