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ASPARAGUS MARKET SURVEY

by: Steve Caiger

Released by the AgEnt Staff, October 1995

The Agro-Enterprise Development Project
Colombo, Sri Lanka

AgEnt

October 1995

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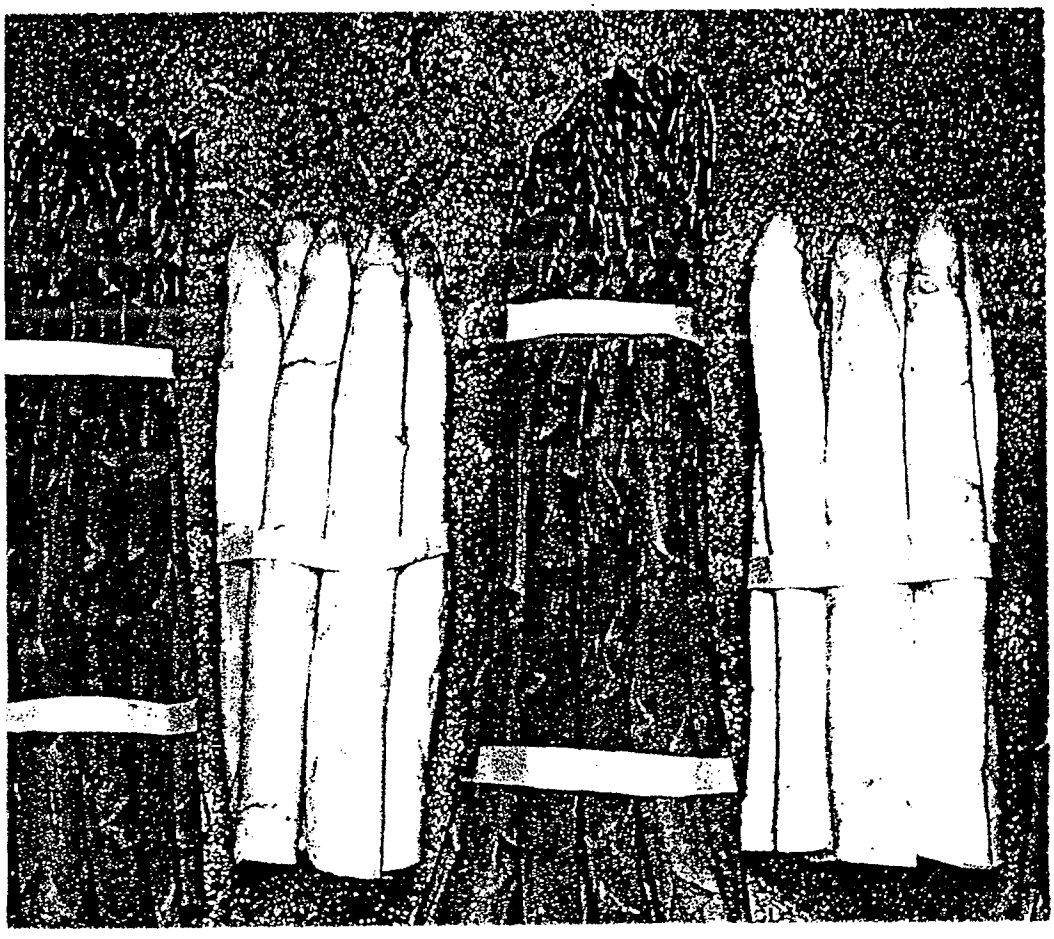

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LIST OF ACRONYMS

EC	European Community
UK	United Kingdom
ACP	African, Caribbean, Pacific
LDDC	Least Developing Countries
C + F	Cost + Freight
Ha	Hectare = 2.47 U.S. acres
GSP	Generalizes Systems of Preference
Kg	Kilogram = 2.2 U.S. pounds
1QF	Individually Quick Frozen
FOB	Freight on Board
U.S.A.	United States of America
TIPS	Top 10 cm of the asparagus spear

EXECUTIVE SUMMARY

Fresh asparagus is a volume market (230,000 tons) in the EC, but air freighted imports are limited to small, high priced niche with total volumes of around 5,000 tons and import value of US$25 million. The UK and Germany are the major import markets (around 1,400 tons each): Germany for white asparagus, UK for green.

It would be possible to target a market share of up to 200 tons with a C + F value of around US$1 million, split between white for Germany and green for UK initially. Part of this tonnage would have to be the equivalent in tips. Market contacts were generally positive, but supply is becoming concentrated in a few major origins, and continuing developments in quality, packaging, product types and season extension is leading to a general narrowing of the supplier base, with small short season origins being forced out of the market except during times of temporary shortage.

The market is highly protected by tariffs (upto 15% *ad valorem*), and significant preferential rates are given in certain windows to ACP and LDDC origins. However, most major suppliers are GSP countries. Significant changes in the supply season of ACP and LDDC countries, bringing them into line with projected supply windows for Sri Lanka would place Sri Lanka at significant competitive disadvantage.

The main origins are the USA, South America (Peru, Chile, Argentina), Mexico, South Africa and Thailand (tips only). Volumes from the main origins are in the range 250 to 1,500 tons/yr. The major import season is from October to February. October to December is well supplied and Sri Lanka is unlikely to be able to offer product of interest to the market in this window. There is still interest in the market during the December to February window, and this is the only viable window to target for spears. Tips could be done year-round, but supply would have to be significantly cheaper than Thailand origin, and be competitive with Peru.

Prices are weakening in real terms, reflecting increased competition in the market, increased supply, and the integration of fresh/ processing sectors in the major origins. However, they are still high relative to most other vegetable crops, Prices of US$4.00/kg C + F duty paid should be targeted. Except for targeting a replacement of Thailand for TIPSs based on lower airfreight charges, there does not appear to be any fundamental advantage for Sri Lanka that they can hang development activities on. While this point is not essential, it would make things easier.

Any supply would have to be of high quality to be competitive in the market. There is no scope for a marginal producer. Any new producer, to be competitive, would have to obtain high export yields of excellent quality. It is likely that field developments should be in the range 15 to 50 ha to be competitive.

Indicative grow margin calculations indicate a gross margin/ ha of around US$2,000, but these are highly dependent on yields achieved, internal transport costs, and costs of packaging. These are key variables for Sri Lanka, and can ruin the commercial basis of crops. Margins for production of tips should be higher. Fifty ha producing 200 tons for export would give an overall gross margin return of around US$100,000/yr.

Unless done on a very large scale and with a very sound competitive basis, **this is not a stand alone crop development**. New producers also have to consider very seriously the need for strategic development of a processing sector to support and compliment production for fresh export.

Technical support programmes would be required for a minimum of 3 years to support the development, at a probable total cost of US$100,000. Investment in infrastructure and facilities for any producer will probably be around US$100,000, and except for large consolidated plantings, could not be borne by the asparagus crop alone. Nor is it likely that the level of controlled transport to the airport and holding at the airport could be put in solely for such a short season crop. **Asparagus needs to be seen in the context of other fresh export crops.** Around US$100,000, and except for large consolidated plantings, could not be borne by the asparagus crop alone. Nor is it likely that the level of controlled transport to the airport and holding at the airport could be put in solely for such a short season crop.

Buyers take any proposed new origin of asparagus production seriously, particularly for the January-February market window, but it's got to be competitive on quality and the prices must be lean. The recent revision of the Tariff Schedule has not helped. For those who have already, it should be fairly straight forward to asses whether they are essentially in a marginal production environment if they are, there is no place for them in the market on any significant basis. If they have good production conditions, the issues are production and packaging costs. For any prospective entrants, or the development of a new production sector, the key issue is quality of site. If there are not clearly good production conditions, the venture has shaky foundations.

A. MARKET AND COMPANY CONTACTS

GERMANY:

SCIPIO
Breitenweg 29/33
Postfach 105069
D-2800 Bremen 1
tel: 49 421 3092-1
fax: 49 421 2098
Contact: Mr Norbert Tabelman

Strong interest. Traditional supply from South America and South Africa up to December. Would be interested in product December to February. Deal in very large volumes over the year, but still one of the major importers during the off season. Terms of trade on consignment, airfreight paid by exporter. Specs very important - 16 mm diameter, 22 cms long, prepacks in punnet, 8 by 500 gms, green dot on punnets (shows recyclable). Little interest in green.

TROFI
Kontorhaus Grossmarkt
Lippelstrasse 1,
2000 Hamburg 1
tel: 49 40 33 55 96
fax: 49 40 32 75 49
Contact: Norbert Timme (MD)

Interested for supply January/February. September to November well supplied from South Africa. Volumes in this period becoming excessive and depressing prices. A major importing company. Prefers pre-packs in punnets, as bundles don't keep as well.

FRUCHTHANSA
Grossmarkt
D. 5000
Cologne
tel: 49 221 93 75 70
fax: 49 221 93 75 754
Contact: Mr Kai Kraseamann

Interest for the January/February period, until early Spanish starts to come in.

T. PORT
Lippellstrasse 1
D 20097 Hamburg
tel: 49 40 30 10 00 77
fax: 49 40 30 10 00 44
Contact: H. Scholdei
No interest. Adequate supplies.

UK:

General comment: UK trade was not impressed by news/reports/general talk of recent performance of Sri Lanka in gherkin sector. India came into the market with substantially lower priced product, and **Sri Lanka, instead of taking aggressive line with market outlets based on previous supply history and quality reputation, immediately collapsed and retrenched production, leaving producers stranded.** Indian quality then turned out to be poor, and users have now gone back to Sri Lanka. Feeling in trade was that this was symptomatic of people not properly understanding trade, easily panicking and loosing their "bottle", and poor development of relationships with the market, and understanding of the market. Marketing still felt to be too much in the hands of the trading/brokerage houses, and not enough development of dedicated companies in the horticultural sector. Not sure that there are many suitable companies to deal with for any proposed development.

EXOTIC FARM PRODUCE
628 Spur Road,
Feltham,
Middlesex TW14 0SX
tel: 44 181 890 2222
fax: 44 181 890 6261
Contact: Michael Paske/Athul Denani

Exotics control much of the asparagus business into UK, and also involved in the continental trade. They are always interested in new sources, not only for supply possibilities, but also to maintain their domination of the market. If a supply is only going to be enough to support one company, they want to be that company. They have led most of the new developments in the market, and continue to do so. Exotics are now active in Sri Lanka, just starting to export some Asian Vegetable mixes to supermarket standards, but have a very cautious view about how new operations can be developed there. The strategy which they are following in developing sources out of Sri Lanka is to look at local production of local crops where minor changes in production and/or change in location, coupled with wholly new post harvest handling and packaging practices can give product to fit niches in their UK market. They would obviously be interested if asparagus did come out, but they are working on this in a very wide range of countries with some very large producers.

GEEST TROPICAL PRODUCE
Hellman House,
Colnbrook By-pass,
Colnbrook,
Slough. SL3 0EG.
tel: 44 1753 687 697
fax: 44 1753 689 373
Contact: Grahame Issacs

Just starting with new dedicated source out of Zimbabwe (making use of ACP tariff advantages). After upheavals at Geest, main asparagus business now limited to mix supply of tips and spears (predominantly tips) to Marks and Spencer, and buying programme in Zimbabwe tied in to this. Zimbabwe source just coming on line for first time in a couple of weeks, but trials have been good and they are expecting to be able to source product throughout the import season. If this does turn out to be as the trials have indicated, will lessen their interest in any new source.

The imminent revival of the Union International freezing plant in Zimbabwe is expected to offer growers a freezing outlet for asparagus.

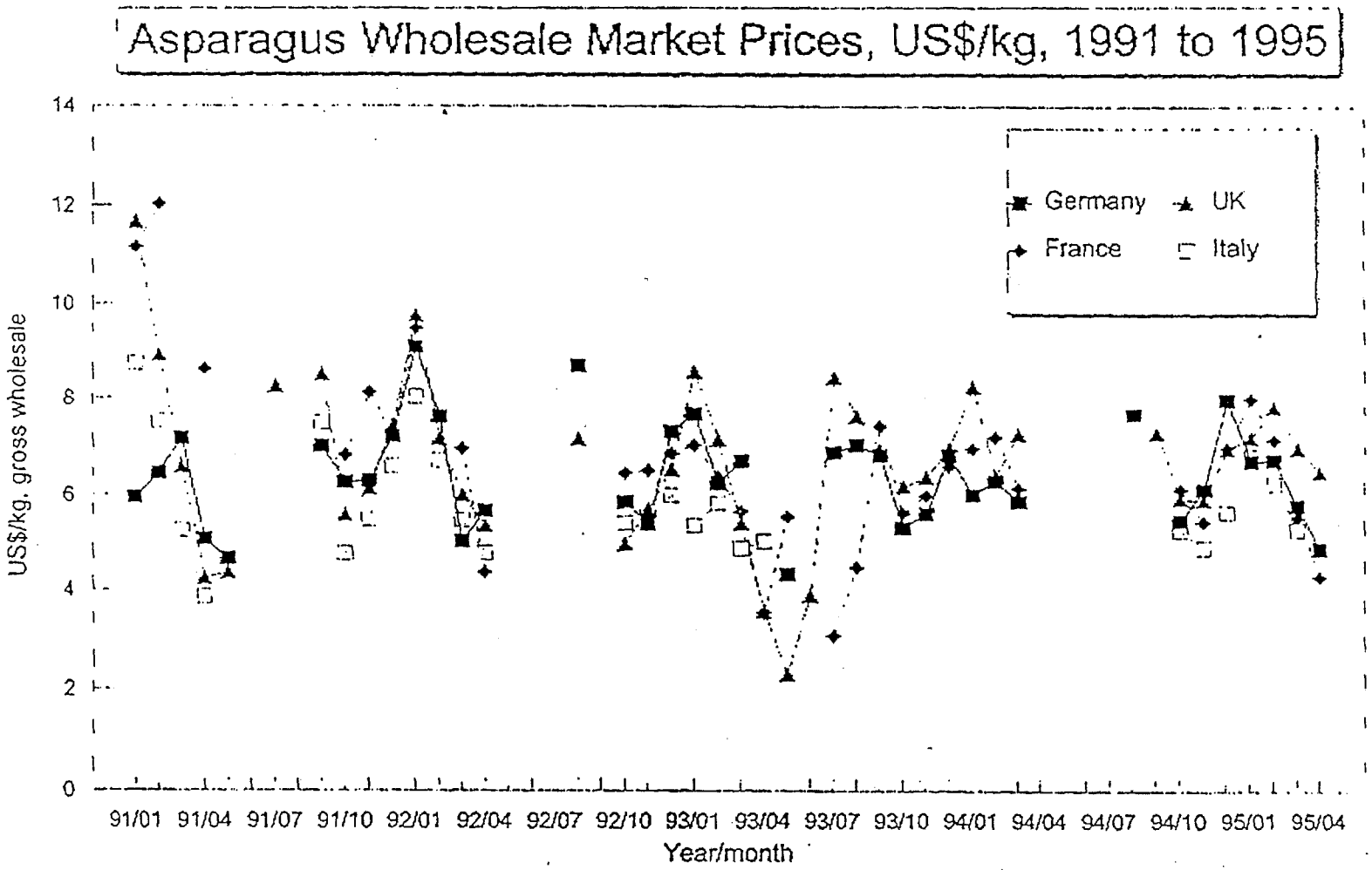
FLAMINGO (UK) (this is Homegrown Kenya's UK arm)
Unit 2, Eastman Way,
Hemel Hampstead,
Herts. HP2 7DU
tel: 44 1442 236070
fax: 44 1442 232944
Contact: James Hallett

Definite interest in new source. As new entrants into the import/retail supply sector in UK (previously all their Kenyan production went to Geest) they need a wide range of sources to give them the product range and seasonality to compliment their Kenyan production. Main interest would be in the December/February window. Interested to hear more when there is definite supply possibility. Are newly set up with state-of-the-art 40,000 sq ft temperature controlled facility to cover product from time it comes in, to going out. Can handle full freighter load (13 pallets) at one time.

SAPHIR Vegetables
The Oast,
Perry Court,
London Road,
Faversham,
Kent.
tel: 44 1795 530 700
fax: 44 1795 530 797
Contact: Carol Middleton

Interested in new source for December to February. They take tips out of Thailand all-year-round, and would also be interested in new source here, but would have to undercut Thailand. Tips are now coming out of Peru, which is LDDC country and therefore zero tariff rating, and this has already lowered retail price of 100 gm pack tips from £1.79 to £1.59. Thinks about 4 tons/week tips going into major supermarkets, and this is continuing to grow rapidly. One company with a good supply can do 2 tons/week easily. **Final interest dependent on quality**.

Sees no prospect for spears during October to early December as Peru is able to undercut most suppliers due to tariff advantage (and Exotics have this supply tied up). Peru often dried up early December, so opportunity to follow on from this. Argentine trying strongly to get into market, but not only has the tariff on import here, but also export tax in Argentina, which is ruining their competitiveness (and reflected in the sharp fall in exports shown in the Import Tables).


Asparagus Wholesale Market Prices, US$/kg, 1991 to 1995
Germany
UK
France
Italy
US$/kg, gross wholesale
0
2
4
6
8
10
12
14
91/01
91/04
91/07
91/10
92/01
92/04
92/07
92/10
93/01
93/04
93/07
93/10
94/01
94/04
94/07
94/10
95/01
95/04
Year/month

MAJOR ASPARAGUS EXPORTERS TO THE EC (tons), 1988 to 1994

	1988	1989	1990	1991	1992	1993	1994
USA	1935	1365	1600	1715	1560	1377	1226
Peru	195	290	695	460	830	1074	1517
Chile	635	680	830	755	760	496	498
Argentina	505	410	415	450	630	158	217
Mexico	230	220	195	225	245	265	140
S. Africa	520	485	405	270	240	687	1062
Thailand	20	70	130	120	150	156	189
Guatemala	0	1	15	30	70	63	50
Ecuador	12	30	40	115	80	35	58
Poland	305	595	840	710	935	930	1066
Hungary	100	70	70	65	130	113	217
Morocco	80	130	195	385	320	577	535
Other	293	174	260	245	205	962	346
Total	4830	4520	5690	5545	6155	6873	7121

Greens

	1988	1989	1990	1991	1992	1993	1994
USA	1935	1365	1600	1715	1560	1377	1560
Peru	195	290	695	460	830	1074	830
Chile	635	680	830	755	760	496	760
Mexico	230	220	195	225	245	265	245
Thailand	20	70	130	120	150	156	150
Guatemala	0	1	15	30	70	63	70

Whites

	1988	1989	1990	1991	1992	1993	1994
Argentina	505	410	415	450	630	158	217
S. Africa	520	485	405	270	240	687	1062
Ecuador	12	30	40	115	80	35	58
Poland	305	595	840	710	935	930	1066
Hungary	100	70	70	65	130	113	217
Morocco	80	130	195	385	320	577	535

Note: division between green and white exporters is not as simple as shown in Table

QUARTERLY DISTRIBUTION OF IMPORTS OF NON-EC ASPARAGUS

	Q1	Q2	Q3	Q4	AVRG 92	Q1 Q3 1993
UK	373	361	357	377	1468	1107
France	142	106	39	169	456	350
Germany	162	1008	195	725	2090	1082
Italy	328	207	50	341	926	719
Netherlands	49	11	44	139	243	232
Belg/Lux	78	40	48	125	289	249

NON-EUROPEAN IMPORTS (tons) FOR MAJOR EC MARKETS, 1990-1994

	1990	1991	1992	1993	1994
UK	1517	1487	1416	1205	1594
Germany	2106	2050	2604	2184	2768
France	416	429	568	571	504
Italy	1124	887	834	673	446
Other	527	692	917	2240	1809
TOTAL	5690	5545	6339	6873	7121

1. MARKET VOLUMES AND SUPPLIES

Asparagus is a volume product on the EC market, with over 230,000 tons marketed per year. Imported, air freighted asparagus is a small, high priced niche market largely limited to the out of season months (August through March). Around 5,000 to 6,000 tons are imported from non-European origins, with a C+F value of around US$25 million/year.

1.1 Domestic Production and Trade

Production and demand are firm, and rising.

Almost all the 230,000 tons marketed within the EC is produced locally, with trade between the EC countries evening out supply and seasonal demand differences. The production period is short, peaking between March and June. Production in each country is limited to a 6 to 8 week season, with earliest production coming from the Southern countries (Spain, Greece).

Spain is the largest producer (100,000+ tons), followed by France (40,000 tons), and Germany and Italy (25 to 30,000 tons).

Around 20% of production is traded between countries. Intra-EC imports are largely at the beginning and end of the domestic production season, to give a small extension to the main consumption period. Germany is the largest import market by far (around 40,000 tons), followed by France and Italy (5 to 6,000 tons).

Prices during the European production season are too low to support imported airfreight supplies (with the exception of high priced Tips and some US supplies), and are further protected by a 15% tariff level.

1.2 Asparagus types

The market is divided into "white" types, and "green" types.

White asparagus dominates in continental Europe. Green asparagus dominates the UK, and is preferred in Italy and Southern France. There is general growth of the market for green asparagus in the traditional white markets, but from very small volume levels.

Asparagus tips are a recent product development (led by the UK), and growth has not replaced demand for spears but been in addition to it. **Tips are the top 10 cms of the spear, are sent as prepacks, and achieve prices roughly double that for spears.** The advantages are reduced airfreight volumes, and higher prices reducing the relative importance of airfreight costs, enabling higher freight rates to be carried by the product.

1.3 Import Market Volumes and Origins

Total imports from non-EC sources are in the range 6,000 tons, but around 1,000 tons of this is from other European sources (Poland, Hungary) during the EC season.

The major non-European suppliers are:

- USA (around 1,600 tons),
- Peru (around 1,000 - 1,500 tons),
- Chile (around 500 tons),
- Argentina (previously around 600 tons, but has fallen rapidly and now around 200 tons),
- South Africa (risen rapidly recently to around 1,000 tons),
- Morocco (around 325 tons), and
- Mexico (around 250 tons).

However, a large number of countries (around 30) send supplies, many of small volume.

The major import markets in the EC are:

- Germany (around 2,500 tons, but of this, around 1,200 tons is from Eastern Europe during the domestic EC season)
- UK (around 1,400 tons)
- Italy (around 450 tons and declining)
- France (around 500 tons)

1.4 Seasonality

The major supply period for air freighted imports are Quarter 4 (Oct to December) and Quarter 1 (January to March). The Eastern European countries supply during Quarter 2 (April to June).

Excluding Eastern European imports, the UK is the largest import market for non-EC supplies, and import volumes are largely constant throughout the year, across all 4 Quarters in contrast to the other countries where imports are concentrated in Q1 and Q4.

Only the USA and Thailand have extended all-year-round export seasons, although the USA supplies the bulk of its exports in Quarters 1 and 2 (Jan to June). All other origins are strongly seasonal.

Seasonality of the main origins is:

- USA: Q1/Q2
- Mexico Q3
- Peru Q4
- Chile Q4
- Argentina Q4
- South Africa Q4

The Central/South American origins carry over small supplies into Quarter 1.

1.5 Product Quality and Packaging

Product quality standards are stringent, and market standards are continually rising due to increases in handling and transport techniques, and the ability to place slightly below standard product into the processing sector at origin.

Packaging varies with product type and market. All tips are sent as prepacks in plastic trays (usually 125 gms). For spears, product is either sent as bundles (500 gms) tied with ribbon and packed in robust waxed cardboard boxes or light wired wooden crates (ie in the UK), or as 500gm prepacked punnets, packed 8 to a cardboard outer (much of the German trade).

1.6 Import Duties

The full tariff (Tariff Heading 0709.20-00 0) is 15% *ad valorem*, applied throughout the year. During the main European season (1 March to 14 August) all origins work under the full tariff rate of 15%. Outside this period, a range of Preferential Tariffs operate in the range 0% to 12%. Although the full tariff rate was recently reduced from 16% to 15%, the preferential windows were severely reduced at the beginning (Feb) and end (Aug/Sept) of the season to protect early/late cropping developments in the EC.

Most major suppliers are GSP countries (as is Sri Lanka) and have a preferential tariff of 12% over the period 1 October to 31 January. ACP countries (including East and Southern African suppliers but importantly not South Africa) and LDDC countries (Peru) have preferential tariffs in the range 0% to 9.6% outside 1 March to 14 August. Egypt and Morocco have maintained the 0% tariff rate in both Jan and Feb.

Green:

Date	Full Tariff %	Preferential Tariff						
		ACP %	LDDC %	GSP %	MOROCCO %	HUNGARY %	POLAND %	EGYPT %
1-15 Jan	15	0	0	12	0	12	12	0
16-31 Jan	15	9.6	0	12	0	12	12	0
1- End Feb	15	0	15	15	0	15	15	0
1 Mar - 14 Aug	15	15	15	15	15	15	15	15
15 Aug - 30 Sept	15	0	15	15	15	15	15	15
1 - 31 Oct	15	0	0	12	15	12	12	12
1 Nov - 31 Dec	15	0	0	12	0	12	12	0

This Table is a simplification of the full tariff regime. A full listing of the complete tariff regime and all preferential rates and origins are attached.

1.7 New Product Developments

Part of the robustness of the asparagus price is due to the continuing development of market products to stimulate and diversify demand.

Marketing of green asparagus is growing in the major continental markets, but volumes are still small. Importers would still want to take at least 90% of imports as white.

Asparagus "tips" have established, primarily in the UK, as an all-year-round high priced product.

The latest development in the UK, just beginning, is of prepacks of mixed colour tips (green, white and purple) for the salad market (to be eaten raw).

2. PRICES

Outside the European production season, asparagus is a high priced product - one of the highest priced vegetables, with per kg prices more typically associated with flower crops. Prices reflect costs of cultivation and harvesting, the perishability of the crop, and the high airfreight rates from the predominantly Southern Hemisphere suppliers. Due to the labour intensive harvesting and grading/packing procedures, countries with low labour costs and competitive airfreight rates will be at a competitive advantage.

Prices for prepacked tips are in the range US$10 to US$12/kg throughout the year.

2.1 Price Levels, seasonality and trends

General wholesale prices for spears:

UK green: in the range US$4.50 to US$8.00/kg
Germany (white): in the range US$5 to US$7.50/kg
France: (white): in the range US$4 to US$7.50/kg

Seasonal peak prices will be above these ranges, but prices will rarely fall below a US$4/kg floor price in any market.

Prices typically follow a standard pattern (though are of course subject to gluts or shortages at any time):

- high in September, just after domestic EC production ends
- falls in October, and then rises gradually to a peak in December (Christmas)
- declines gradually through January/February to the lows of the domestic EC production cycle.

Prices are gradually declining, although by comparison with many other products, they are reasonably robust. The decline is primarily due to the development of centralised buying and intense competition in the retail market. No major new suppliers have come into the marketplace with radically different cost structures. There has been no major realignment of airfreight rates. The high airfreight rates of most of the origins (mainly in the range US$1.75 to US$2.00/kg, but up to US$2.50/kg) and high labour demand of the crop (no scope for mechanisation) puts a firm floor under minimum import prices. With no prospect for a rapid development of advances in post harvest storage to allow sea freighting of produce, the relatively stable price situation is expected to continue. Product has been sea freighted to market under controlled atmosphere and other techniques, but while these overcome transport time, product is not left with adequate shelf life (min 5 days effectively required in-store), and this problem seems likely to remain.

The tariff regime, due to the high levels of full and GSP Preferential rates (15%; 12%) against the zero rate for LDDC/ACP origins in key periods, means that wider development of production in LDDC/ACP countries during the December to February could undermine and depress prices during this period.

3. THE COMPETITIVE ENVIRONMENT

3.1 Product Diversification

The major origins are well established, and the **fresh production sector is supported by a diversified processing industry in most origins of production.** This gives substantial support to a fresh export operation, by providing an alternative market for excess production and outgrades with slight blemishes, **and therefore restricting export grades to the highest quality.**

Canned asparagus is a volume product (90,000 to 100,000 tons traded in the EC) although production is dominated by China. Product values are low (around US$2/kg).

Canned production was a declining market, but new developments of bottled asparagus have stimulated interest in the preserved product, giving a much better appearance, and reportedly some improvement in quality. In addition, there are now a much wider range of can sizes available, allowing a wider range of canned product types to be offered as well - whole long spears, tips etc.

Frozen asparagus (as IQF cuts, cuts and tips, and spears) is produced by the USA, China and the South American origins. Prices are in the range US$3 to US$4/kg.

There is renewed interest in dried asparagus powder (for use in soups etc). Product is made from reject spears and cuts. The conversion ratio fresh: dry is around 13:1. Product value is in the range US$5 to US$7/kg.

In the major origins of South America and South Africa, it is probable that this year, **up to 40% of the harvested production will go to the processing sector.**

As the fresh market becomes increasingly competitive, prices will continue to fall, and origins with a diversified product range available to the industry will be at a competitive advantage. They will be able to maximise harvested product usage, maximise quality of the fresh exports, and offer highly competitive prices.

Small new suppliers without a diversified product range, will be under pressure and will need to offer either a significant airfreight cost advantage, or labour/efficiency cost advantage, or be able to target the remaining high price/restricted volume market windows very closely.

3.2 Costs of Production

Long term competitive suppliers must be able to land high quality fresh asparagus into the European market at prices in the range £1.20 to £1.30/lb (US$4.00 to US$4.50/kg C+F).

With airfreight (including charges) at US$1.80, target FOB prices are in the range US$2.20 to US$2.70/kg.

Net export yields are a key factor in competitiveness, given high establishment and fixed investment (irrigation) costs. A net export yield of 4 tons/ha needs to be targeted.

Harvesting costs are a key cost factor, and the higher the yield, the lower the unit harvesting cost. United States production is able to remain competitive due to very high yields and very efficient piecework harvesting achieving low unit harvesting costs[1].

Drip irrigation systems are likely to be essential (although there is some suggestion that certain soil types and cultural systems in Sri Lanka might allow flood/furrow irrigation to be used at substantially lower cost, although this is speculation at present).

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[1] The US situation is particular. It has very large production, high yields, and very efficient harvesting, leading to low unit costs. The domestic market is very large and there are a diversity of products. Growers are prepared to sell a proportion of their crop (ie 10%) in advance at reasonably firm prices in the EC, and play the domestic market with the rest.

High quality product requires very stringent post harvest handling, including hydro-cooling systems. Costs here will not be different from the facilities and transport system used for other vegetable developments, and it must be envisaged that investment costs would be shared between crops (given the very short asparagus season). Hydrocooling systems can be established cheaply.

Planting costs are highly dependent on the type of planting material used (which also affects time to first harvest). Options are direct drilling of seed; modular transplants (seedlings raised from seeds in nurseries); and planting of crowns. Cost varies widely depending on type of planting material, variety and whether F1 hybrids are used. Costs will be in the range US$800 to US$7,000/ha.

Field establishment costs (planting and irrigation system) are likely to be in the range US$5,000 to US$7,000/ha.

3.3 Seasonality of Production

The major Southern Hemisphere suppliers have their main production season in Quarter 4 (October to December). South Africa, Chile and Argentina peak in October/November; Peru peaks in December and runs over into January. The US starts its main shipments in January, with peak shipments over the period February to April.

The remaining windows of interest to the market are the first half of Quarter 1 (January and beginning of February) and the end of Quarter 3 (late August and September).

If only one cutting season can be taken in Sri Lanka, the target should be for export production from December through early February, taking advantage of the peak in demand and prices during December, and the falling supply after this until the first early European supply come in February (and tariffs rise). The market (both green and white) is interested in new suppliers during this period.

The September window can be targeted in addition, but is too short to be taken as an alternative as strong Southern Hemisphere supplies come in October.

4. Sri Lanka's Supply Opportunity: Markets, Volumes and Seasonality

4.1 Markets

The primary target markets should be the UK and Germany. The UK takes exclusively green asparagus. The German market is primarily for white asparagus, but is developing a market for green spears.

The UK is the largest import market for non-European origins, it takes from a wide diversity of sources, imports consistently throughout the year, and is leading the development of "tips". Germany is the next largest importer of non-European origins, and has strong import volumes in Quarter 4 and good volumes in Quarter 1 as well. It can offer a market for any white asparagus to be produced from Sri Lanka.

Italy and France, though having reasonable total import volumes are more restricted in supplier base. Italy largely restricts imports to USA, Chile and Peru, and has not opened up to other origins. France is well supplied with first Quarter imports from Morocco, Tunisia and USA. Other markets (Belgium/Luxembourg, Holland) are smaller and would not be the place to start.

The UK market for asparagus tips should be considered seriously, given the significant airfreight advantage that Sri Lanka has over Thailand. Mixed production of both green and white would allow future development of mixed packs.

4.2 Volumes

An initial target of total exports of 200 tons of spears could be taken, giving exports of around US$1 million. Part of this could be sent as tips (reducing volumes but maintaining or increasing gross revenues).

Growth above this level would depend on achieving excellent quality and highly competitive production costs, enabling Sri Lanka to replace a significant proportion of one of the major Southern Hemisphere producers where airfreight costs are substantially higher. This cannot be projected at present.

4.3 Seasonality

The optimum import windows are:

- December/January/February, starting with the peak demand and prices of Christmas, and carrying on after the end of the supply season of the major South American suppliers, but before the beginning of the European season.

- August/September, just after the European season has ended, but before the major South American suppliers have started sending; prices are generally high reflecting a shortage of volume suppliers, although Sri Lanka will have to deal with high tariff rates.

Whether Sri Lanka can meet these particular windows depends on the conditions for cultivation within the country and opportunities for management of growing cycles. The whole window of the 4th Quarter (October/December) is open, but Sri Lanka would be in direct competition with the existing major South American suppliers, and the preference should be to avoid this initially.

Whatever market window Sri Lanka targets it will always be at a substantial tariff disadvantage to ACP suppliers, and to Peru (LDDC) in the December/January period - effectively 12%. However, with the exception of Peru, all other major suppliers are working at the same GSP duty rate.

5. Simplified Gross Margin and Sector Turnover Analyses

5.1 Gross Margin

Fresh asparagus, US$/ha.
Large scale, intensive production

Revenue:	
Sales price (C+F, less duty @ 12%) US$	3.52
Export yield (kg)	4,000
Total Revenue US$	**14,080**
Expenses:	
Planting Material/Establishment (see note)	1,000
Labour	800
Agrochemicals	600
Transport to airport	500
Packaging	2,000
Airfreight and airport charges @ US$1.80/kg	7,200
Total expenses US$	**12,100**
GROSS MARGIN US$/ha	**1,980**

Notes

- planting material/establishment costs depreciated over 7 years
- transport to airport can be excessive in Sri Lanka
- labour assumes efficient harvesting and on-going packhouse operation dealing with other crops as well
- packaging costs based on strong cartons or punnet prepacks with cardboard outer. Sri Lanka costs can be excessive in this area.

The margin is under pressure on packaging and transport.

5.2 Sector Turnover

Initial target of 200 tons exported from 50 ha, at US$4/kg C+F, giving US$800,000/yr. Gross margin to production from 50 ha around US$100,000/yr.

6. THE PLACE OF ASPARAGUS IN THE VEGETABLE PRODUCTION AND EXPORT SECTOR

Asparagus is not a high volume export crop comparable to beans. However, it has always been recognised that beans, while offering the potential for large volumes, large acreages cultivated and therefore widespread involvement by different production operations, cannot offer longterm strategic security to the production and export sector.

Beans are a highly competitive crop where new suppliers can start production very rapidly (first harvest in 8 weeks), little capital investment is required, **production and handling technology is low giving few barriers to new entrants**, and the relatively low market price results in giving an extremely high competitive advantage to low airfreight origins. Sri Lanka is extremely exposed to an reversal in the airfreight rate trend in its bean development. Moves to rates well above US$1.50/kg would remove whatever competivity it has.

As a consequence, if Sri Lanka is to develop a longterm, secure vegetable export industry, **it must diversify its production over a wider product range**, focusing on crops which have a substantially higher market price, and have some time/technology barrier to the entrant of new suppliers. Asparagus is one potential crop. Baby corn, and to a lesser extent mangetout and sugarsnaps are others.

Asparagus cannot be judged on the basis of the potential for creating a large crop sector. It's potential role is as one of a diversified basket of crops, offering greater security of market penetration on the basis of price and the ability to carry higher airfreight charges, and the restricted potential supplier base due to cultivation requirements. Asparagus also offers a wide range of processed products. Later development of these would provide greater security to the fresh export trade, and offer potential for increased production levels.

Any successful development of asparagus depends on finding clearly good production conditions, and achieving high yields. **There is no room for producers from marginal conditions.**

6.1 Indication of Development Costs and Technical Support

An initial target of 200 tons/yr (or tips equivalent) production could be achieved by 1 to 3 producers, with individual production areas in the range 17 to 50 ha. Individual production areas could of course be smaller, but given the need for post harvest facilities (grading, cold storage), the financial viability of individual plots will depend on the other associated developments of fresh export crops (if any).

Any investigation of potential for commercial, competitive asparagus production would require an initial assessment by a production consultant. Can good production potential be identified, and where? There is no place for marginal producers. Sri Lanka has **NOT** got **obviously good conditions**, and one of the existing sites (Mahaweli, for white) sounds marginal. The issue is can areas be clearly identified that **have clearly reasonable production potential?**

Production would be assessable after 3 years (**first year** nursery/planting; **second year** some tips for trial samples and an initial review of relative crop performance in the field and a chance to identify any serious and terminal problems that would warrant closing the programme; **third year** real commercial samples and financial analysis). The existing producers (one around Mahaweli and one further south) might be able to develop more rapidly than this, but there could be an issue as to whether their areas are suitable (as defined above).

Costs of the technical programme would be around US$30,000/yr for 3 years - say US$100,000 total[2].

The crop requires excellent post harvest handling facilities and infrastructure (hydrocooler, cold store, grading and packing houses, all to top specifications to enable targeting of multiple chains, pre-packing etc) Except possibly in the case of large developments (25 ha and over), the crop is unlikely to be able to carry the cost of investments required in facilities and infrastructure. A typical cold store (50m^2; prefabricated) is around US$50,000 erected. Hydrocoolers can be constructed locally for US$2,000 to US$5,000. A packhouse could be anywhere in the range US$30,000 to US$50,000. This level of investment for a short season crop, with no use outside the harvesting season would have to be questioned.

Transport to the airport, and conditions at the airport awaiting shipment, have to be excellent as the crop is highly perishable. Systems and equipment/facilities must be good. Shelf life is short, and to allow 5 days shelflife in-store, a minimum of 3 flights a week are necessary, and preferably more.

[2] Fully loaded costs (including airfares and per diems etc) at around US$1,000/day

Asparagus Wholesale Market Prices, US$/kg, 1991 to 1995

Yr/mth	Germany	France	UK	Italy
91/01	5.95	11.18	11.69	8.71
91/02	6.46	12.03	8.90	7.51
91/03	7.16		6.59	5.25
91/04	5.07	8.60	4.26	3.88
91/05	4.66		4.38	
91/06				
91/07			8.24	
91/08				
91/09	6.99		8.49	7.49
91/10	6.26	6.80	5.57	4.75
91/11	6.28	8.10	6.12	5.48
91/12	7.20	7.17	7.42	6.58
92/01	9.07	9.47	9.76	8.03
92/02	7.61	7.60	7.14	6.69
92/03	5.02	6.95	6.00	5.46
92/04	5.66	4.39	5.34	4.77
92/05				
92/06				
92/07				
92/08	8.67		7.14	
92/09				
92/10	5.85	6.44	4.96	5.40
92/11	5.38	6.49	5.69	5.54
92/12	7.30	6.84	6.52	5.98
93/01	7.67	7.01	8.54	5.33
93/02	6.24	6.36	7.13	5.82
93/03	6.68	5.64	5.38	4.87
93/04		3.55	3.59	5.02
93/05	4.35	5.53	2.32	
93/06			3.91	
93/07	6.86	3.09	8.43	
93/08	7.02	4.50	7.62	
93/09	6.80	7.40	6.92	
93/10	5.29	5.60	6.17	
93/11	5.59	5.97	6.36	
93/12	6.81	6.57	6.94	
94/01	6.00	6.94	8.24	
94/02	6.28	7.17	6.38	
94/03	5.85	6.13	7.24	
94/04				
94/05				
94/06				
94/07				
94/08	7.66			
94/09			7.27	
94/10	5.44	6.10	5.91	5.24
94/11	6.11	5.42	5.88	4.89
94/12	7.96	6.95	6.93	5.62
95/01	6.67	7.98	7.16	6.77
95/02	6.69	7.10	7.81	6.20
95/03	5.75	5.51	6.93	5.25
95/04	4.87	4.30	6.46	

1	*From 1 May to 30 June:*						
2	*Beans (Phaseolus ssp., vulgaris var. Compressus Savi)*		91	TQ(1)	Kg	12·6% MIN 1·9 ECU/100 Kg/ net	ACPOCT, AD, LDDC, SM-Free
3							
4							
5	*Other*		99	TQ(1)	Kg	12·6% MIN 1·9 ECU/100 Kg/ net	ACPOCT, AD, LDDC, SM-Free
6							
7							
8	From 1 July to 30 September	070820 90 0			Kg		
9	*Beans (Phaseolus ssp., vulgaris var. Compressus Savi)*		10	TQ(1)	Kg	16·4% MIN 1·9 ECU/100 Kg/ net	ACPOCT, AD, LDDC, SM-Free
10							
11							
12	*Other*		90	TQ(1)	Kg	16·4% MIN 1·9 ECU/100 Kg/ net	ACPOCT, AD, LDDC, SM-Free
13							
14							
15	**Other leguminous vegetables**	070890 00 0			Kg		
16	*Broad beans:*						
17	*Broad beans (Vicia Faba major L.):*						
18	*From 1 July to 30 April*		11	TQ(1)	Kg	13·5%	ACPOCT, AD-Free; JO-8·4%; LDDC, SM, TR-Free
19	*From 1 May to 30 June*		12	TQ(1)	Kg	13·5%	ACPOCT, AD-Free; JO-8·4%; LDDC, SM-Free
20	*Other*		20	TQ(1)	Kg	13·5%	ACPOCT, AD, LDDC, SM, TR-Free
21	*Other*		90	TQ(1)	Kg	13·5%	ACPOCT, AD, LDDC, SM, TR-Free
22	**07 09**						
23	**OTHER VEGETABLES, FRESH OR CHILLED:**						
24	**Globe artichokes:**						
25	From 1 January to 31 May	070910 10 0	00		Kg	(2)	AD, OCT, SM, TR-Free
26	From 1 to 30 June	070910 20 0	00		Kg	(2)	AD, OCT, SM, TR-Free
27	From 1 July to 31 October	070910 30 0			Kg		AD, OCT, SM, TR-Free
28	*from 1st July to 30th September*		10		Kg	(2)	AD, OCT, SM, TR-Free
29	*From 1 October to 31 October*		80		Kg	(2)	ACP-Free(4) ; AD-Free; CY, EG-Free(4) ; MGB, MT, OCT, SM, TR-Free
30	From 1 November to 31 December	070910 40 0			Kg		
31	*With an entry price per 100 kg net weight of:*						
32	*Not less than 99 ECU*		10		Kg	(2)	ACP-Free(4) ; AD-Free; CY, EG-Free(4) ; MGB, MT, OCT, SM, TR-Free
33	*Not less than 97 ECU but less than 99 ECU*		20		Kg	(2)	ACP-Free(4) ; AD-Free; CY, EG-Free(4) ; MGB, MT, OCT, SM, TR-Free
34	*Not less than 95 ECU but less than 97 ECU*		30		Kg	(2)	ACP-Free(4) ; AD-Free; CY, EG-Free(4) ; MGB, MT, OCT, SM, TR-Free
35	*Not less than 93.1 ECU but less than 95 ECU*		40		Kg	(2)	ACP-Free(4) ; AD-Free; CY, EG-Free(4) ; MGB, MT, OCT, SM, TR-Free
36	*Not less than 91.1 ECU but less than 93.1 ECU*		50		Kg	(2)	ACP-Free(4) ; AD-Free; CY, EG-Free(4) ; MGB, MT, OCT, SM, TR-Free
37	*Less than 91.1 ECU*		60		Kg	(2)	ACP-Free(4) ; AD-Free; CY, EG-Free(4) ; MGB, MT, OCT, SM, TR-Free
38	**Asparagus**	070920 00 0			Kg		
39	*Green:*						
40	*From 15 August to 30 September*		11		Kg	15%	ACPOCT, AD, SM, TR-Free
41	*From 1 October to 31 October*		12		Kg	15%	ACPOCT, AD-Free; GSP, HU-12%; LDDC-Free; MT, PL-12%; SM, TR-Free
42							

1	*From 1 November to 31 December*			13		Kg	15%	ACPOCT, AD, CY, EG-Free; GSP, HU-12%; LDDC, MA, MT-Free; PL-12%; SM, TR-Free	Z
2									
3	*From 1 January to 15 January*			14		Kg	15%	ACPOCT, AD, CY, EG-Free; GSP, HU-12%; LDDC, MA, MT-Free; PL-12%; SM, TR-Free	Z
4									
5	*From 16 January to 31 January*			17		Kg	15%	ACP-9·6%; AD, CY, EG-Free; GSP, HU-12%; LDDC, MA, MT, OCT-Free; PL-12%; SM, TR-Free	Z
6									
7	*From 1 February to the end of February*			18		Kg	15%	AD, CY, EG, MA, MT, OCT, SM, TR-Free	Z
	From 1 March to 15 April			21		Kg	15%	AD, OCT, SM, TR-Free	Z
	From 16 April to 15 June			23	TQ(1)	Kg	15%	AD, OCT, SM, TR-Free	Z
0	*From 16 June to 14 August*			25		Kg	15%	AD, OCT, SM, TR-Free	Z
	Other:								
2	*From 16 April to 15 June*			83	TQ(1)	Kg	15%	AD, OCT, SM, TR-Free	Z
	From 16 June to 14 August			85		Kg	15%	AD, OCT, SM, TR-Free	Z
4	*From 15 August to 30 September*			91		Kg	15%	ACPOCT, AD, SM, TR-Free	Z
5	*From 1 October to 31 October*			92		Kg	15%	ACPOCT, AD-Free; GSP, HU-12%; LDDC-Free; MT, PL-12%; SM, TR-Free	Z
	From 1 November to 31 December			93		Kg	15%	ACPOCT, AD, CY, EG-Free; GSP, HU-12%; LDDC, MA, MT-Free; PL-12%; SM, TR-Free	Z
	From 1 January to 15 January			94		Kg	15%	ACPOCT, AD, CY, EG-Free; GSP, HU-12%; LDDC, MA, MT-Free; PL-12%; SM, TR-Free	Z
	From 16 January to 31 January			97		Kg	15%	ACP-9·6%; AD, CY, EG-Free; GSP, HU-12%; LDDC, MA, MT, OCT-Free; PL-12%; SM, TR-Free	Z
	From 1 February to the end of February			98		Kg	15%	AD, CY, EG, MA, MT, OCT, SM, TR-Free	Z
	From 1 March to 15 April			99	TQ(1)	Kg	15%	AD, OCT, SM, TR-Free	Z
	Aubergines (egg-plants)	070930	00 0			Kg			Z
	From 1 January to 14 January			10	TQ(1)	Kg	15·5%	ACPOCT, AD-Free; BG-9%; CY-Free; DZ-6·4%; GSP-9%; LDDC, MA-Free; MT, RO-9%; SM-Free; TN-6·4%; TR-9%	Z
	From 15 January to 31 March			20	TQ(1)	Kg	15·5%	ACPOCT, AD-Free; BG-9%; CY-Free; DZ-6·4%; GSP-9%; IL-Free(4) ; JO, LDDC, MA-Free; MT-9%; OT-Free(4) ; RO-9%; SM-Free; TN-6·4%; TR-Free	Z
	From 1 April to 30 April			30	TQ(1)	Kg	15·5%	ACPOCT, AD, CY-Free; DZ-6·4%; IL-Free(4) ; JO, LDDC, MA-Free; OT-Free(4) ; SM-Free; TN-6·4%; TR-Free	Z
	From 1 May to 30 September			40	TQ(1)	Kg	15·5%	ACPOCT, AD, LDDC, SM-Free	Z
	From 1 October to 30 November			50	TQ(1)	Kg	15·5%	ACPOCT, AD, LDDC, SM-Free	Z
	From 1 December to 31 December			60	TQ(1)	Kg	15·5%	ACPOCT, AD, CY-Free; DZ-6·4%; LDDC, MA, SM-Free; TN-6·4%	Z
	Celery other than celeriac	070940	00 0			Kg			Z

(1) Tariff quota and/or ceiling may apply. See additional information at end of chapter.
(2) Refer to additional information at end of chapter for products to which an entry price applies
(3) In addition to the customs duty, the application of a countervailing charge is provided for under certain conditions.
(4) Product subject to a reference quantity