DEVELOPMENT OF THE NEW ZEALAND ONION INDUSTRY

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INTRODUCTION

Production and exports of onions from New Zealand showed a general increase since the early 1970s. Although there have been problems in the past 15 years, the expansion of this industry has never been seriously questioned until 1986.

In 1985 and 1986 there were serious problems with onion quality, rots in stored bulbs, and competition in major markets. These problems now threaten the trade. The factors which encouraged the steady expansion of the crop appear to have changed both in New Zealand and externally.

BACKGROUND

Prior to 1969 the total area in New Zealand sown to onions was around 700-900 ha and production was 20,000 to 30,000 tonnes. Production was from several districts including Pukekohe, Kati Kati, Hawkes Bay, Opiki and Canterbury. Exports volumes mostly ranged between 2,000 and 4,000 tonnes.

From 1969 to 1974 total production increased to 37,000 tonnes and the area sown increased to 1,267 ha. Exports climbed steadily to reach 15,000 tonnes, most coming from the Pukekohe district. By 1984 the total area had increased to 2,500 ha and the proportion of the crop grown in the Pukekohe district increased from 52% in 1970 to 84%. Over the same period the area grown in districts outside Pukekohe declined from 460 ha to around 280 ha. Thus the Pukekohe district came to dominate onion production in N.Z. and contributed most of the export crop.

Exports of fresh onions peaked at 70,368 tonnes in the year ending June 1984 but in 1985 and 1986 declined substantially (Table 1).

The fortunes of the export trade have depended most on demand in the Japanese market. Apart from some notable years when less than 25% of the exports went to Japan (1969, 1973, 1975, 1976) the proportion has been around 60-79%.

Over the last decade the Pacific Islands have taken a steady 6,000-7,000 tonnes. The quantities exported to Australia have fluctuated but have only twice been over 1,500 tonnes (1976 and 1983). Volumes to Europe and to USA/Canada have declined since 1977 when 10,000 and 8469 tonnes respectively were reported.

The expansion of production in New Zealand has been led by the opportunity to supply Japanese markets in February through to April which is at the end of their storage season. The volume and keeping quality of the Japanese crop in storage determined the volume of imports required before their crop was harvested in the new season.

TABLE 1: Volume and value of N.Z. onions exports.

Year	Total Tonnes	Japan Tonnes	% Total	Other Markets Tonnes	Japan fob value $ m	Other Markets fob value $ m
1968	10,006	3,887	39	6,119	—	—
1969	4,298	0	0	4,298	—	—
1970	9,769	2,496	26	7,273	—	—
1971	8,593	4,167	48	4,426	—	—
1972	10,461	5,102	49	5,359	—	—
1973	14,282	102	1	14,180	—	—
1974	15,549	7,787	50	7,762	—	—
1975	9,583	1,318	14	8,265	—	—
1976	31,114	7,889	25	23,225	1.499	2.201
1977	41,119	2,670	65	38,449	0.465	8.169
1978	26,635	17,130	64	9,505	2.778	1.590
1979	46,275	27,559	60	18,716	6.475	2.404
1980	41,726	20,250	49	21,476	2.793	3.408
1981	50,509	36,432	72	14,077	12.241	3.433
1982	48,031	35,576	74	12,455	11.508	5.052
1983	50,839	30,762	61	20,077	4.234	3.551
1984	70,368	50,524	72	19,844	31.786	8.601

Hybrid onions have recently been developed in Japan for either better storage life or earlier harvest to shorten this between season gap. There has also been more competition from other countries to meet these shortfalls in Japanese production.

During the 15 year period, 1969 to 1984, the number of onion growers in the Pukekohe district increased from 50 to 120. Initially existing vegetable growers diversified into onion production but more recently a number of pastoral farmers have also invested in production of onions. During the last 10 years considerable capital has been invested in larger areas of land, irrigation, plant and packing and storage facilities. The expansion required land to be obtained from pasture since the area of other vegetable crops remained the same (except for the area sown in buttercup squash which has increased very recently). In Pukekohe there are currently about 2000 ha used for onion production in rotation with another 6000 ha growing other vegetables.

In other districts a similar investment of capital has been made by some growers but only a few have specialized in onions and the number of growers in these areas has declined.

Significant changes have occurred in the last 15 years to enable individual growers to expand their area of onions.

Once 8 ha was considered a large area in onions, now the largest growers have up to 80 ha of onions. Weed control is achieved almost totally with herbicides and hand weeding is seldom required, and, in recent seasons mechanical weeding with cultivators has not been practiced. During the late 1970's all growers changed to precision seeders and were better able to control plant density and therefore bulb size. Mechanization of the harvesting and packing of the crop has enabled large export orders and shipping schedules to be met.

A very important development was the adoption of larger units to hoid bagged onions which speeded the handling of the exported crop into, and out of, ships. Wooden crates holding 96 bags (20 kg) of onions were developed for use in open-hold shipping but have been used less in more recent years. More use has been made of standard 6 m shipping containers with one door removed to provide ventilation for the stored onions. The use of "door-off" containers is now common practice and this has now been adopted in other countries.

CURRENT SITUATION

As the 1986 harvest and main exporting period ended, there is serious concern about the future of the onion industry. The concern centres on two issues, firstly the poor quality of the onions over the past two seasons, and secondly the apparent closing of the Japanese market.

Before 1983 the Pukekohe Long Keeper onion had been claimed to be the best onion on the world market. However, over the past two seasons its reputation has suffered greatly because of the amount of rot found in shipments of onions received overseas.

During the 1986 season, cool showery weather meant that rots were obvious in some fields of onions before harvest. Because of this about 5% of the area was not harvested.

The amount of rot in onion bulbs currently in store this season is considerably higher than for last season. Despite efforts to choose better lines of onions and a quality control scheme funded by the industry, the condition of onions on arrival at overseas markets has been embarassing to exporters. Reports from these exporters indicate overseas buyers may have little confidence in the quality of N.Z. onions in the future.

As previously outlined, Japan has been the major buyer of N.Z. onions over the past 15 years. The reduction in the value and the volume of exports over the past three seasons is given in Table 2.

Because of shortages of onions in the northern hemisphere, the 1983/84 season was a record year for onion exports from New Zealand. In subsequent years some reduction on this total could be expected, but other factors such as the poor quality of the onions are believed to have contributed to the reduction in demand.

Over recent years Japanese imports of onions have ranged between 66,000 and 205,000 tonnes (C. Itoh. Ltd, 1985). The New Zealand share of the market fluctuated between 25 and 40% of this total and is shown in Table 3.

TABLE 2: Value of onion exports to Japan and other markets.

Year	Export Tonnes			f.o.b. value ($m)		
	Total	Japan	Other Markets	Total	Japan	Japan $/t
1984	70,368	50,524	19.844	40,387	31,786	$629
1985	51,213	27,223	23,990	17,684	9,495	348
1986[1]	32,400	15,052	17,348	7,710	3,523	234

[1] estimates to June 1986

TABLE 3: Onion imports by Japan.

Year	Total Imported	Total Imported from N.Z.		Total Imported from USA	
	tonnes	(tonnes)	(%)	(tonnes)	(%)
1976	46,501	2,668	(5.7)	8,157	(17.5)
1977	74,684	18,503	(24.7)	27,122	(36.3)
1978	98,601	27,354	(27.7)	47,760	(48.3)
1979	50,157	19,751	(39.3)	8,517	(16.9)
1980	95,210	35,200	(36.9)	12,700	(13.3)
1981	205,056	35,811	(17.5)	97,707	(47.6)
1982	71,822	35,702	(49.7)	3,448	(4.8)
1983	66,784	30,212	(45.2)	14,659	(21.9)
1984	158,413	50,213	(31.6)	55,198	(34.8)
1985	109,366	26,346	(24.1)	59,075	(54.0)

Total onion production in Japan is around 1.0 and 1.1 million tonnes and imports are usually about 10% of this volume.

Australian exporters have supplied smaller quantities of onions to Japan (up to 6,500 tonnes). The other major source of supply comes from the north-western states of the U.S.A. In the past two seasons the quality of these onions has been excellent and with cheaper freight rates of US$1 per bag (approx NZ$1.85) which compares favourably with the freight cost from New Zealand of NZ$4.90 per bag, this source has been favoured by Japanese importers. A further advantage to the USA growers is the greater frequency and volume of shipping moving from the west coast of the United States to Japan giving a reliable service with shorter shipping times.

The cost of growing onions in N.Z. was assessed at $185/tonne 'off-the-grader' in 1985 (Wood, 1985). With bags, transport, handling charges, plus freight to Japan this equates to a c & f price of around NZ $525/tonne, or $10.50/bag.

An estimate of the production costs is prepared every third year by Advisory Services Division in Pukekohe. This covers all true costs, is based on a model property in the Pukekohe district, and determines the break-even price needed for a grower to stay in business with. The recent trends in these costs compared to f.o.b. price received is shown in Table 4.

TABLE 4: Production cost and free-on-board value of exported onions.

Year	Cost $/tonne	f.o.b. value (all markets) $/tonne
1978	92	164
1979	—	191
1980	—	148
1981	111	311
1982	—	334
1983	—	153
1984	185	574
1985	—	345
1986	—	230

Until 1982 the f.o.b. returns generally kept ahead of costs. During this period average yields increased from around 32 t/ha to over 35 t/ha which helped maintain the returns to the producer.

The costs incurred after the onions leave the farm gate are high, primarily due to shipping costs, and if these costs continue to increase returns to the growers may be limited in the future.

Faced with this situation growers could attempt to hold the cost per tonne by increasing yield per hectare or by reducing the costs of production. Fertilizers and herbicides are a large part of the total costs involved in growing onions (around $37/tonne). It has been demonstrated there are real savings to be made in reducing fertilizer application (without loss in yields), in using less lime (which may result in some increases in yield), and with alternative herbicide programmes. Yet some of these practices have not been readily adopted by growers.

SUMMARY

The N.Z. onion industry has been built on the basis of a high quality product, a competitive price structure, and out-of-season supply to northern hemisphere markets. This basis has changed over the past few years and the future of the industry is uncertain. Production fell in 1986 and will probably decline further in 1987. If the industry is to maintain present levels then new strategies are required.

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