

NEW ZEALAND PASTURE SEED INDUSTRY EXAMINED

Operating in a totally free economy, the New Zealand pasture seed industry has produced strong businesses in seed production, distribution and export.

By David Melhuish

Considering New Zealand's geographic size, the nation's pasture grass industry is large. Located in the southwest Pacific Ocean, New Zealand has a total landmass of 27 million hectares. The two main islands stretch for 1,600 km.

The nation's climate is greatly influenced by the Tasman Sea on the western side and the Pacific Ocean to the east. New Zealand's relative proximity to the cool weather systems emanating from the Southern Ocean and Antarctica, also plays a role in the climate.

Rainfall levels are strongly influenced by the mountain spine and hill country, which dominate the landscape of this narrow country. Areas on the West Coast receive relatively high annual rainfalls (about 300 cm.), while the East Coast areas are drier (around 60 cm.). Generally, the climate throughout New Zealand is considered temperate.

SEED INDUSTRY ORIGINS

The New Zealand pasture seed industry began in the 1800s when the English and Scottish settlers introduced English ryegrasses through the importation of small quantities of seed. These grasses proved preferable to the native grasses and tussocks because they provided better nutritional value to livestock. The improved pastures soon adapted to the Southern Hemisphere environment, and with the enterprise of the early farmers, seed production from these pastures began in areas with conducive climate.

Local seed production soon became the basis for seed supply, which in turn led to the gradual replacement of natural grasslands and forests. Some of the widespread productive grazing pastures now a feature

of New Zealand's landscape are very old pastures that have developed into ecotypes, which formed the basis of modern plant breeding in this country.

CANTERBURY FOCUS

Nowhere in New Zealand was the climate, topography and soil more suitable for seed production than in the provincial region of Canterbury on the East Coast of the South Island. The area benefited from an annual rainfall of about 60 cm. which is evenly distributed throughout the year. Since the 1970s, the development of irrigation made the growing of seed crops even more reliable.

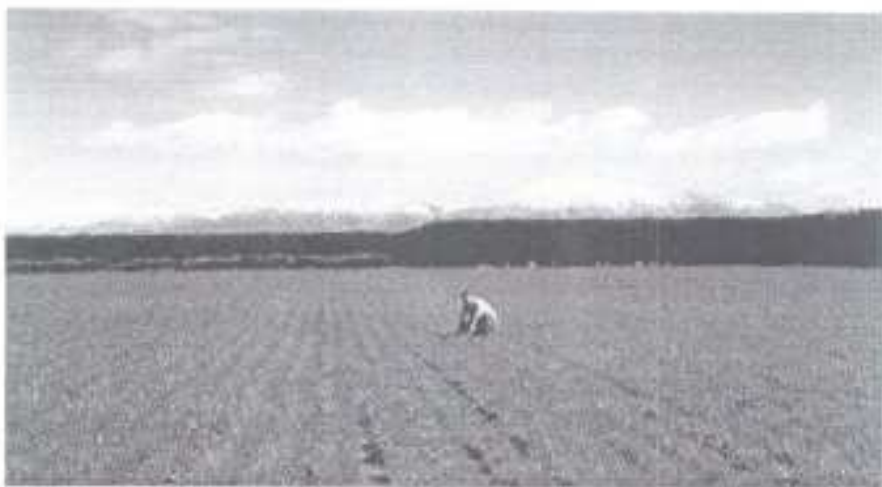
As an added feature, the classical Föhn wind, which blows warm dry air from the mountains in the west and across the plains, provides very good natural drying of seed crops and conditioning in the field to low humidity levels. While summertime day temperatures commonly reach the mid to high 20's C, night temperatures are cooler, providing another of the classical features for good seed maturity. Low humidity levels

and cool winters provide excellent conditions for long term seed storage.

While New Zealand has a number of other regions that provide good climatic conditions for seed production, the Canterbury area remains among the most productive. It leads the world in white clover seed production (4,000 tonnes annually), and provides significant tonnages of a number of other pasture seed species. This includes pasture grasses (13,000 tonnes of certified seed in 1995), much of which are exported.

SEED TRADING

The government has no involvement in the New Zealand seed trade. All seed marketing is done by the private sector, either by larger companies providing a range of services, or by smaller companies and entrepreneurial individuals who specialize in just one or two aspects of the business. Most of the seed production is contract-grown for companies by growers, who act as suppliers to the seed trade. Distribution into the domestic and international markets is undertaken directly by the compa-



Export volume of seed from pasture grasses such as jugular tall fescue (shown above) now accounts for about \$30 million (U.S.) annually.

nies involved.

The principle seed companies are members of the New Zealand Grain and Seed Trade Association, which was originally formed to establish rules and contractual terms for trading between members. While this remains part of its role, the association's main function today is to act collectively on behalf of members to foster favorable industry conditions, both political and economic.

Plant breeding is undertaken by private plant breeders who are mainly associated with the larger seed companies, or by crown research institutes (government organizations set up specifically for scientific research). The New Zealand Plant Breeding and Research Association acts on behalf of those involved in plant breeding and development in the private sector. The public and private companies commonly enter into commercial arrangements for the marketing of government research breeding material. Many such arrangements are in place that work very well for the benefit of those parties involved.

Seed growers in New Zealand are principally individual farmers, who run their farming operations as businesses in a completely deregulated environment. There are various groupings within the Federated Farmers of New Zealand, an organization which represents the interests of these farmers.

REGULATORY ASPECTS

New Zealand has the rather unique situation of having no laws specifically governing the production, certification or marketing of seed within the country. However, general laws concerning fair trading do apply. There is protection for new cultivars registered under the Plant Varieties Act, which was introduced in 1973. The New Zealand seed certification system has been operating for almost 70 years and is modeled very closely on the OECD seed certification scheme.

While participation in the New Zealand seed certification scheme is entirely voluntary, industry participation in regards to pasture seeds is at a very high level.

The Ministry of Agriculture is the seed-certifying authority in New Zealand and plays an important role in maximizing stan-



A second year crop of cowboys ryegrass

dards and ensuring conformity with procedures to protect the integrity of the seed industry. The Ministry also administers plant quarantine.

The Seed Quality Management Authority comprises representatives from industry groups, along with government representatives, and acts as a watchdog on regulatory, quarantine and seed certification issues.

EXPORTS

From its earliest days, the New Zealand seed industry has been an active exporter of seed, especially once production exceeded the amount of seed that could be consumed domestically. At present, pasture seed and vegetable seed are the main export items. Traditionally, seed exports were primarily sent to Europe, but today,

the end-destinations of New Zealand-produced seed are wide and varied. Australia is an important export market, largely because its farming systems are much the same as those in New Zealand.

During the past 15 to 30 years, the U.S. and Canada have consumed much seed from New Zealand. South America is becoming an important export destination as well. Many of the countries with temperate climatic zones value the New Zealand-bred seed genetics, which perform similarly in those locations as they do at home. The temperate zones of China and Japan also provide markets for New Zealand pasture plant genetics, as does South Africa. The total annual export of pasture seed totals between \$26 and \$30 million (U.S.).

Over the past 25 years, a substantial



The New Zealand pasture seed industry is based on grasses introduced from Europe

business has developed for the contract production of seed cultivars from other countries. Because of the opposite production seasons in the northern and southern hemispheres, plant breeders are able to accelerate production, and commercial companies are able to make up seasonal shortfalls from their own production. New Zealand's island status and relative freedom from pests and diseases is added incentive.

INDUSTRY FUTURE

The New Zealand seed industry operates in a totally free economy. It has no import or export tariffs, no exchange controls, or other government interference, and there is no support of subsidy systems operating within the farming sector. Several decades of this type of activity has required resourcefulness from within the industry to adapt and operate under these

conditions. However, the circumstances have produced strong, well-founded businesses in seed production, distribution and export, which are soundly based on economic realities.

Plant breeding advances in pasture and forage seeds are up to world standards, especially in those products that are grazed by animals, with many New Zealand cultivars finding uses in other countries.

While pasture seed has been the main interest of the New Zealand seed trade, there is a growing trend in increased vegetable seed production, which is aimed particularly at the populous countries of Asia. Further diversification into herb and flower seed production is likely to follow.

New Zealand has many individuals within the seed industry, along with organizations that service the seed industry, including universities that specialize in seed technology. These people and organizations have both extensive national and international experience. This infrastructural support will ensure a continuing world class industry.

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