

Export of value added wheat products

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Introduction

Three aspects of importance to understanding the future of exports of value added wheat products will be considered in this paper. These are: trends in exports over the recent past; wheat quality and research needs to support an expansion in value added products; and the potential impact on the wheat industry.

Export Trends

How much flour based manufactured goods is being exported from New Zealand? Table 1 gives the export figures from the Department of Statistics for bread, pastry, and other fine bakers wares. These show that for the four years 1983-1986, exports were small, at just over \$1M per year. In 1987 there was a sharp increase to over \$10M, followed by a rapid fall. In the following years, 1988-91, there has been steady growth, averaging about 33% per annum. The peak in 1987 resulted from a major single product export drive by one company.

The steady growth since then is the result of the cumulative efforts of several manufacturers over a range of products. The recent trend therefore looks to be stable, and is likely to be benefitting growers, as at least some of the flour used will have been milled from New Zealand wheat. Table 2 shows the sugar exit points and destinations for the products exported in 1991. Taking the main exits port by port, about \$2M of goods was

shipped and flown from Auckland, a similar amount from Lyttleton, and about twice as much from Dunedin. The Dunedin figures include exports from GFW's Millar Lange pastry plant in Invercargill. While we do not have details of the origin of the materials used in manufacturing these goods, the high costs of internal transport make it likely that the Lyttleton and Dunedin exports contain at least some New Zealand grown wheat. The strength of these exports from the wheat growing regions represents an opportunity for New Zealand growers to benefit through close contact with millers in these areas.

The major export markets are clearly Australia and Japan. However, 23 other countries were represented in the full table of export data. These were all Pacific islands or Pacific rim countries, and included some unexpected destinations such as Mexico. These smaller export trade categories should increase further following the establishment this year by Defiance of an advanced bakers premix blending facility in Christchurch.

The trade figures given in Table 1 were restricted to products regarded as being made predominantly from flour. The categories of data available from Statistics are confusing, in that it is not entirely clear what is included. If the net is widened to include all goods in category 1905 (bread, biscuits, cakes, pastry, and fine bakers wares....., see Table 3), then the export figures are at least three times those shown in Table 1.

These figures are not directly comparable with those given earlier, as they are for April/March years.

Table 1. Export cargo data 1983-1991 (bread, pastry and other fine bakers wares).

Year	\$(million)
1983	0.5
1984	1.4
1985	1.6
1986	1.6
1987	10.6
1988	4.2
1989	5.7
1990	6.3
1991	9.8

Table 2. Export data for bread, pastry, and fine bakers wares in 1991, by exit point and destination

Port	Destination	\$(million)
Auckland	Australia	1.1
Wellington	Australia	0.2
Lyttleton	Australia	2.3
	Japan	0.3
Dunedin	Japan	4.2
AK Airport	Australia	1.0

Table 3. Exports from category 1905: Bread biscuits pastry cakes fine bakers wares...

Year	1989/90	1990/91	1991/92
Value	\$27.4 m	\$25.5 m	\$27.5 m

However, they do show that in this overall group, the growth seen earlier is not so evident. A breakdown into categories other than bread and pastry shows how complex this group is, see Table 4.

As can be seen, there is a very diverse variety of biscuit types being exported. For example, the shipment of \$1M of gingerbread last year is likely to surprise many. The diversity shown in these figures reinforces the view that exports in this area are the cumulative efforts of a number of enterprises, large and small, producing a variety of goods. For the grower, this is likely to mean that the requirement is for production of general wheat types of high quality, that can be blended by the miller for specific needs, rather than for growing specifically for each niche.

For some of these categories, the value to the grower would be very hard to determine. For example, the fillings and coatings in the above table are likely to contribute more to the cost than the flour. A feature of value adding is that it becomes increasingly difficult to untangle the contribution to value at each point, as the total value increases. As an extreme example, the ultimate in a value added 'export' food might be a meal served to a tourist in a local restaurant. The meal may well cost \$50-\$100, and create several jobs along the way. In addition, the transport costs for the export have been paid for in advance by the client. However, the direct net return to the Canterbury farmer is difficult to measure, and may be only a few cents at the most.

Wheat Quality Needs

As alluded to earlier, the manufacturing niches are unlikely to be large enough to support a specific growing regime for each. What the manufacturer must have in order to succeed is access to raw materials that are equal or preferably superior to those available to competitors. In terms of wheat, this means there must be a high degree of functionality. In general terms, some New Zealand varieties available since de-regulation have excellent characteristics. For example, Otane produces a good loaf by world standards, and at moderate protein levels. An industry with a few excellent cultivars, with clearly differentiated characteristics, that can be used for

Table 4. 1991/92 exports (category 1905) not including bread and pastry.

Product	Value
Biscuits	\$0.5 m
Cakes	\$3.0 m
Mixes, doughs	\$0.6 m
Breakfast cereals	\$1.2 m
Crispbread	\$0.2 m
Gingerbread	\$1.0 m
Coated biscuits	\$2.3 m
Partly coated biscuits	\$0.3 m
Unfilled coated	\$1.1 m
Unfilled uncoated	\$1.6 m
Filled uncoated biscuits	\$0.6 m
Rusks	\$0.1 m
Crackers	\$4.1 m

blending for specific purposes, is likely to be better than one in which there is a wide choice of look-alikes.

Since deregulation, the primary quality target of achieving good loaf size from locally produced wheat has been achieved. The challenge is now to add other, more subtle advantages for the manufacturer. This will require close cooperation between all sectors, and includes the need for careful specification setting to ensure the correct market signals are being transmitted.

Research Needs

Given that the opportunities for expansion of the wheat industry through export of processed foods are diverse, research can best enhance the opportunities by increasing the general capability of the industry. This can be achieved at two levels. Firstly, we need to gain a better understanding of the nature and behaviour of cereal proteins, carbohydrates, enzymes and other components in New Zealand wheat. We then need to be able to understand the links between these and food quality. This includes gaining an understanding of measurements that will correctly reflect changes in quality. Finally, we need to learn more about manipulating these characteristics; genetically, on-farm, and during processing, to end up with the best result for export.

Knowledge of these factors is rapidly increasing at present, especially with techniques such as RP-HPLC that allow detailed separation and measurement of proteins. Crop & Food Research Ltd has an active programme in cereal chemistry research, which interacts

closely with the processing industry. In addition, the New Zealand Association of Bakers and the New Zealand Flour Millers Association complement the crown effort with applied research projects, some of which will assist exporting companies.

Industry Needs

To produce export goods that can compete on quality, the industry has three major needs, in addition to quality raw material. These are: technically skilled staff, capable of understanding the new information being gained through research; the ability to see the industry as a whole, and communicate intelligently about the needs and capabilities of each sector; and finally the drive to succeed, because growth in this area will not come easily. Competitiveness in the export market is very fierce, and only the most determined will do well.

The 1991 wheat industry forum, and the strategic plan arising from it signalled a turning point towards increased professionalism, both on-farm and in the processing industry. Continued improvements in understanding and cooperation will assist the development of the fledgling export industry.

Impact On Farming

New Zealand is not a wheat exporting country. Expansion of the wheat grown for human food is regaining some of the ground lost to increased imports, and increasing the capability of export industries based in wheat growing regions. As shown earlier, the latter is happening already. While the total exports are small, the trends are very healthy. It is too early to judge the size that this activity might grow to, but the world food market is immense compared with the size the NZ wheat industry.

Any impacts on wheat growing will be in the long term, but it will be most interesting to see where we can get to in the next ten years.