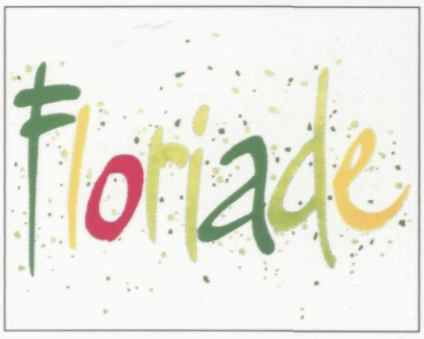
International Competitiveness in the Fruit growing Industry



Rabobank

International Competitiveness in the Fruit Growing Industry

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- CBT, Zoetermeer
- Vakblad voor de handel in A.G.F.
- Wim Stegen
- Maarten Pelleboer

Contents

Reading guide

To enable you to grasp the essential facts in this report quickly we would advise you to read the following chapters:

1.3 Research method
2.4 Summary and prospects
3.4 Summary and prospects
4.7 Summary and prospects
6. International competitiveness
7. Strategy

If you are interested in a particular country read the summary and prospects relating to this in chapter 5.

Foreword

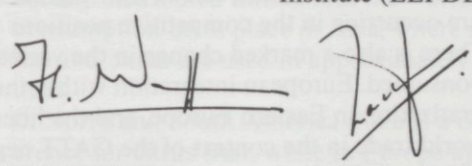
The Dutch horticultural industry is continually confronted with new challenges. The nineties will be dominated by a change from product-based to market-oriented thinking. This will have consequences for every branch of the sector: for the breeder, the grower, the auction business, the trader and the shopkeeper.
Against this dynamic background and the explicit presentation of the Dutch horticultural industry at the Floriade, Rabobank has asked the Agricultural Economic Institute (LEI) to chart the country's competitive strength in the fruit-growing sector.
This report also indicates what strategic options are available for expanding the position.
Its object is to give you some insight into the significance of market-oriented thinking and action. In addition, it aims to offer some points to help you shape your ideas about the near future. Everyone will have to fill in the details for themselves.
The research and analysis were carried out jointly by the LEI-DLO and Rabobank who are also responsible for this study.
We are grateful for the active contribution of the following organizations in compiling this report:

Bedrijfschap voor de groothandel en tussenpersonen in groenten en fruit (Industrial board for the wholesale trade and agents in vegetables and fruit), The Hague
Centraal Bureau van de Tuinbouwveilingen in Nederland (Central Bureau for Flower, Fruit and Vegetable Auctions in the Netherlands), Zoetermeer
Informatie en Kennis Centrum (Information and Knowledge Centre), Fruit Farming Department, Wilhelminadorp
Nederlandse Fruittelers Organisatie (Dutch Fruit Farmers' Organization), The Hague
Produktschap voor Groente en Fruit, (Fruit and Vegetable Marketing Board), The Hague
Vereniging voor Groot- en Tussenhandel in Groente en Fruit (Association for the wholesale and retail trade in vegetables and fruit), The Hague

We would like to thank all concerned sincerely for their contributions.

Eindhoven,
Rabobank Nederland

The Hague, July 1992
Agricultural Economic
Institute (LEI-DLO)



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1. Introduction

1.1 Positioning

The fruit farming sector in the world comprises the production of and trade in citrus fruit, bananas, semi-tropical fruits, soft fruit, pomes and stone fruits. The main representatives of citrus fruit are: oranges and lemons; of semi-tropical fruits: pineapples and advocados; of pomes and stone fruits: apples, pears, peaches and grapes. The total export value of fresh fruit amounted to 17.5 billion dollars in 1988. There are two segments: fruit farming in the Southern Hemisphere, with the emphasis on citrus fruit and bananas, and fruit farming in the Northern Hemisphere, with the emphasis on grapes, pomes and stone fruits.

1.2 Competitive position of the fruit farming industry

In the production and sale of fruit, significant changes are occurring in the competitive positions worldwide. There is also a marked change in the variety of fruit consumed. European integration within the EC, democratization in Eastern Europe, and the liberalization of world trade in the context of the GATT negotiations will inevitably have consequences for the pattern of fruit consumption. A number of 'traditional' markets are showing signs of saturation, which will affect both profit margins and the power relationships in the production chain. Particularly in Western Europe, new environmental legislation will influence the current production methods. The many changes make it difficult to obtain a clear idea of the prospects for fruit farming, but it is essential to gain an insight into the current and future trends in order to be able to react to opportunities and threats in good time. In the context of the Floriade international horticultural exhibition we have therefore investigated the extent to which the various forces influence the competitive relationships in fruit farming worldwide.

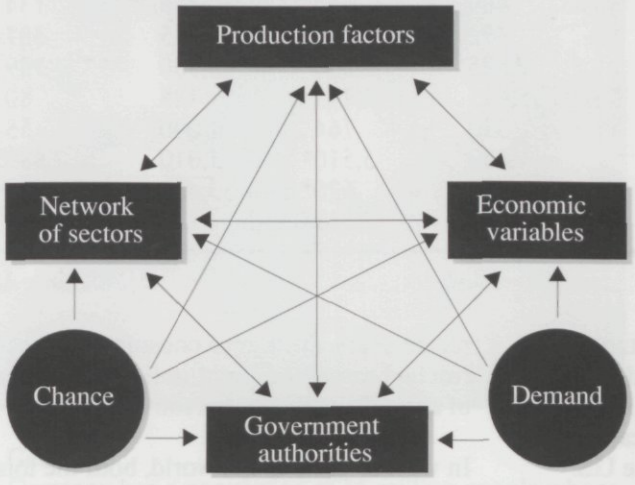
1.3 Research method

The theories of the American economist Porter have been used in assessing the competitiveness of Dutch fruit farming. The strength of a sector is not only determined by a low cost price, but by a variety of aspects.

The following have been examined in this study:
Basic production factors such as raw materials, climate, unskilled labour and capital. These factors are basically present and have a direct effect on the cost price.
High quality production factors such as the infrastructure, skilled labour, research, education, information, telecommunication structures, etc. These factors must be created by man and influence quality and efficiency.
Domestic demand: the nature, scope and development of the domestic market have a great influence on the strength of a sector. A critical domestic market strengthens competitiveness; it keeps the sector alert and constitutes the basis for a high level of innovation.
The network of sectors: this means the extent to which the various links in the chain utilize each other in order to achieve an effective approach to the market. The use of ideas from other sectors is also examined.
Government authorities: here we examine what part is played by government authorities in developing (or curbing) competitiveness.
The economic variables: here we examine the situation as regards the entrepreneurial spirit, international orientation, ability to cooperate, management culture, etc.
Chance: here we examine to what extent the strength of the sector is determined by unpredictable factors such as changes in exchange rates, political decisions, technical breakthroughs, wars, etc. In evaluating a sector it is important to distinguish whether its existing position is due to its own merits or whether it has become strong as a result of chance events.
Analysing sectors or countries on the basis of these

aspects results in a picture of their international competitiveness. In this respect, it is conceivable that certain aspects will reinforce each other, but may also counteract each other.
The report as a whole gives an insight into where a sector is strong and weak and thus offers avenues for improvements.

Figure 1: Porter's determinants of national advantage



1.4 Structure of the study

Chapters 2 to 4 give a brief overview of the development of demand, supply and the trade in fruit at world level. Next, chapter 5 analyses the international competitiveness of the main fruit-exporting countries. Since the consumer tends to switch from one type of fruit to the other in his pattern of expenditure, all the main types of fruit have been included in this study. The positions of the various countries described are weighed against each other in chapter 6. Finally, in chapter 7 conclusions are drawn and possible strategic options are presented which could result in strengthening the competitive position of the Dutch sector. The investigation was concluded in April 1992.

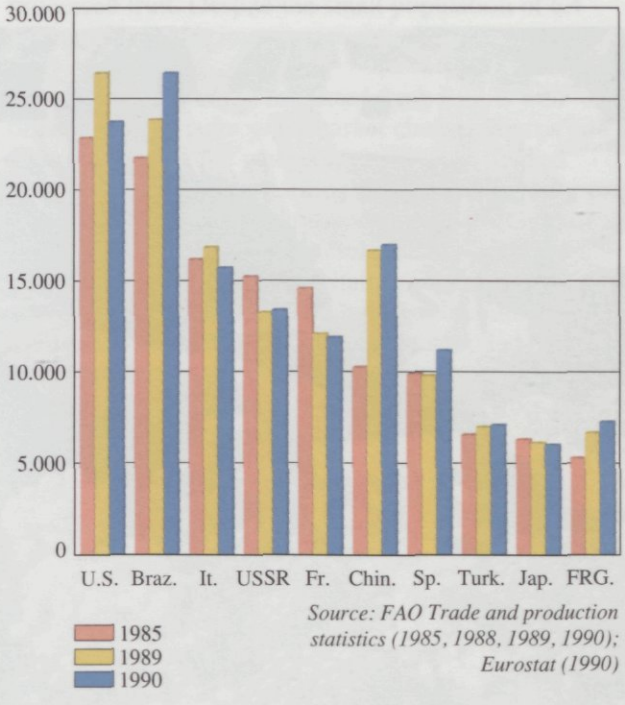
2.1 Introduction

Fruit is produced and consumed everywhere in the world. World fruit production in 1990 amounted to 314 million tonnes. On the basis of the developments in processing in the seven main types of fruit, the total estimated consumption of fresh fruit is 250 million tonnes.

2.2 Development of consumption

The total estimated consumption rose by 9% in the main consumer countries between 1985 and 1990. The reasons for the increase in fruit consumption worldwide are the growing health awareness among consumers and the greater consumption of fruit between meals. The main types of fruit consumed on a world scale are citrus, grapes, bananas and apples.
The consumption of the various types of fruit is not equally distributed throughout the world. The highest consumption takes place in Asia, where apples, bananas and citrus are used in approximately equal quantities.
In North and South America there is a clear preference for citrus fruit, while in Europe apples and citrus are mainly consumed.

Figure 2: Development of total demand (fresh and processed) for apples, pears, peaches, pineapples, bananas, grapes and citrus fruit in a number of important countries
(x 1.000 tonnes)



Source: FAO Trade and production statistics (1985, 1988, 1989, 1990); Eurostat (1990)

Table 1: Fresh consumption of the main types of fruit in various consumer countries (x 1,000 tonnes)

Country	Apples '90/'91	Pineapples '90	Bananas* '90	Citrus '90/'91	Grapes '90	Pears '90/'91	Peaches '90
The Netherlands	343	7	130	419	42	52	26
FRG	1,915	39	1,143	1,165	603	420	324
France	848	76	470	1,180	1,043	270	435
Spain	668	20	374	1,685	2,290	427	453
Italy	1,094	39	430	1,788	2,710	988	763
U.K.	708	21	469	652	119	134	92
Turkey	1,768	0	92	1,015	3,375	387	324
U.S.	2,416	600	2,585	2,234	3,180	369	640
Brazil	640*	712*	5,435	4,493	488	80	105
Argentina	230	16	330	764	1,000	55	110
China	4,748*	6	1,850	5,510*	1,010	2,889*	788*
CIS	6,090*	0	76	620*	3,482	500*	450*
Japan	433	160	757	2,333	222	436	150

** = including processed fruit* *Source: USDA and FAO*

Besides being consumed fresh, fruit is also suitable for various forms of processing. Grapes, citrus and apples, in particular, are processed in large quantities into wine and juice. Wine is produced on a large scale in France, Italy, Spain, the CIS, Argentina and the U.S. Substantial quantities of citrus are processed into juice in Brazil, Spain, Italy, Turkey and the U.S. Apples are mainly processed in France, the U.S., China, the CIS and Japan.
Fruit juices have been increasingly encountering competition from mineral water on the various markets in recent years. Fruit juice consumption has more or less reached saturation point in the Netherlands at a level of about 21 litres per person per year.

In various parts of the world, both the total fruit consumption and the consumption per type of fruit vary from country to country. This traditionally links up with domestic production, increasing prosperity and an expansion of the range.
The countries in which apples are the main type of fruit consumed are the FRG, BLEU, Austria and the U.K. Citrus fruit is most important in Switzerland, China and Japan. Many bananas are eaten in Brazil and the U.S.

Although no exact information is available on the world consumption of citrus fruit, it may be said that this has been rising in recent years, but varies greatly from country to country. The main citrus-consuming countries are France, Spain, Italy and Brazil. In the U.S., the U.K. and Germany citrus is largely consumed in the form of juice.

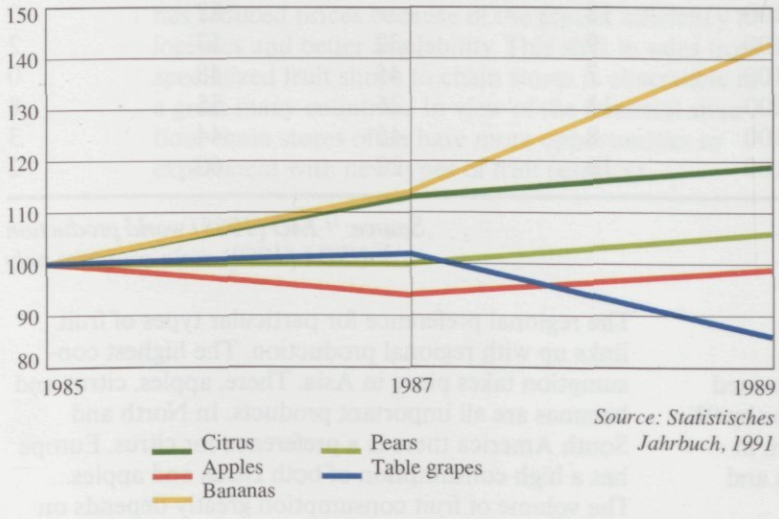
2.3 Trends and market segments in the main consumer centres

The per capita consumption of fruit in Switzerland, Germany, Italy, Greece, Spain and the Netherlands exceeds 100 kg (including juice).
The Swiss and German markets will be discussed in greater detail here. Italy and the Netherlands will be dealt with in chapter 5, for these countries are also important as exporters.

Germany

Germany has a population of 61 million people whose average income is among the highest in the world. Traders and consumers are cost-conscious, but are prepared to pay high prices for good quality. Income has another important influence on consumption. If a four-person household with an average income spends *f* 100 per capita on fruit, the same type of family with a high income spends *f* 150 per capita. Fruit consumption in Germany (including the processed produce) amounted to 140 kg per person in 1990 (over 40 kg more than in 1986). Of this, 36 kg was citrus (including juice), 33 kg apples, 13 kg bananas, 7 kg pears and 4 kg table grapes.

Figure 3: Indexed per capita consumption (1985 = 100) of the four largest fruit products in 1985, 1987 and 1989
(in kg)



Source: Statistisches Jahrbuch, 1991

A number of shifts have been observable in Germany in recent years - a change in the range, among other things, as a result of the accession of the former GDR. The demand for citrus and bananas is rising sharply and this is taking place at the expense of the types of fruit which are largely grown in the country itself, such as apples, pears and table grapes.

Shifts are also occurring in the range. For example, the demand for apples has moved from green to red varieties. The share of Golden Delicious and Granny Smith fell from 45% in 1985 to 30% in 1989.
Fruit distribution has shifted in recent decades from the wholesale market channel to that of the chain stores. In 1989, 83% of sales were achieved through this outlet, compared with less than 60% in the seventies. Concentration is also occurring in the chain store business. Today, 4% of the shops sell 30% of the turnover, while the corresponding figure in 1984 was still 8% of the shops.

Switzerland

Swiss consumers are quality minded, have high incomes and are prepared to pay a high price for top quality products. There is a preference for fresh rather than processed fruit. Despite the small population of 6.4 million, fresh fruit imports are substantial.

The distribution of the imported fresh fruit is well organized. Two large supermarket chains -Migros and Coop- dominate the market and a few specialized importers cover the remaining demand. The importers also perform wholesale functions by distributing the products to secondary wholesalers and selling them directly to the supermarket chains. The importers in French-speaking Switzerland have good contacts with the French importers and are largely supplied by them. The importers in the German-speaking part of the country have more contact with importers from Germany and the Netherlands.

Table 2: Per capita consumption (kg) of the population in 1988

Country	Fresh citrus and juice	Non-citrus	Canned	Juice	Dried
Australia	35.4	33.3	6.7	-	1.9
Austria	16.7	77.4	-	16.7	1.3
Bel./Lux.	18.1	54.7	-	-	1.1
Canada	11.9	41.7	7.2	24.6	0.7
Denmark	15.4	48.8	-	-	2.0
Finland	17.2	44.4	4.9	-	1.6
France	23.9	57.9	-	-	1.1
FRG	34.4	103.0	-	-	1.3
Ireland	16.4	33.6	-	-	1.4
Italy	43.6	85.4	-	-	0.6
Greece	55.2	72.6	-	-	0.6
Japan	-	38.7	-	-	-
The Netherlands	79.6	63.5	-	-	2.9
New Zealand	12.9	67.5	-	-	3.0
Norway	14.0	62.2	5.2	-	1.7
Portugal	-	51.6	-	-	1.0
Spain	41.6	40.2	6.3	5.3	0.4
Sweden	14.7	47.9	4.5	12.3	1.7
Switzerland	19.5	88.6	4.2	16.6	1.5
Turkey	17.9	62.2	0.2	0.7	2.7
U.K.	21.3	37.8	-	-	2.6
U.S.	33.1	23.6	3.1	1.7	1.3
Yugoslavia	3.5	-	-	-	-

- = unknown

Source: Food consumption statistics 1979-1988 (OECD)

Table 3: Destination of fruit in the world (as % of trade production)

	Total prod.	Trade prod.	Fresh export	Processing	Domestic consum.	Losses
Grapes[1)]	-	100	2	50	48	0
Citrus[1)]	-	100	13	35	48	2
Bananas[1)]	-	100	18	-	82	0
Apples[2)]	110	100	9	32	57	2
Cherries[2)]	122	100	7	45	48	0
Peaches/Nectarines	103	100	11	26	55	8
Apricots[2)]	104	100	8	45	44	3
Pears[2)]	114	100	16	22	60	2

- = unknown

Source: [1)] FAO (1988) world production
[2)] USDA (1989) main countries only

2.4 Summary and prospects

The consumption of fruit in both fresh and processed form is increasing worldwide. Consumption rose by 9% in the period 1985-1990. The main types of fruit, in order of importance, are citrus, grapes, bananas and apples.

The regional preference for particular types of fruit links up with regional production. The highest consumption takes place in Asia. There, apples, citrus and bananas are all important products. In North and South America there is a preference for citrus. Europe has a high consumption of both citrus and apples. The volume of fruit consumption greatly depends on

3. World supply

3.1 Introduction

The world fruit supply is very extensive and is being further expanded by the addition of new exotic products. For the most part, production takes place between the 30th and 50th parallels. The main production centres in Europe are located in river valleys, such as the Po plain in Italy and the Loire Valley in France. Fruit farmers frequently prefer clay and sandyclay-containing river terraces.

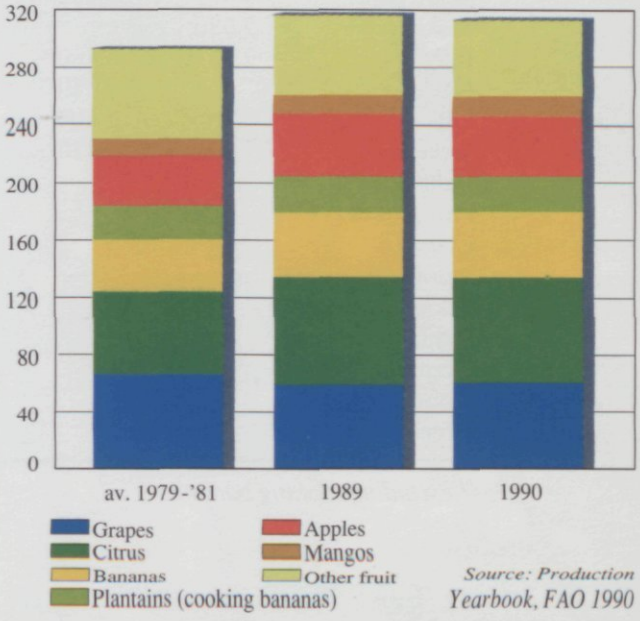
The main types of fruit produced in the world are citrus, grapes, bananas and apples with 20%, 17%, 13% and 13%, respectively, of the total fruit production. In the seventies, this rose by almost 30%, while growth amounted to about 15% in the eighties. The decline in grape production due to a decrease in the consumption of cheap wine contributed particularly to this slowdown in growth. The other types of fruit grew by 21%. As a result of increased prosperity and the healthy image of fresh fruit, consumption is still rising, so that generally speaking there is adequate demand for the growing production.

Since the production centres for the various types of fruit are distributed throughout the world, their harvest times do not coincide. Consequently, there is a lively world trade. In this way, the Southern and Northern Hemispheres can supplement each other on the main markets.

3.2 Production value and volume

World production of fruit in 1990 amounted to 314 million tonnes, representing little change as compared with 1988 and 1989.

Figure 4: Development of world fruit production and the main types of fruit excluding melons
(in mill. tonnes)



Source: Production Yearbook, FAO 1990

the production (off-years). This relative restriction has a great influence on price levels.

Consumption in Spain is growing strongly. Japan and the countries in Eastern Europe are potential growth regions. If protection at the frontiers can be abolished, imports are also expected to grow vigorously.

In various countries (mainly in the West) fruit products are increasingly regarded as essential foods and not purely as a luxury.

This has always been the case in Asia. Besides being consumed fresh, a great deal of fruit is also processed, e.g. into juices. Low-wage countries mainly concentrate on fruit processing.

The more intensive sale of fruit through chain stores has reduced prices because of the greater efficiency in logistics and better availability. This shift in sales from specialized fruit shops to chain stores is observable in a great many countries. In view of the financial situation, chain stores often have more opportunities to experiment with new types of fruit (exotics).

The 1990 grape harvest (including grapes for wine) amounted to 60 million tonnes, of which 30 million tonnes was processed into wine. Grape production takes place almost exclusively in the Northern Hemisphere. Exceptions are Argentina, Chile and South Africa.
By far the greatest proportion of citrus is produced in Brazil. The United States is the second largest orange producer, other major producers being China, Spain and Mexico.
Bananas are mainly grown in Brazil, India and the Philippines. Cooking bananas are not included in this overview for despite the high production there is scarcely any international trade in this fruit.
Apples are produced in both the Northern and Southern Hemispheres. The largest apple producers are the CIS, China and the U.S. Thirty-three per cent of the world production is grown in Europe. In the EC, there is an uprooting regulation aimed at rationalizing farms that are too small and stimulating innovation. The subsidy is *f* 9,205 per hectare. The former GDR has made use of this in the last year for almost 10,000 hectares. Production in China has expanded sharply in recent years. Other countries with growing production are Turkey and Poland. The market for propagating material for fruit growing in the EC amounts to almost *f* 750 million. Italy makes the greatest contribution to this with 57%, followed by France with 15% and the Netherlands in third place with 11%.
Countries which export a high proportion of their fruit production and have an important position in the world fruit trade are discussed in chapter 5. Fruit production in the other important countries such as the CIS, China, Brazil and India are discussed briefly below.

3.3 Main supply centres

The CIS
The fruit acreage in the CIS amounts to about 3 million ha. Over 60% of this acreage is located in Russia and the Ukraine.
Total fruit production in the CIS amounted to approximately ten million tonnes in 1990, 6 million tonnes of which consisted of apples. This makes the country the world's largest apple producer. The well-run farms achieve an average production of 18 tonnes per ha.
In addition to apples, a million tonnes of plums and

Table 4: Production of the eight main types of fruit in the six main fruit producing countries in 1990 (x 1,000 tonnes)

Country	Citrus	Grapes	Bananas[1)]	Apples	Mangos	Pears	Pineapples	Peaches
Brazil	18,668		5,500	4,330	415		725	
U.S.	9,888	5,045				870	520	1,190
China	5,575		1,900	4,710	485	2,930	790	790
Spain	4,675	6,480				445		585
Mexico	3,080				800			
Italy	2,955	8,480		1,970		900		1,720
France		7,340		2,400				500
CIS		5,600		5,800		500		
Turkey		3,420						
India			6,200		9,500		600	
Philippines			3,800				1,170	
Ecuador			2,815					
Indonesia			2,360					
Pakistan					760			
Thailand					570		1,865	
Germany				2,660				
Japan						460		
Greece								780

[1)] *excluding cooking bananas*

Source: Production Yearbook, FAO 1990

500,000 tonnes of pears were produced. Only 0.3 million tonne of the apple production was exported in 1989. All the plums produced were sold on the domestic market. Exports from the CIS will not be very significant in the future, because the potential domestic demand is many times greater than the supply and the quality is not high enough for the international market.

China

Fruit growing in China has expanded vigorously in recent years. The fruit-growing area was 6 million ha in 1989. The main crops are apples (1.7 million ha), citrus (1 million ha), pears (0.5 million ha), grapes (0.2 million ha) and bananas (0.1 million ha).
A further increase in production is expected in the future as a result of an expansion in the acreage (there is an FAO aid programme for this purpose) and an increase in the production per hectare. Despite the fact that incomes are low, most of the production is absorbed by the domestic market. For example, of the total citrus production of 5.6 million tonnes, only 105,000 tonnes was exported. Consumption looks likely to grow more sharply than production despite the relatively high prices, so that China will have to import fruit.

The average fruit production per ha is low (5 to 6 tonnes per ha) as the result of using less good soils, because rice and corn cultivation have priority and as a result of the frequent draughts in the spring which cannot be offset by irrigation. An attempt is being made to increase fruit production by introducing new varieties (the range is not geared to world trade), different production methods and half-standard trees. Farms in China are very small and range between 0.4 to 0.5 ha in area. There has been greater entrepreneurial freedom since 1978 and part of the farm can be used for crops which the grower can choose himself. Contracts can be concluded with the State for these crops. Fruit prices fluctuate sharply because of the off-years. The lack of adequate processing facilities and storage possibilities are obstacles to more uniform sales throughout the year. China has to rely on countries abroad for technical development in this respect.

The production of small fruit such as strawberries, berries, etc. - which is still very limited at present - is being stimulated. Fruit exports are seized upon as a method of obtaining foreign currency. Uniformity of sorting, quality and improvement of packagings are very important for export purposes.

Brazil

Brazil is the world's largest fruit producer. According to a United Nations report the country produces around 25 million tonnes of fruit of the most varied kinds. This represents about 7% of the world fruit production. Brazilian fruit growing is characterized by large-scale monoculture. The country is lagging behind in terms of modern techniques, however.

Brazilian citrus production amounted to over 17 million tonnes in the '90/'91 season (approximately 20% of world citrus production). Brazil is the world's largest producer of oranges with an output exceeding 17 million tonnes. Citrus production is still rising. Production, processing, trading and transport are in the hands of a limited number of large companies. Most of the production (84%) is processed into concentrated citrus. Only 2% is exported as fresh produce. Bananas and apples are also largely destined for the domestic market.

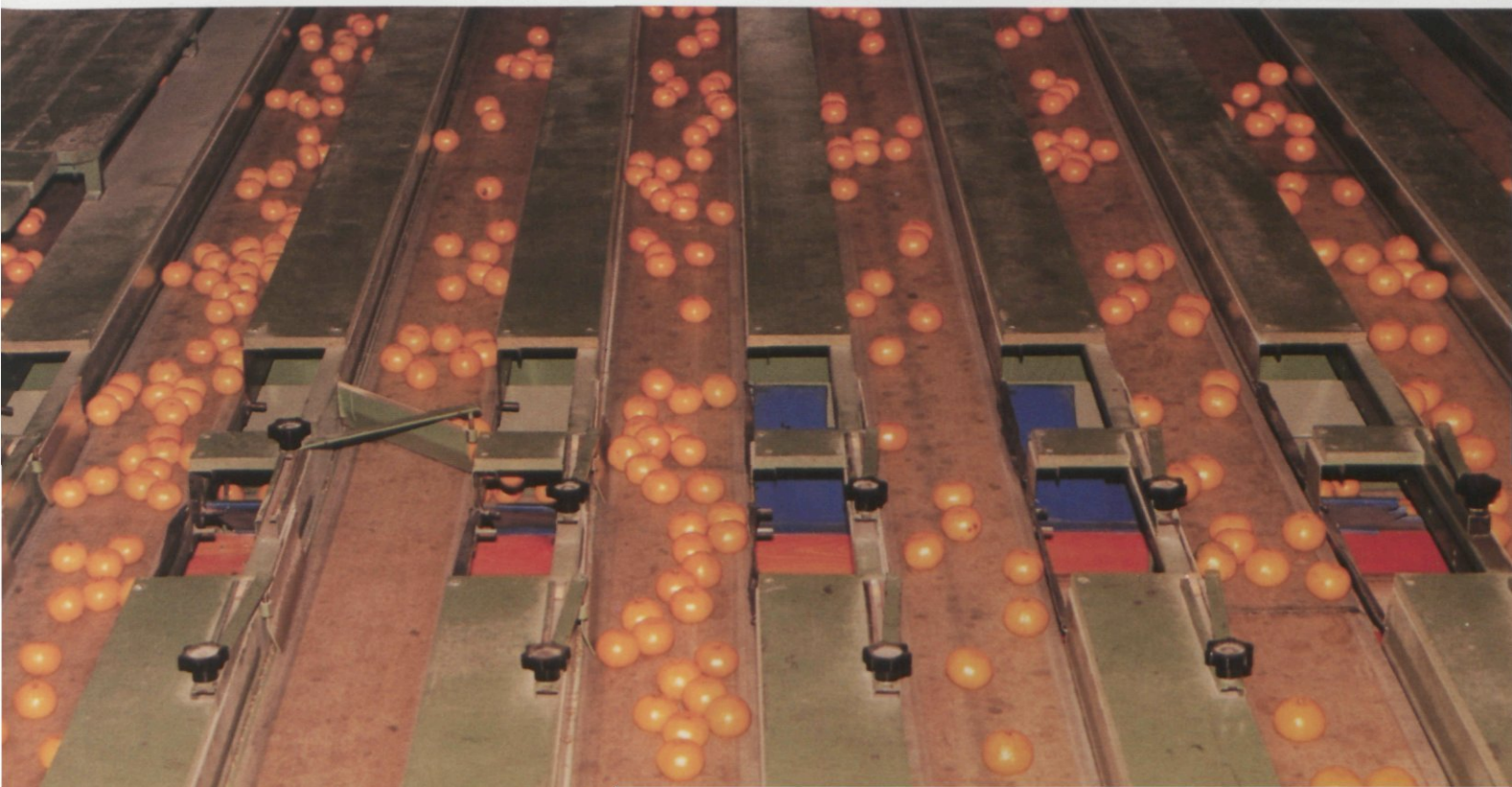
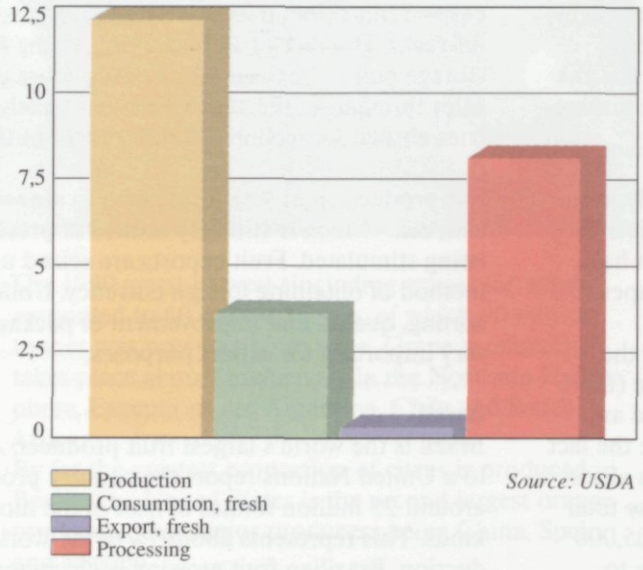


Figure 5: Production, consumption, exports and processing of oranges in Brazil (1991-1992)
(in mill. tonnes)



Source: USDA

In view of the fertile soil, the sunny climate and the adequate rainfall Brazil can gain an important position on the world fruit market. The large internal market of 135 million consumers provides an important base for purely domestic sales, however, so that an export philosophy for the fresh product is lacking for the time being. The inadequate infrastructure (particularly in the ports) and the bureaucracy hamper exports.

India

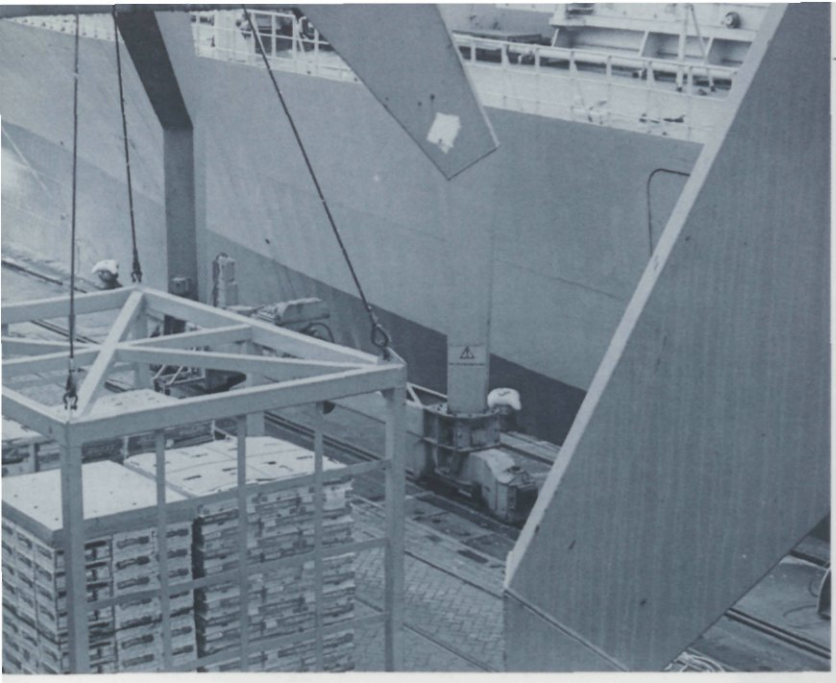
India is the world's largest banana producer. Production amounted to 6.2 million tonnes in 1990, representing 13% of the total world banana production. Other important products are mangos (9.5 million tonnes in 1990) and citrus (1.9 million tonnes in 1990). In this country, too, fruit production is mainly destined for the domestic market. Less than 0.5% of fresh fruit is exported.

Japan

Fruit production in Japan was approximately 5 million tonnes in 1990. Citrus is the largest product (2.4 million tonnes) with satsumas predominating (75% of the production volume). Next in importance are apples (1 million tonnes) and pears (0.5 million tonne).
The demand for fruit - which in the past was not regarded as a food - is increasing. Japan is therefore an interesting market, since production shows scarcely any growth. Next, the abolition of import restrictions on preserved fruit has brought about a rapid increase in imports. A similar development is expected for fresh fruit if the phytosanitary regulations are also abolished here. The business structure in Japan is comparable with that of China and farms are small. Scarcely any fruit is exported but there are some imports (1.4 million tonnes). Bananas (0.8 million tonne) and citrus (0.5 million tonne) predominate in this respect.

3.4 Summary and prospects

Generally speaking, with the exception of bananas, citrus and some exotics, fruit production takes place in the temperate climatic regions. Fruit production is still increasing, but less rapidly (under the influence of the decrease in the cultivation of wine grapes) than in the seventies. Production in 1990 amounted to 314 million tonnes. The range of fruit is still being further expanded.
As regards the supply of citrus fruit, substantial growth is expected in the coming years. Whether the consumption of citrus fruit will grow equally rapidly is still uncertain, so that surpluses must be expected, probably also in concentrates. As a result of the extra export supply the various producers will compete with each other to an ever-increasing extent. Good quality products and the spread in sales will therefore become progressively more important.
The United States and Brazil are the dominant countries as regards citrus juice production. The U.S. produces mainly for its own market, while Brazil is the largest exporter.



4. World trade

4.1 Introduction

Only a small proportion of the fruit produced in the world is traded internationally as fresh produce. The export of processed products is very important, particularly in the case of grapes, apples and citrus. The improved keeping qualities of the fruit during transport have made the trade in fresh produce possible. In addition, the international trade has received a powerful boost from the increased prosperity and the consumer's need for a wider range and a year-round supply. Around 12% of the world citrus production is exported as fresh produce, the percentages for grapes being 2%, bananas 18% and apples 9%. The share of exports can vary sharply from one country to another and is not always linked to production. The U.S. and the EC are by far the largest import markets, although the importance of the Far East (Japan) is increasing.

4.2 Development of imports and import markets

World imports of fruit and nuts amounted to 33 billion guilders in 1990. Between 1984 and 1988 imports increased by over 42%. The European countries combined are the largest importer with a 61.9% share of the total world imports of fruit. The intra-EC trade in fruit amounts to 45% of the total world trade. The main products imported are citrus, bananas and apples. Germany is the main customer (19.2% of world imports). The Southern Hemisphere is becoming increasingly important in the importation of apples.
The relative importance of the American continent as an importer is declining, as is that of Asia and the Middle East. Africa and Oceania play a very minor role, which in addition is progressively decreasing.
Expressed in absolute quantities, imports have risen in virtually every country since 1984. Relatively speaking,

World apple production rose by 20% to 40.3 million tonnes in the period 1980-1990. There is hardly any international trade in the products of the three largest producers (the CIS, China and the U.S.).
Bananas are grown in the subtropical climatic region, with India and Brazil as the largest producers. Production is still growing. The rise in production is equally divided over the continents. The well-known banana republics are not the main producers but owe their reputation to their tremendous exports. A number of very large producers concentrate their sales mainly on the domestic market because it can still absorb a high level of growth. If these producers move on to the foreign market it may be expected that this will rapidly upset the market equilibrium, both nationally and internationally.

Grape production for the fresh market is still increasing, while wine grape production is slowing down. Most of the production is located in Europe (50%). The market is becoming increasingly international because grape producers have to export in order to dispose of their surplus produce.

Table 5: The distribution of the main varieties of apples over the countries of the EC as a % of the total EC production

Varieties	Nl.	Ger.	F.	U.K.	Bel./Lux.	Den.	It.	Sp.	Pol.	Gr.
Golden + Red Delicious	1.4	1.5	20.2	–	0.7	0.0	5.4	6.4	0.7	2.7
Cox's Orange Pippin	0.8	0.8	3.6	1.5	0.1	0.0	–	–	–	0.2
Jonagold	1.1	1.4	0.3	–	1.7	–	0.5	–	–	–
Elstar	1.3	–	–	–	0.1	–	–	–	–	–
Gloster	0.2	1.1	–	–	–	0.1	0.4	–	–	–
Boskoop	0.3	1.1	–	–	0.2	0.0	–	–	–	–
Granny Smith	–	–	0.0	–	–	–	0.3	–	–	–
Other varieties	1.2	3.7	3.2	2.3	0.6	0.3	3.2	2.7	0.4	1.4
Total	6.3	9.6	27.3	3.8	3.4	0.4	9.8	9.1	1.1	4.3

Source: Prognosfruit

the share in total world imports has fallen for a number of countries, while in the case of Germany, France, the United Kingdom and Japan it has actually gone up.

4.3 Development of exports and exporting countries

24.8 million tonnes of the most important fruit products were exported in 1990, with North America taking a share of 32%, Europe 31%, South America 23% and Asia 13%.
The European share is almost entirely accounted for by the EC countries. North and South America mainly export citrus and bananas, while Europe exports citrus, apples and grapes.
The main exporting countries are the U.S. (citrus, apples and pears), Spain (citrus), Italy (grapes, apples and peaches), the Philippines (pineapples) and Ecuador (bananas). Together, they represent 40% of total world exports. The share of the American continent in exports has gone down slightly since 1984 as a result of the growing importance of other countries. The same applies to exports from Italy. As against this, Spain's share in world exports has risen. That country's accession to the EC has given an extra boost to Spanish citrus exports.

4.4 The importance of re-exportation

A more or less significant proportion of imported fruit is resold to other countries (re-exports). As regards the products not grown in a particular country - e.g. in the case of citrus and bananas in Europe - this can be found simply from the trade statistics.

According to the Dutch Quality Control Bureau (KCB) the quantity of fruit re-exported from the Netherlands rose from 287,000 tonnes in 1985 to 486,000 in 1990. This quantity corresponds to 7% of the total exports of fresh fruit.
In the Netherlands, there are 80 companies which export fruit, 10 of them specializing entirely in fruit.
Apple re-exports in 1990 amounted to 108,000 tonnes, representing 45% of the total apple exports and 16% of the total exports of fresh fruit. These apples, which originated from Chile (51%) and Argentina (21%), went to West Germany (48%), France (15%) and the U.K. (12%).
In 1990 pear re-exports amounted to 43,000 tonnes, equal to 50% of total pear exports and 6% of the total exports of fresh fruit. These pears originated from Chile (46%), Argentina (25%) and the U.S. (11%). 40% went to West Germany, 21% to France and 10% to Italy and the U.K.

Re-exports of citrus fruit in 1990 amounted to 190,000 tonnes, or 28% of the total exports of fresh fruit. The corresponding figure for bananas and grapes was 43,000 tonnes and, finally, for melons 16,400 tonnes. Germany was the biggest customer for the above-mentioned products, followed by Belgium, France and the U.K.
In addition to the Netherlands, Belgium is also a country with an important transit function for fresh fruit. Fruit re-exports in 1990 amounted to no less than 185,000 tonnes, corresponding to 60% of total Belgian exports. Apple re-exports came to 95,000 tonnes, representing 58% of total apple exports and 36% of total fruit exports. The main countries of origin were Chile and Argentina and the countries of destination were West Germany (64%), the U.K. (17%) and France (13%).

4.5 Price developments

The analysis in this chapter has been made on the basis of export prices. The prices of the various types of fruit have not developed in the same way in the past. The price of bananas was reasonably stable at the start of the eighties, but began rising slightly again after 1986, only to drop back in recent years because of overproduction. Oranges fell in price from 1980 onwards, but went up by 10% after 1988. Apple prices have risen by 25% in the last four years as a result of new modern varieties coming on the market.
Grape prices have risen by 5% since 1988, and pears and peaches by 20%, while pineapple and lemon prices have remained stable. There are great price differences between the various markets. The price of a particular type of fruit partly depends on the supply of other

types of fruit and trade policy factors. For example, the world trade prices for apples are influenced by those of oranges and pears. Bananas, with their regulated prices (trade policy, EC import quotas) and a limited number of suppliers, may be regarded as a replacement for every other type of fruit.

4.6 Trade flows

The world trade in citrus has the highest value of all types of fruit, although the citrus trade is seasonal. The products of the Southern Hemisphere are mainly imported from July to October, while supplies come from the Northern Hemisphere from October until the late spring. As a result of growing both early and late varieties, together with the improved storage methods, the trading seasons are increasingly overlapping each other.

Western Europe has a 70% share in imports, while Spanish exports to the other EC countries alone amount to about 30% of the world trade. In addition, exports from the other Mediterranean countries to the EC are important, as are those from the U.S. to Japan and Hong Kong. In terms of volume, the banana is the

Figure 6: Intra-EC trade flows of fruit (U.S. dollars mill.)
Only trade flows > U.S. $ 50 million are shown

Source:OECD

Figure 7: International trade flows of fruit and nuts 1990 (U.S. dollars mill.)
Only trade flows > U.S. $ 50 million are shown

Source: OECD

most widely traded fruit internationally - 9.1 million tonnes in 1990, or 18% of world production.
The centres of banana consumption are in the U.S., Western Europe and Japan. The trade flows of bananas to the U.S. and Europe mainly come from Central and South America. Ecuador is the main banana supplier for the American market, followed by Costa Rica and Colombia. Japan mainly obtains its bananas from the countries of Asia, the Philippines being by far the biggest supplier.

The main trade flows of fresh grapes are confined to a small number of countries, Italy, Chile and the U.S. together accounting for 63% of the world trade. Almost two-thirds of Chilean exports (in spring) go to the U.S., while Italy (in autumn) mainly concentrates on Germany and France. Canada is also a large importer, in addition to the EC countries and the U.S.
The EC, with total imports of 2.0 million tonnes (56% of world imports), is the most important market for the international trade in apples. For the most part, these are supplied by the EC countries themselves. Germany, the U.K., the CIS and the Netherlands are the largest importers, while France, Chile, Italy and Hungary are the biggest apple exporters.

4.7 Summary and prospects

The fruit trade is a worldwide business because the production and consumption regions do not coincide. Every product has specific production regions, while consumption is distributed throughout the world.
A notable feature is that in Europe citrus and apples are both imported and exported. Among other things, this is connected with the various harvest seasons in the Northern and Southern Hemispheres, as a result of which the two supplement each other. The trade between European countries is very important.
The banana trade is dominated by some Central American countries. As regards the trade in citrus, 50% of exports is in the hands of the three largest exporting countries.

The trade in apples is largely confined to the Northern Hemisphere. In the Southern Hemisphere Chile, Argentina and South Africa are important exporters which are taking an ever-increasing share of apple exports from this region. These countries initially supplemented the supply from the Northern Hemisphere, which resulted from an opposite seasonal pattern and a different range. As a result of improved storage techniques and the cultivation of both early and late varieties, competition between the two hemispheres is progressively increasing.
Imports appear to be becoming more and more con-

centrated in the EC and Japan. The FRG is a large fruit importer. Banana imports into Germany have increased by 30% as a result of the unification of the two Germanies. It may be expected that fruit exports to Germany will increase still further in the future. Looking ahead, it may also be anticipated that - in addition to the trade flows of apples, bananas and citrus - the trade flow of exotics will increasingly intensify. The demand for exotic fruit will keep on rising in step with the growth in the consumer's disposable income.

The U.S., Western Europe and Japan are frequently mentioned as potential markets for these products. The U.S., in particular, is self-sufficient. Except in the case of bananas, imports serve to supplement domestic production, while exports are less than 10% of production.

5. Competitiveness of supply centres

5.1 Introduction

In this chapter, the specific aspects of the production and sales of the countries with an internationally competitive fruit sector are examined. A brief outline of the supply and trade will be given for each country. Next, a description of each country's competitiveness will be given on the basis of production factors, the domestic market, the network of sectors, the economic variables and the government authorities. Production factors will be dealt with in schematic form.

In order to determine the competitiveness of the main fruit-exporting countries, a selection has been made on the basis of their position in world trade. Those selected are among the eleven main exporting countries, while exports are not mainly aimed at easily accessible markets.

To limit the number of countries, only one which exports bananas has been included, namely Ecuador. Countries selected on the basis of these criteria are the United States, Spain, Italy, France, Chile, South Africa, Ecuador, Argentina, Poland and the Netherlands. These countries combined account for 30% of the world supply of citrus, bananas, apples, grapes, pears, peaches and pineapples and have a 42% of the world trade in these products. The share in world trade rises to 68% if bananas and pineapples are disregarded.

5.2 The Netherlands

Supply and trade from the Netherlands

Supply

Following a sharp decline after 1965 the fruit acreage in the Netherlands has remained virtually constant since 1985 and amounted to 23,250 ha in 1990. The number of fruit farms decreased in that period, however, and totalled 4820 in 1990, of which 3000 specialized farms, so that the average size of farm has grown further. In 1985 this was still 3.8 ha and had increased to 4.5 ha in 1990. In 1990 there were 914 farms with more than 7 ha of apples; this is only 25% of the total number of apple orchards. In 1990 70% of the total acreage of fruit consisted of apples, 22% of pears, 6% of stone fruits and 2% of woody small fruit. The fruit acreage in the Netherlands is distributed over a large part of the country, with concentrations in Gelderland, Zeeland, Limburg, Flevoland and Utrecht. The concentration regions for stone fruits (plums, morellos and cherries) are Gelderland, Utrecht, Noord Brabant and Limburg, and for small fruit also Zeeland.

Table 6: The production of apple varieties in the EC and the Netherlands (in 1,000 tonnes) and the share (%) in the total EC apple production in 1990/1991, together with the Dutch auction price in cents per kg

Apple variety	EC Production	EC %	The Netherlands Production	The Netherlands %	Price
Golden and Red Delicious	3,774	55.2	95	1.4	110
Cox's Orange Pippin	218	3.2	54	0.8	132
Jonagold	368	5.4	75	1.1	119
Elstar	185	2.7	87	1.3	115
Gloster	174	2.6	14	0.2	93
Boskoop	131	1.9	23	0.3	166
Granny Smith	327	4.8	0	0.0	-
Others	1,660	24.2	82	1.2	93
Total	6,837	100.0	430	6.3	108

Source: Prognosfruit

The range of apples was improved in the eighties to the benefit of the red-cheeked varieties. This is strongly reflected in the share of Golden Delicious, on the one hand, and Elstar, Jonagold and Gloster, on the other hand. The shares of these varieties in total apple imports in 1985 amounted to 22%, 3%, 5% and 2%, respectively. The corresponding figures for 1990 were 15%, 22%, 18% and 5%, respectively.

The share of the various varieties in the European supply is very limited. In the Netherlands, the share of the largest varieties works out at just 1%. This gives the sector an opportunity to expand the supply of high-yielding varieties at the expense of low-yielding types, without any price-cutting.
The point is that the price is formed at European level.

Trade

Only 40% of the domestic fruit production is exported. This is low, compared with the other horticultural products. In 1990 the trade production of fruit amounted to 510,000 tonnes and consisted mainly of apples (73%) and pears (20%).

In addition, in that year 1.3 million tonnes of fruit was imported, over 2.6 times the country's own production. The main products imported are oranges, apples and grapes, accounting for 20%, 17% and 10% respectively of the total fruit imports. The total import value rose from 1766 million guilders in 1986 to 2238 million guilders in 1990. The main country of origin for oranges is Spain, while apples and grapes mainly come from Chile. Other important countries of origin for imported fruit are Belgium/Luxembourg and Argentina.

Exports of fresh fruit from the Netherlands amounted to 684,000 tonnes in 1990, of which only 198,000 tonnes consisted of Dutch produce, however. The remaining 486,000 tonnes were re-exports of imported produce. Apples and oranges, in particular, are intended for re-export. The fact that over 71% of the exports consisted of non-Dutch produce indicates that the Netherlands is an important transit country for fruit. Dutch exports of fresh fruit are mainly concentrated on Germany (apples and grapes) and the United Kingdom (pears). Over 22% of German apple imports in 1990 came from the Netherlands, while 7% of German grape imports also came from that country. Over 28% of the pears imported into the United Kingdom in 1990 came from the Netherlands. The export value of fresh fruit rose from 898 million guilders in 1986 to 1375 million guilders in 1990.

Table 7: Dutch production, imports and exports (x 1,000 tonnes) of a number of fresh fruit products in 1990

Product	Production	Imports	Exports
Oranges	–	405	102
Lemons	–	37	21
Other citrus fruit	–	164	65
Bananas	–	140	43
Apples	335	247	240
Grapes	1	77	42
Pears	80	54	86
Peaches	–	36	10
Pineapples	–	14	7
Total	416	1,174	616

Source: FAO production and trade statistics, 1990

Production factors

	strong	weak
Geography	- Favourable situation with respect to Europe - Low transport costs	
Climate	- Good climate for red cheeked varieties	- Sensitivity to night frost during blossom time
Raw materials	- High quality propagating material	- Land expensive - Good water scarce
Labour	- Labour costs are stable - Labour productivity is high	- Permanent and temporary labour costs are high (*f* 32/hour) - Difficult to find enough harvestors
Capital	- High capital availability - Interest rate (9.8%) - Low inflation (3%) - Financing facilities abundantly available	
Infrastructure	- Well developed roadway network - Port of Rotterdam	
Knowledge infrastructure	- Courses and study club network increasing - Open knowledge infrastructure; sector willing to spend money on knowledge. Information spreads rapidly - Great deal of research from fundamental to practice-oriented - Good quality training courses at various levels	- Little marketing knowledge among producers - Information from the market slow to penetrate to producers

Domestic market

The consumption of fresh fruit in the Netherlands amounted to 1,150,000 tonnes in 1990. About 75% of the consumption consisted of imported fruit. The domestic market is very important for the sale of apples produced in the Netherlands. Seventy per cent of the Dutch commercial production is sold in the Netherlands, while 30 to 50% of the total apple supply on the Dutch market comes from abroad. Since supply on average exceeds demand, there is constant pressure on the price level.

The fresh fruit market is growing strongly in the Netherlands. In terms of volume and value, consumption has risen by 20% and 40%, respectively, in the last ten years. This growth is mainly due to the higher quantity purchased per household but is also caused by an increase in the number of households.
The main types of fruit eaten in the Netherlands are apples, oranges and bananas. Per capita consumption was 68 kg in 1980 and 73 kg in 1990. Of this, citrus accounted for 28 kg per person in 1990 as opposed to only 10 kg per person in 1955, plus 24 kg of hard fruit. Apples are mainly bought by families with young children.
In addition to the sharp growth in consumption, quality awareness on the part of consumers has also increased. In this respect, the market has become much more sensitive to competition for the Dutch producer, but that is still low as compared with our principal export markets.

Barely one-third of the fresh fruit is offered in package form at present. Pre-packaging is most strongly developed in the case of citrus and summer fruit, but 25% of apples are also offered pre-packed.

Network

Auction

The basis for Dutch fruit sales is the auction clock system. The price established at the auction also sets the trend for the price formation in other selling methods. To be able to employ the auction system it is important to have a large number of buyers, so that there is adequate competition. The number of buyers has declined in recent years as the result of the specialized fruit trade losing its market share to the chain stores. The number of auctions has fallen to 19, eight of which combined account for 85% of the imports. Nevertheless, it is questionable whether the number of buyers at each auction is sufficiently large at present. Most of the trade in Dutch fruit still takes place through the auctions (65%). Compared with, say, vegetables, this share has always been much lower, for relatively speaking there is a great deal of waste, a proportion is traded through tenant fruit farmers (they have no auction commitment) and a relatively large number of fruit growers are not members of the auction. As a result, the price-forming function of the auction has always been more limited than in vegetable growing. This represents a weakening of the quality and marketing policy.

As the concentration of the auctions increases, the market makes ever-higher quality demands and the power of the chain stores grows, a strong bond between the auction members, the importers and the sales organization also becomes increasingly important. The buyers are then in a position to buy fruit efficiently, the auction time is shortened by the possibilities of purchasing large lots and larger uniform lots are then established. For that matter, the number of specialized auctions is just as great as the number of specialized wholesalers.

Retail trade

In 1990, half of the fruit was sold by supermarkets. The corresponding figure in 1991 was almost 60%. Other important sources are the vegetable shops (20%) and the market (17%). About 40% of the fruit was purchased in self-service shops. This relates principally to lemons, bananas, pineapples, kiwis and melons, and scarcely applies to pears and summer fruit. Purchases from growers have a market share of 4%.

Figure 8: Cost structure in the fruit chain (as % of consumer expenditure)

Source: Rabobank Nederland 1992

Economic variables

The Netherlands is sometimes called a market-led economy, which means that the market mechanism plays an important role, but that the government also has significant influence on the organization of the economy. Business profitability can be affected by market relationships, which only become evident over a longer period, but also by seasonal influences and business-specific factors such as the production level and quality.

The sector is organized on a cooperative basis. 65% of Dutch fruit production is sold through the auctions. An advantage of the auction system is that growers do not meet each other as direct competitors, so that a sense of cooperativeness is stimulated. Government intervention in the fruit growing sector is relatively small. The chain stores, in particular, are insisting on direct contacts with the grower. This can promote competition between the growers, which may result in a serious weakening of the open knowledge infrastructure and hence the sector's innovative power.

Government

In the past, the government has intervened on numerous occasions by introducing regulations aimed at supporting future prospects. These have taken the form of bridging financing in 1969/70, premiums for the uprooting of trees in the seventies and a frost damage scheme in 1985.

The government has withdrawn from the fruit sector to some extent in recent years. Its role has both a financial and a social side. The financial situation in the government is leading to further restrictions in its participation, such as 50% joint financing of the experimental station for fruit growing and the experimental gardens, (a cutback in) the contribution to inspection costs and the privatization of the information service. At present, environmental aspects, public health and food, crop protection and the landscape are important social aspects with which the government is concerned. Social developments are increasing the volume of legislation with which both products and production processes must comply. This will weaken the position of the individual companies.

Summary and prospects

The Dutch fruit growing sector is not strongly export-oriented. The domestic market is not yet very critical about the quality of the product and its packaging. As a result the Dutch fruit farming industry lacks sufficient innovative stimuli. Shorter fruit tree life and increased internationalization have changed market conditions in such a way that innovation has started, thus strengthening the competitive position of the Netherlands. Apple growing in the temporate maritime climate has been fortunate in that a number of very useful varieties have been developed. The high level of research, information and education has also contributed to this.

The central situation of the Netherlands, its good infrastructure and strong distribution network have further helped it to become a very important transit country for fruit.

For that matter, a further increase in exports of Dutch fruit (not only apples) is extremely important.

Dutch production can continue to rise if greater emphasis is placed on modern varieties and the growing techniques are further refined. This can happen without any marked price-cutting because the price is formed at European level.

5.3 United States

Supply and trade from the United States

Supply

Fruit production in the United States has increased by 25% since 1970, rising to 23.8 million tonnes in 1990. The total fruit acreage in 1990 was 1,155,000 ha, divided as follows: citrus 460,000, grapes 300,000, apples 196,000, peaches 75,000 and pears 29,000 ha. The production value was *f* 14 billion.

The main fruits produced are oranges (7.0 million tonnes), grapes (5.1 million tonnes) and apples (4.4 million tonnes). Citrus growing mainly takes place in the states of Florida (63%) and California (34%). The main states for apple growing are Washington (50% of the total apple production), New York, California and Michigan.

90% of grapes and 75% of peaches are grown in California.

Pears are grown in Washington, California and Oregon, the respective percentages being 40%, 34% and 24%.

Trade

Only 7% of the total fruit produced is exported fresh. The main export products are citrus and apples.

Apple exports to the Far East, particularly Taiwan and Hong Kong, show a rising trend. American exporters are urging the rapid phasing out of both direct and indirect obstacles to trade. An example of the latter category is the phytosanitary requirements which are particularly strict in Korea and Japan and create a

great many problems. The distribution structure in Japan also hampers American fruit exports.

About 80% of fruit imports consist of bananas, which mainly come from Central and South American countries.

Table 8: U.S. production, imports and exports (x 1,000 tonnes) of a number of fresh fruit products in 1990

Product	Production	Imports	Exports
Oranges	7,085	33	540
Lemons	705	60	145
Other citrus fruit	2,170	7	322
Bananas	5	3,244	337
Apples	4,300	110	397
Grapes	5,095	375	254
Pears	870	40	120
Peaches	1,190	52	63
Pineapples	520	114	17
Total	21,940	4,035	2,195

Source: USDA

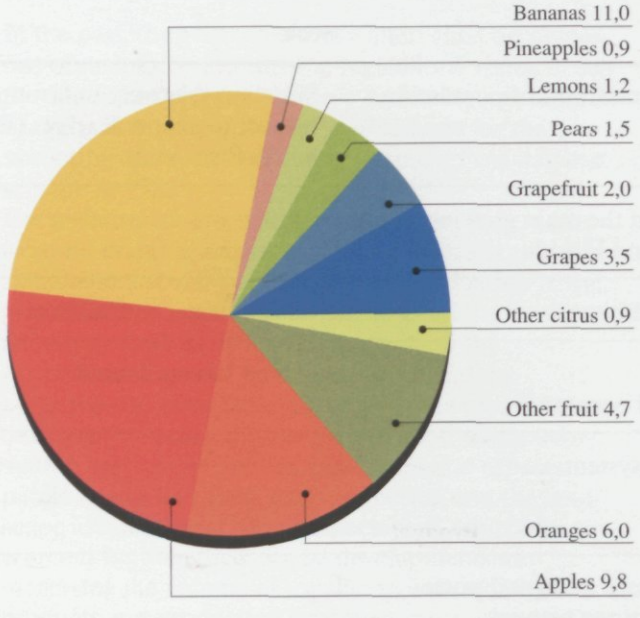
Production factors

	strong	weak
Geography	- Close to large concentrations of population	- Situation relatively unfavourable with respect to export markets (Europe and South-East Asia)
Climate	- Favourable climate in the main growing regions, California and Florida	
Raw materials	- Good irrigation system	- Lack of water in California
Labour	- Low wage costs - Sufficient low-skilled personnel	- Skilled labour limited
Capital	- Favourable taxation system - Interest rate (5,4%) - Inflation (4,8%)	
Infrastructure	- Good roadway network and good ports - Modern communications network	
Knowledge infrastructure		- Very wide gap between research and the practical field - Little information - No horticultural training courses outside the universities - Little exchange of knowledge between growers

Domestic market

The U.S. has a population of about 250 million, 12% of whom are older than 65 years, while 38% of the population is younger than 25 years. The total number of households (average family income 30,000 dollars) amounts to about 85 million. In 1990, fruit consumption in the U.S. amounted to 41.5 kg per person. Of this, 10 kg was citrus fruit (most citrus is consumed in the form of juice) and 31 kg other fresh fruit. Bananas and apples are the most popular types of fruit in the U.S. Banana consumption has risen in recent years. Apple consumption in 1990 amounted to 10 kg per person. The large harvest and the resulting low prices contributed to this. A noteworthy aspect is the increase in the consumption of frozen fruit in the U.S., with purchases amounting to 1.9 kg per person in 1990. Strawberries in particular, but also apples, are being increasingly purchased in frozen form. 40% of the processed apple products in the U.S. consisted of juice in 1990.

Figure 9: Fresh fruit consumption in the U.S. in 1990
(in kg per person)



Source: USDA

An expansion and renewal of the range can stimulate consumption. Because of a slowdown in the growth of the average income and, in some cases, higher taxes, American consumers have less money to spend. This can generate a trend towards greater price consciousness.

Network

Wholesalers and exporters

The exportation of apples from the main growing region, the state of Washington, is handled by a marketing organization, the Washington Apple Commission (WAC), which is financially supported by the government. Some of the fruit delivered to Europe passes through the port of Rotterdam.

Economic variables

There is scarcely any mutual cooperation among the growers in the sector, nor is it export-oriented.
The United States of America is a federal state, the division of powers over the federation and the various states being laid down in the Constitution. America has a very liberal market economy in which the government intervenes in a very limited way.

Government

The government is imposing ever-stricter requirements on the growers as regards the use of crop protectants. Their use is governed by severe restrictions, particularly in California. International trading is subject to stringent phytosanitary requirements, which hampers imports. The government stimulates exports. The taxation climate is favourable.

Summary and prospects

Only a small proportion of the fruit produced in America is destined for export. This can partly be explained by the vast domestic market. The basic factors for exports are favourable (good climate, irrigation system, low wages for pickers, adequate labour supply).
The high quality factors are less well developed. Only the infrastructure is good. There is not sufficient

exchange of knowledge between the various parties. Since the network between the links in the chain and between the various sectors is weak, the climate for innovation is only moderate.
In view of the large, far from saturated, domestic market, it is unlikely that exports will constitute an import sales channel.

5.4 Spain

Supply and trade from Spain

Supply
Spain is the largest fruit producer in the EC after Italy. The emphasis in Spanish fruit growing is on citrus. 50% of citrus produced is intended for export. There is also extensive production of wine grapes.
The total fruit production in Spain greatly depends on the weather conditions from season to season. To solve the problem of over-production after a favourable season, the production regions in Southern Spain are looking for alternative crops such as the pomegranate and the cactus fig. Citrus production is mainly concentrated in Valencia, summer fruit in Andalusia and hard fruit in Leerida and Zaragoza. The main varieties are the Golden and Starking Delicious and Granny Smith.

The total acreage in 1989 amounted to more than 500,000 ha, wine grapes excluded, with citrus accounting for 265,000, apples for 50,000, apricots for 22,000, peaches for 62,000, fresh grapes for 60,000 and pears for 34,000 ha.

Trade
Compared with 1986, total imports of fresh fruit rose by 65% in 1990 and totalled 617,000 tonnes. The Canary Islands and France are the main suppliers. The total import value was *f* 4 billion in 1990. Imports are concentrated in the months from October to December and the period from April to June. Imports are minimal in the summer months because of the high supply of domestic summer fruit.
For the most part, imports consist of bananas (56%) and apples (24%) as well as fruits such as pineapples, pears and peaches. The EC countries, Chile, New Zealand and Israel are the main trading partners. The permits policy of the Spanish quality service (SOIVRE) has a marked influence on Spain's import régime.

The Netherlands has a 2% share in Spanish imports, the range consisting almost entirely of apples and pears. In 1990, fresh fruit exports amounted to 3 million tonnes, or about one-fourth of the production. The main products were oranges, mandarins and lemons. Spain is the market leader in the world trade in oranges. The main countries of destination were Germany (30%) and France (29%). In addition, fruit also went to the United Kingdom (9%) and the Netherlands (8%).

The export value of fruit rose from 3.5 billion guilders in 1986 to 4.1 billion guilders in 1990.

Table 9: Spanish production, imports and exports (x 1,000 tonnes) of a number of fresh fruit products in 1990

Product	Production	Imports	Exports
Oranges	2,567	-	11,182
Lemons	580	-	380
Other citrus fruit	1,530	-	850
Bananas	380	346	6
Apples	643	139	22
Grapes	6,480	1	95
Pears	445	11	32
Peaches	585	15	49
Pineapples	-	21	-
Total	13,210	533	2,615

Source: FAO production and trade statistics, 1990

Production factors

	strong	weak
Geography	- Favourable situation with respect to Europe	
Climate	- Relatively favourable, provided the situation is on the Mediterranean coastline	
Raw materials	- Land cheap	- Water a problem
Labour	- Sufficient untrained personnel - Low wages	- Low labour productivity - Rapidly rising wage costs
Capital		- High interest rate (16%) - High inflation (6,7%)
Infrastructure	- Reasonably good roadway network	
Knowledge infrastructure		- Training mainly in the practical field - Research and information inadequate - Little exchange of knowledge

Domestic market

In 1990, Spain had a total of 39.2 million inhabitants living in 11.2 million households. Spain has a relatively young population: 25% of the inhabitants are younger than 15 years, while those aged 65 years and older account for 11% of the total population. There are great differences between the regions as regards the level of prosperity.

In Spain, one quarter of consumer expenditure goes on food. Fresh fruit ranks third in the group of foods. The share of fresh fruit in the total expenditure has been declining in recent years, falling from 6.9% in 1987 to 6.5% in 1989. Households with an average income spend relatively more on fruit than families with higher incomes. On average, the per capita consumption of fresh fruit is 107.7 kg.

Oranges are the main product in the range of fruit, accounting for 28% of fruit consumption. Apples come second, although in terms of buyer penetration they are the highest scoring fruit. Many households therefore buy apples in smaller quantities than oranges. Fruit consumption is highest in the summer months as a result of the large supply of peaches, melons, grapes, plums and apricots. If there is no home-grown supply of citrus, consumption of this type of fruit drops off almost entirely.

Spain is an interesting market from various viewpoints. As a sales country for consumer goods, the growing purchasing power of the Spaniard and the concentration of this purchasing power in certain regions is an important development. Higher purchasing power also leads to a clear awareness of quality among the consumers.
There is a strong growth in the sales of both ready-to-use and processed products. For example, in 1989 the fruit juice market rose by 18% to a per capita consumption of 6.1 litres. The purchasing power of the average Spaniard is expected to keep on increasing in the coming years.

Cultivation
In the citrus-growing industry there are a number of very large production companies which also act as wholesalers. Small growers also supply these companies. Almost half of the orchards are smaller than 1 ha. The larger companies (one-third of the total) are mainly around 10 ha in area. One of the weak points is therefore the greatly fragmented supply. Initiatives aimed at setting up cooperatives for the collective marketing of fruit have been going on for some years.

Fruit distribution
A number of changes are taking place in Spain in the field of distribution. Firstly, there is the ever-increasing integration of Spanish companies into the EC, which means that a large number of them are being taken over by foreign companies.
In addition, there is an increasing trend towards organizing logistics in Spain in a different way. The traditionally very decentralized distribution in Spain has been progressively becoming semi-centralized in recent years. Because of the size of the nationally operating chains, it is economically feasible to centralize logistics on a limited scale. A restricted number of (5 or 6) depots are then used to reach the entire country, or the main regions where purchasing power is high.

Although supermarkets and hypermarkets have gained strongly in importance in recent years, 58% of the fresh fruit is sold through traditional shops. Hypermarkets have only a 2.8% share of total sales. Supermarkets work out at 22%, while 8.8% of sales are made through the market. There are great differences in sales channels for the various types of fruit. Oranges and mandarins are real market items. Plums are relatively frequently sold through hypermarkets, while bananas are mainly bought in supermarkets.
In the case of fresh products, supermarkets are showing an increasing interest in buying directly from the producer. One reason for this is that the large supermarkets make high demands on the presentation of the product, which can be more easily arranged by direct contact.

A trend towards concentration has been observable in the Spanish wholesale companies in recent years. The main arguments are the completeness of the range and/or being present in interesting regions where they still have no branches.
Besides that, of course, there is also the reaction to changes in purchasing by the retail trade.
The structure of the wholesale trade for the fresh market continues to be very fragmented, however, with a limited number of large companies and a great many very small firms with a limited assortment operating on a regional basis. There are both private and cooperative firms.

Economic variables

Agriculture contributes 5% to the gross national product. Fresh fruit has a 6.5% share in the production value of the agricultural industry.
There is little cooperation between Spanish fruit growers. This is an obstacle to the further development of the fruit sector.

Government

The Spanish horticultural industry is very strongly supported by the government through subsidies to companies and for sales in preparation for entry to the EC. These subsidies also apply to infrastructural developments. Their aim is to solve the problem of high unemployment in the south of Spain.

Summary and prospects

About one-third of the fruit produced is exported. The favourable basic factors make a low cost price possible. Joining the EC, in addition to the still substantial subsidies, has also resulted in rapidly rising wages. In the long run, the production costs are expected to become comparable with those of competitors in the EC. High quality factors (the infrastructure, education, information and research) and the network of sectors will still have to be further developed. As a result of the low willingness among growers to cooperate, this is not easy to achieve. It is questionable whether the structural developments will continue if the subsidies stop and production costs rise. Competitive exports will then no longer be supported by a low cost price. As a result of the substantial growth in prosperity domestic demand will increase strongly, however, so that for the time being there is sufficient scope left for domestic produce and imports.
Innovation comes from a few large trading companies, some of which produce fruit themselves.

5.5 Italy

Supply and trade from Italy

Supply

The total fruit acreage in Italy was over 3.3 million ha in 1990. Of this, 1.1 million ha consisted of olives, 1.1 million ha of wine grapes, 184,000 ha of all the citrus fruits, 110,000 ha of oranges, 80,000 ha of apples, peaches and grapes and 25,000 ha of pears.

Italy is the main pear producer in Europe. The plantings are young. This is because many pear orchards were uprooted between 1970 and 1980 because of the obsolescent range of varieties. Wine grape production is spread all over Italy and this is the most important crop cultivated in almost every region. The production of table grapes, on the other hand, is largely concentrated in the south of the country, as is the production of citrus fruit. As regards the other types of fruit (peaches, apples and pears) the main growing areas in the north are Emilia-Romagna, Trentino-A.A., Veneto and Piemonte, and in the south, Campania. The apples grown in the Tyrol are mainly intended for export to West Germany.

Trade

The total fruit imports into Italy in 1990 amounted to 1.1 million kg. Between 1986 and 1990 the import value rose by 46% to 1.6 billion guilders. The main countries of origin were Spain (11%), Costa Rica (10%), France (9.5%) and Greece (8.5%). Bananas and pears are the two main products imported, the former mainly coming from Costa Rica and Panama and the latter from Spain and Argentina.

Exports of fresh fruit in 1990 amounted to 1,480 million kg. A noteworthy aspect is the low level of orange exports. This is because the Italian varieties do not appeal to European taste and the competition from Spain is too strong. Fruit exports reach their peak between June and September, but apple exports go on throughout the year. The main countries of destination for apples in 1990 were Germany (77%), Spain (5%) and France (4%). The main export products are peaches (29%), grapes (5%), apples (13%) and oranges (9%). Germany is the main country of destination for all types of fruit. Between 1986 and 1990 the export value rose by 12% to 3.5 billion guilders.

Between 1980 and 1990 pear exports from Italy fell sharply in spite of a renewed range, while imports from the Southern Hemisphere went up substantially in the same period. In 1990, Italy imported as many pears as it exported.

Table 10: Italian production, imports and exports (x 1,000 tonnes) of a number of fresh fruit products in 1990

Product	Production	Imports	Exports
Oranges	1,820	4	157
Lemons	610	–	60
Other citrus fruit	520	495	2
Bananas	–	430	–
Apples	1,970	66	268
Grapes	8,450	10	412
Pears	900	93	80
Peaches	1,720	4	500
Pineapples	–	40	1
Total	15,990	1,142	1,480

Source: FAO production and trade statistics, 1989

Production factors

	strong	weak
Geography	- Situation favourable with respect to Europe	
Climate	- Favourable warm climate	
Raw materials	- Good (ground) water available in the north	- Lack of water in the south
Labour		- Low-skilled personnel scarce - Labour expensive (*f* 25/hour)
Capital	- Finance fairly easy to obtain if grower owns the land	- High interest (14%) - High inflation (6.0%)
Infrastructure	- Reasonably good roadway network in the north	- Less good roadway network in the south
Knowledge infrastructure	- Research and information structure good	- Provision of information and performance of research not optimum - Training in practical situations moderate

Domestic market

Most of the marketable fruit produced is sold in the form of fresh produce on the domestic market. Very little preserved fruit is eaten.
Italy has a population of 58 million. The per capita consumption of fruit is high. On average, 55 kg of citrus fruit, 30 kg of apples and 15 kg of pears were consumed in 1989.

Network

Growers
The average size of Italian fruit growing businesses is 5-10 ha and they are predominantly family concerns. There is a trend towards the larger companies buying up the smaller ones so that the average size of business is increasing. There is also growing specialization (one type of fruit per business). Because of the small-scale operations, intensive use of machinery is not possible and fruit growing is very labour-intensive.

The Italian growers are united in cooperatives which supply services relating to crop protection, uprooting of trees, the harvest and choice of varieties, as well as packaging and marketing.
The development of new varieties of apples and citrus fruits will have a significant influence on the evolution of Italian fruit growing. New varieties of existing types of fruit are being developed for the purpose of intensifying cultivation or facilitating its mechanization.

Wholesalers and exporters
Most of the fruit produced in the north of Italy is sold through cooperatives, while in the south sales are mainly arranged through middlemen and wholesalers. Here widespread use is made of contract production. In Central and Southern Italy the distribution channels are complex in structure because of the fragmentation of the supply in a complicated network of companies and the intervention of countless middlemen.

Economic variables

Agriculture contributes only 4% to the gross national product.
From the viewpoint of employment, however, the agricultural sector is more important (over 10% of the working population). Italy has a market economy and the influence of the national government is negligible. The fruit sector is confronted with increasing EC legislation.

The individualistic attitude of Italian businessmen means that the possibilities for cooperation are limited.

Government

The very high government deficits are a structural problem in the Italian economy. The Ministry of Foreign Trade has instituted campaigns aimed at promoting Italian fruit products on the principal foreign markets. A number of institutes with executive tasks come under the Ministry of Agriculture, such as the IRVAM (Research and Information on Market Data), the INEA (Agricultural Economics) and the ITPA (Technical Information).
Prior to 1970 the provision of general information came under the responsibility of the Ministry of Agriculture. At present, this information is given by organizations representing growers' interests and cooperatives; 85% of whose activities are subsidized by the regional government. Researchers pass their knowledge on to information organizations or directly to the market gardeners.

Summary and prospects

About 9% of the production is exported. Italian exports can partly benefit by favourable basic factors such as the climate and the country's situation, but the industry is also confronted with unfavourable factors such as high wage and capital costs. Although a good structure exists for research and information, it appears that this does not operate effectively in practice. From the viewpoint of the south, the infrastructure is not optimal. As the result of the Italian population's high standard of living, the country has a good domestic market from which it can derive many advantages in order to develop exports further.
There is a great difference between the South Tyrol, which has a strong position on the West German market, and the much weaker region of Southern Italy. The growers in the north of the country are united in cooperatives and organize sales and various matters relating to cultivation on a joint basis. In the south, with its obsolescent range of citrus fruits, the distribution channel is difficult to fathom, so that the further development of exports from this region will probably constitute a problem in the future.

5.6 France

Supply and trade from France

Supply
The fruit acreage in France amounted to 1.2 million ha in 1989. Its area of wine grapes, totalling 965,000 ha, is by far the most important here, followed -with a huge gap- by that of apples with 72,000 ha, peaches with 26,000 ha and grapes, olives and pears with 16,000 ha each. The main centres of cultivation are the south-east, the south-west and the Loire Valley. The main type of fruit after wine grapes is the apple, production of which amounted to 2.4 million tonnes in 1990. The range of apples is one-sided and obsolescent, 45% consisting of Golden and Red Delicious, which are mainly grown in the south. There has been a development in the cultivation of red-cheeked varieties in recent years. Besides this, 320,000 tonnes of pears, 498,000 tonnes of peaches and nectarines and over 7 million tonnes of wine grapes were produced in France in 1990.
The value of French fruit production amounted to 4.1 billion guilders in 1989. The main regions are the Côte d'Azur and Rhône Alpes.

Trade
With apple exports amounting to 0.7 million tonne,

Production factors

	strong	weak
Geography	- Favourable situation in Europe	
Climate	- Possibilities for varieties requiring long cultivation and maritime climate varieties	- Dry periods
Raw materials	- Water of excellent quality - Fertile soil	- Water shortage in the south
Labour	- Adequate labour supply	- Training moderate
Capital	- Inflation 3.5%	- Interest rate (16%)
Infrastructure	- Good roads and well-developed railway network - Modern telecommunications network	
Knowledge infrastructure	- Research geared to regional problems	- Information limited and not very coherent - Throughflow of research results varies from region to region

France is the world's largest exporter of apples. It accounts for 1.7% of the world production and 18.4% of the world trade. French exports are concentrated in Europe. Approximately 60% of the fruit is exported to the U.K., the Netherlands and Belgium. The total export value amounted to 1.8 billion guilders in 1990, with apples accounting for over 900 million guilders of this sum. The total import value in 1990 was over 4 billion guilders, of which more than 50% came from citrus fruit and bananas. Over 50% of oranges come from Spain, Morocco also being important with a share of over 15%. Martinique is the main banana supplier, while Italy is the most important source of table grapes and peaches. The Netherlands supplies most of the apples.

Table 11: French production, imports and exports (x 1,000 tonnes) of a number of fresh fruit products in 1990

Product	Production	Imports	Exports
Oranges	0	920	40
Lemons	1	140	2
Other citrus fruit	31	133	2
Bananas	-	497	26
Apples	2,400	108	678
Grapes	7,340	128	25
Pears	320	84	90
Peaches	498	66	46
Pineapples	-	80	4
Total	10,590	2,156	913

Source: FAO production and trade statistics, 1990

Domestic market

France has a population of 58.4 million, 75% of whom live in the urban regions. There are 21 million families, of whom 9 million have children.
Fruit is most widely sold in the supermarkets, followed by the market.

Table 12: Distribution channels for fresh fruit in France (in %)

	Total fruit	Apples	Pears
Hypermarkets	20.9	17.2	17.5
Supermarkets	28.8	24.8	26.0
Superettes	5.5	4.8	5.9
Village shops	5.6	4.4	6.2
Delicatessens	8.7	7.7	10.6
Market	24.0	25.8	28.0
Direct sale	5.1	13.0	5.1
Other channels	1.4	2.3	0.7
Total	100	100	100

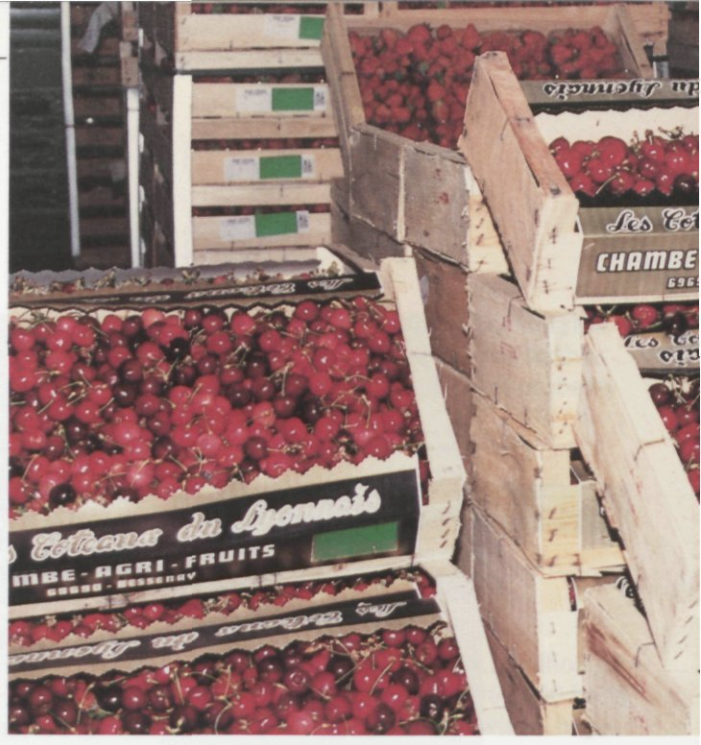
Source: Secodip

A relatively large amount of fruit is eaten by the group of 35 to 65-year-olds.
People living alone eat relatively little fruit. Fruit consumption is concentrated in the north, in Paris and in the south.

Network

Cultivation
The cultivation of Jonagold is increasing in the North of France (Loire Valley). The Golden Delicious is still the most important variety in the south.
There are no fewer than 90,000 fruit farms in France. The number is gradually declining, mainly because of the decrease in the number of small farms (<10 ha). Three-quarters of these are smaller than one ha. Those larger than 10 ha account for only 4% of the fruit farms in France. As a result of these shifts, the average size of farm rose from 1.9 to 3.1 ha between 1979 and 1989.

Distribution
The cooperative sales organizations are small compared with the auctions in the Netherlands. The importance of growers' organizations is declining and their position is strongest in the south-west. The members sell over 60% of their harvest through the cooperative. In addition, 18% of the harvest is disposed of through the distributive trade, which has a strong position among non-members (40% of the harvest). Plums



and peaches are sold through cooperatives, while pears are frequently marketed through the distributive trade or growers' markets.

In the Loire Valley the sale of fruit is strictly regulated through private packing stations and sales cooperatives. It appears that regions with a high level of organization also pursue a clearer marketing policy so that they profile themselves more strongly as a region or per product.
As against this, the various sales segments compete with each other in regions with a low level of organization and the government cannot compensate for this by strengthening its grip.

The Association Français des Comités Economiques des Fruits et Légumes (AFCOFEL) is a national body in which the regional Comités Economiques (economic trade associations) are organized. About 50% of all French growers are members of AFCOFEL, whose task is to ensure order in the fruit and vegetable market. Its work involves coordinating production, sales, price formation and market information and conducting discussions with the government.
The AFCOFEL is comparable in many respects with the Dutch Centraal Bureau van de Tuinbouwveilingen (Central Bureau for Horticultural Auctions). The Association Interprofessionnelle des Fruits et Légumes Frais (INTERFEL) can best be compared with the Dutch Fruit and Vegetable Marketing Board (PGF). Its task is to promote sales, arrange for market studies to be carried out and provide market information.

Economic variables

The organizational structure described constitutes a certain basis for cooperation and operating the market. As a result of the individualistic attitude of French entrepreneurs this is not used to optimum effect. The closely knit cooperative activities exist at regional

level, however, e.g. to enable growers to meet the specific quality requirements of certain chain stores.

Government

The government has given the French horticultural industry a number of important organizational structures. It arranges for some of the advertising and the quality control.
The state contributes 9% to the costs of the sales cooperatives' buildings and another 35% comes from the EC fund.
The massive support for the apple growers, some of whom had come from Algeria, led to the notorious Golden crisis in the sixties and seventies.

Summary and prospects

The basic factors for fruit growing in France are favourable. Sales can be improved by a stronger organization and as a result the French growers may become an even greater competitor on the European markets. The favourable basic factors constitute a good starting point for French fruit growing.
The infrastructure is sound. It is basically possible to build up knowledge, but the exchange of information does not appear to be optimum in practice. This can partly be explained by the individualistic attitude of the growers, although they cooperate on a limited scale in the area of sales and promotion. The growers have hardly been able to form a power bloc. The government has established important conditions for a flourishing fruit sector by creating organizational structures. Nevertheless, fresh fruit exports are limited except in the case of apples, a high proportion of which are exported. The low level of exports can be explained, among other things, by the strong concentration on the large domestic market. The sector is lagging behind in terms of innovation and/or the replacement of obsolescent orchards.

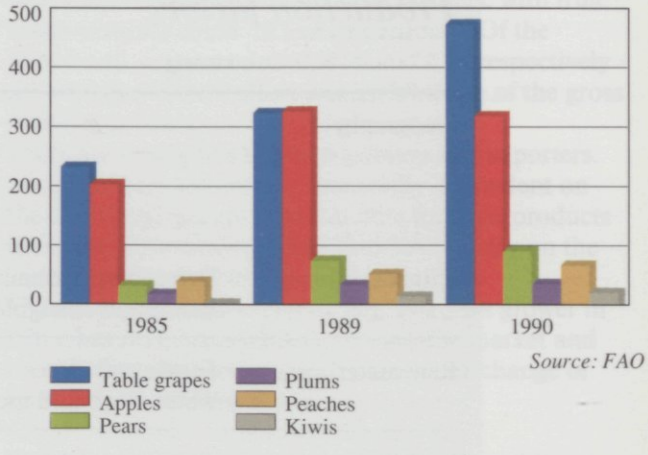
5.7 Chile

Supply and trade from Chile

Supply

The fruit acreage in Chile has grown substantially since the seventies and comprised 171,400 ha in 1990. Grapes (47,700 ha), apples (25,800 ha), pears (14,100 ha) and kiwis (10,000 ha) are the main crops in terms of area. The growth of the fruit acreage is mainly attributable to an increase in the area used for grapes and apples, but the acreage of cherries, nectarines, pears and kiwis has also been growing in recent years. The marked expansion in acreage has also had consequences for production. For example, apple production rose from 250 million kg in 1980 to an estimated 700 million kg in 1990. This, however, is more the result of young plantings coming into production than of an expansion in the acreage. The range of apples is very one-sided, however (the main varieties are Granny Smith with 33% and Delicious types with 30%).

Figure 10: Exports of a number of Chilean fruit varieties
(x 1000 tonnes)



Source: FAO

Trade

Since the seventies, Chile has developed from being an insignificant fruit-growing country into a world exporter. In the 1989/90 season the value of the total fresh fruit exports amounted to 3.1 billion guilders. Compared with the previous season, this represented a rise of 30%. Apples and grapes are the main export products. Total apple exports amounted to 320,000 tonnes in 1990, more than half of this volume going to Europe. One quarter went to the Middle East and 10% to North America. As a result of saturation on the American market, increasing production in Brazil and the economic depression in many South American countries, exports to Europe are growing in importance. The

range has been considerably expanded in recent years. Nectarines, cherries, pears and - very recently - kiwis have become important export products.

Table 13: Chilean production, imports and exports (x 1,000 tonnes) of a number of fresh fruit products in 1990

Product	Production	Imports	Exports
Oranges	75	-	1
Lemons	60	-	3
Other citrus fruit	-	-	-
Bananas	-	57	-
Apples	690	-	318
Grapes	1,150	-	472
Pears	140	-	90
Peaches	175	-	66
Pineapples	-	1	-
Total	2,290	58	950

Source: FAO production and trade statistics, 1990

Production factors

	strong	weak
Geography		- Situation unfavourable with respect to the U.S. and Europe - Very high transport costs in the case of sales to Europe
Climate	- Extremely favourable climate, also for Elstar and Jonagold	
Raw materials	- Fertile soil - Water clean and inexpensive	
Labour	- Very cheap labour	- Few trained personnel
Capital	- Relatively low land costs - Many foreign investors because of favourable investment climate	- Exports depend on dollar exchange rate - High interest rate (22%) - Inflation (26%) - Weak financial position of individual entrepreneurs
Infrastructure	- Strong network available	
Knowledge infrastructure	- Knowledge mainly among exporters	- Information not aimed at the individual grower - Research into growing techniques is limited

Domestic market

Table 14: Consumption of fresh fruit in Chile in 1990 (in mill. kg and % of production)

Type of fruit	mill. kg	%
Table grapes	78	37
Apples	110	15
Pears	44	28
Peaches/Nectarines	86	46
Apricots	7	47
Cherries	5	37

Source: USDA

Only a small proportion of the total fruit produced in Chile is consumed by the domestic population. Stone fruits and grapes are the only products of which a significant proportion remains in the country itself.
Apples and pears are mainly grown for export.
Because of a lack of purchasing power and the small population the domestic fruit market in Chile is limited.
About 75% of the more than 12 million Chileans live in the centre of the country.

Network

Growers

Although the fruit growers are aware of the one-sidedness of the range of apples, renewal is a slow process because of the poor profitability of apple growing. The small growers are largely dependent on 7 to 8 major exporters and are manipulated because the market situation is obscure. In addition, around 300 to 400 small exporters are active.

Distribution

The sales structure, particularly as regards payment, is very unclear.
The port of Rotterdam and five Dutch importers play a predominant role in sales to Europe. The import auction in Rotterdam generally determines the price.
More than 40% of the apples imported into Europe are estimated to come in through Rotterdam, from where they find their way to other destinations.
Because of the high transport costs the exporter has to obtain a high price for his products to cover these. Since the price is only established much later than the time of dispatch from Chile, imports show little or no reaction to the price. The growers send what is available in terms of class I and ship capacity. Part of the fruit trade is based on deliveries from Chile on consignment. Since the exporter and, after him, the grower simply have to wait and see what remains for them after deduction of the transport costs and the importer's share, minimum prices are increasingly being employed, sometimes linked to profit sharing with the importer.
As regards apple exports, the quality requirements which apply in the main countries of destination are observed. The exporters prescribe the crop protectants to be used and give picking instructions. Chilean growers are very familiar with the legislation relating to residues in the various countries to which they export.

Wholesalers and exporters

The number of fruit exporters has risen in the past 15 years from 20 to over 400 in 1990. The five largest companies combined account for about two-thirds of the exports. The exporters themselves grow a significant proportion of the fruit exported and buy from the smaller growers.

Economic variables

Fruit growing and exportation are very important for Chile. An estimated 20% of the population depends either directly or indirectly on this branch of industry. Total exports amount to 12 billion guilders, with fruit accounting for about 10% of this amount. Of the apples and pears produced, 45% and 65% respectively are exported. Horticulture has an 8% share of the gross national product.
There are strong ties between growers and exporters. Many growers are entirely financially dependent on the exporters, but are paid too little for their products to finance investments. They also have to rely on the same exporter for knowledge.
There is no growers' organization. The fruit grower in Chile has no insight whatsoever into the market and receives little or no stimulus from an interchange of knowledge with colleagues.

There is strong mutual competition between the exporters. Despite the fact that apples travel the same route for by far the major part of their journey, there is no question of coordination between the exporters. Chilean exporters, in turn, are strongly dependent on the importers in the export countries. Chile has a strong, stable economy which makes it an exception in Latin America.

Government

The government organization PRO-Chile, which handles the joint promotion activities, is attempting to do something about the lack of clarity in the sales structure for fresh fruit. The levy of one cent per box

imposed by this organization on all the fruit exported is now mainly used to improve the phytosanitary checks and control of residues.

Summary and prospects

Chilean fruit growing is well organized and is strongly export-oriented. The cost price of the product is very low. The majority of the fruit produced is paid for by exports in dollars. As a result of the revaluation of the peso versus the dollar, returns in pesos have fallen. In reaction to this, an attempt is being made to exert pressure on wages.
A further revaluation may cause returns to drop to an excessively low level. The range is wide and is often used in the season to supplement production in the Northern Hemisphere. Too low margins for the grower can lead to the fruit plantations being replaced too late. The high costs of processing and transport plus the revaluation of the peso hamper a further explosive growth of fruit growing. In addition, there are too few stimuli for innovation because of the weak domestic market. There are strong ties between growers and exporters. The dependent position of the fruit grower is an obstacle to his inclination to innovate.

The many exporters, who often also have strong financial ties with wholesalers in the importing countries, are generally well organized. They have impressive, modern installations and buildings for processing the product. They can also react quickly and effectively to the wishes of customers in distant countries by supplying a wide range of high quality, uniform fruit. These are strong weapons in the international competitive battle for the consumer's favour.
Chile is therefore a force to be reckoned with on the European market. A slowdown in exports to other destinations, as well as a growing export volume, will lead to a further rise in the supply on the West European market, and - probably to a greater extent - also in Eastern Europe.

5.8 South Africa

Supply and trade from South Africa

Supply

South Africa's agricultural centres for tropical and subtropical fruit are mainly located in the provinces of Transvaal and Natal. The cultivation of pomes, stone fruits and berries, however, is concentrated in the Cape Province, in the south of which the apple and pear

growing centres are situated. The total acreage used for fruit cultivation was 60,000 ha in 1990.

Trade

South Africa is one of the largest exporters of hard fruit to the EC in the Southern Hemisphere. Fruit is harvested in March and April.
Because of the low consumption in the country itself, and the fact that Europe has little fresh fruit of its own on the market in the South African harvest period, specialization in the export of fresh fruit is stimulated. About 25% of the fruit produced in South Africa is exported (excluding grapes, the majority of which are processed into wine).

Table 15: South African production and exports (x 1,000 tonnes) of a number of fresh fruit products in 1990

Product	Production	Exports
Oranges	520	305
Lemons	45	27
Other citrus fruit	70	62
Bananas	180	-
Apples	450	220
Grapes	1,465	60
Pears	200	86
Peaches	170	1
Pineapples	265	4
Total	3,365	765

Source: FAO production and trade statistics, 1990

About 45% of the hard fruit is exported. The fresh fruit exported represents 80% of the production value at grower level.
The main export products are citrus, apples and grapes. Apple exports remained stable between 1986

and 1990, while grape exports rose sharply in these years (20%).
Plums are the main product among the summer fruits and exports have risen slightly in recent years.

Domestic market

South Africa has a population of 28.5 million (1989). Only a small part of South Africa's total fruit production is consumed by the domestic population, as a result of the low standard of living of large groups of inhabitants.
The demand for quality fruit is also low for the same reason.

Network

Growers
South Africa had 10,000 fruit businesses in 1989. The South African fruit growing companies can be very large. The average size of specialized farms is about 25 ha, but farms of 200 and 300 ha are no exception as far as apple orchards are concerned.

Two-thirds are privately owned. The remaining farms are cooperatives.
About 1,500 fruit farms are regarded as specialized export businesses. They account for 65% of the total production.

Table 16: Consumption of fresh fruit in South Africa in 1990 (in mill. kg and % of production)

Type of fruit	mill. kg	%
Apples	205	37
Pears	30	15
Apricots	5	8
Cherries	5	37
Peaches/Nectarines	44	30
Table grapes	43	37

Source: USDA

Production factors

	strong	weak
Geography		- Situation unfavourable with respect to Europe
Climate	- Favourable for many types of fruit	- Little rainfall
Raw materials		- Good land is scarce - Irrigation essential
Labour	- Very cheap labour - High supply of low-skilled personnel	
Capital		- Inflation 14%
Infrastructure	- Well developed	
Knowledge infrastructure		- Scarcely developed

Exporters
In South Africa, the control and sale activities for the export business are in the hands of several boards such as SACCE (Outspan) for citrus and Unifruco (Cape), a national export organization with around two thousand members (farmers and cooperatives). Unifruco has very intensive contacts with growers who are informed annually about the demand expected by the trade in the coming years.
On the basis of this, guidelines are provided for the cultivars to be planted. Unifruco and Outspan are the organizations through which fruit may be exported from South Africa. The sales strategy is determined on the basis of supply estimates made by the growers.

Table grapes, stone fruits, apples and pears are exclusively exported under the brand name CAPE.
The quality controls are extremely strict. Only the best quality goes for export. Controls during sorting and loading in the port guarantee that the importers of South African fruit get the required quality standards.
The 'Perishable Product Export Control Board' is an organization set up on the initiative of the agricultural export industry. It is a semi-governmental body with regulatory powers. Its task is to regulate the transport conditions for the products exported. For this purpose, temperature régimes have been fixed for all products, the means of transport must be registered and ocean transport may only take place in approved containers.

Wholesalers
In addition to the sales through Unifruco, the products for the domestic market are often also sold directly. This is done through wholesale markets, the informal market and the retail trade.
The wholesale market is an important sales channel. There are a total of 15 markets, all of which are owned and operated by the local authorities. It is estimated that about 60% of the total production is sold by growers through these markets. The high costs of sales through the wholesale market is a reason for many growers to supply their goods directly to wholesalers and retailers. In addition, there are doubts as to whether an optimum price is obtained on the wholesale market.
A computer information system has recently come into use in Cape Town in order to give the selling agents more insight into the current trend of market prices. It is also intended to make this price information available to growers.

Although no figures are available about the size of the informal circuit it is generally commented that this is considerable and is expected to rise substantially in the coming years. The local authorities have tried to introduce some structure into the informal market in recent years.
The locations where the informal trade is permitted are at present being assigned and the necessary facilities are also being made available, with large companies providing modest funds for this purpose.

Economic variables

The producers are strongly organized and as a result they can appear on the international market as a single trading party. The good cooperation throughout the chain has made it possible to set joint quality standards and coordinate exports. The concept of Integrated Chain Control is strongly developed in the South African fruit sector.

Government

There are two departments of agriculture in South Africa:
- The Ministry of Agricultural Development (Pretoria)
- The Ministry of Agriculture.

The main aim of the former is to develop agriculture in the widest sense of the term. This Ministry is therefore responsible for research, information and education in the field of agriculture. The other Ministry is responsible for agricultural policy, including the committee for fresh market products and product standards.

Summary and prospects

The very well organized export industry and the good quality of its fruit have given South Africa a strong image on the European markets. The favourable climate and low wage costs largely offset the high transport costs resulting from the country's less favourable geographical situation.
Unifruco's method of operation can serve as a text-

book example of Integrated Chain Control. As a seller maintaining direct contacts with customers it has a good insight into market developments, competitive relationships, market requirements and so on. This knowledge is passed on to the growers in the form of advice about the varieties to cultivate. In addition, it gives intensive guidance to growers as regards cultivation measures, matters relating to crop protection (including bookkeeping), and the time to harvest the products and prepare them for market.
Payment to growers is based on the market quality actually supplied. Researchers work tirelessly to find sweet and sour varieties of apple. If they succeed in this, it will mean an improvement of South Africa's competitive position on the Central and North-West European markets, particularly when the trade restrictions with that country are lifted as a result of the abolition of apartheid.

5.9 Ecuador

Supply and trade from Ecuador

Supply

The banana is by far the most important fruit produced. The province of El Oro in the south is the main production region, accounting for 50% of the output. The U.S. is still the main customer, but Europe is a large growth market for bananas. Monoculture is very intensive.

Table 17: Ecuadorian production and exports (x 1,000 tonnes) of a number of fruit products in 1990

Product	Production	Exports
Oranges	85	-
Lemons	30	-
Other citrus fruit	60	-
Bananas	2,820	2,190
Apples	30	-
Grapes	-	-
Pears	7	-
Peaches	5	-
Pineapples	55	-
Total	3,092	2,190

Source: FAO production and trade statistics, 1990

Production factors

	strong	weak
Geography	- Favourable situation with respect to the U.S.	- Situation unfavourable with respect to Europe
Climate	- Favourable	
Raw materials	- Irrigation available	- High costs of raw materials
Labour	- Very low wages	- Low productivity
Capital		- High inflation (35%) - High interest rate (31%) - Difficult to obtain
Infrastructure		- Poorly developed road and railway network
Knowledge infrastructure		- Virtually non-existent; information and education poorly developed

As a result, Ecuador has to contend with many diseases. In 1990 there were 77,000 ha of banana plantation. Latin American producers are lobbying the EC to terminate the preferential treatment of the Caribbean producers in order to gain improved access to the Community.

Exports

Ecuador is the world's largest banana exporter and supplies 25% of the world market. Exports amounted to over 2 million tonnes in 1990 and had therefore increased by 57% compared with 1987. This increase is the result of higher demand created by the opening up of the EC market (particularly France) and the sales to Eastern Europe. 77% of the total production was exported in 1990. The production of cooking bananas in that year amounted to 970,000 tonnes. Another rise in exports occurred in 1991. In addition to the expansion of the existing export markets -the U.S., Europe and Saudi Arabia- new markets such as China and Japan were opened up in the Far East.

Domestic market

56% of the more than 10 million inhabitants live in urban areas. There is scarcely any question of a critical domestic market because the population lives at a low financial level. In principle, the U.S. is the domestic market.

Network

The agricultural businesses are generally small. Their productivity is low, also compared with other banana producers. The level of mechanization is low and irrigation is not optimum. The bananas are transported by the shipping company Flota Bananera Ecuatorianos. There are also nine private shipping companies engaged in the international banana trade.

Economic variables

Agriculture contributes 47% to the gross national product, which gives a picture of the development situation in this country.
The government is plagued by severe inflation and a shortage of funds for stimulating the economy.

Summary and prospects

Ecuador's position on the international fruit market is based on bananas, with a 25% share in world trade. Since policy is strongly aimed at expanding existing markets and opening up new ones, as well as keeping a sharp selective control on possible diseases, it is obvious that Ecuador will continue to be an important competitor for other banana-exporting countries.

Its competitiveness is ensured by the extremely low cost price based on low labour costs.

5.10 Argentina

Supply and trade from Argentina

Supply

The Argentine fruit producing industry is characterized by a relatively small range. In addition to apple and pear production, grape and citrus cultivation is so extensive that these products are exported. In 1990 the acreage of grapes was 275,000 ha, of apples 36,000 ha and of pears 24,000 ha. The citrus acreage is unknown, but its importance is measured by volume. There has been scarcely any increase in apple production since 1980. In 1980 it amounted to 980,000 tonnes, while pear production was 210,000 tonnes in the same year. Apple and pear cultivation is concentrated around the Rio Negro River. The second fruit-growing region is in the neighbourhood of Mendoza. 15% of the national production comes from here. The region is very much out of date, however. Sales are aimed at the domestic market and Brazil. Citrus production amounted to 1.6 million tonnes in 1990. There is a trend towards large-scale farms, with the small and medium-sized businesses disappearing because they cannot survive the competition as a result of a lack of knowledge about cultivation and sales. There are two important varieties of apple: the Red Delicious with 65% of production and Granny Smith with 25%. In the case of pears, the main varieties are Williams, Packham's Triumph and Beurre d'Anjou. The orange is the most important representative of the citrus products with a share of 45%. Tangerines, mandarins, clementines and lemons are produced in addition to this. Almost the entire grape harvest is traded fresh, while 8% is processed.

Table 18: Argentine production, imports and exports (x 1,000 tonnes) of a number of fresh fruit products in 1990

Product	Production	Imports	Exports
Oranges	750	-	110
Lemons	450	-	50
Other citrus fruit	440	-	50
Bananas	260	73	-
Apples	980	-	260
Grapes	3,050	-	17
Pears	210	-	158
Peaches	250	-	-
Pineapples	5	12	-
Total	6,395	85	645

Source: FAO production and trade statistics, 1990

Trade

Exports from Argentina are slowing down and lag far behind the 1980 level. This trade is strongly concen-

Production factors

	strong	weak
Geography		- Unfavourable situation with respect to Europe
Climate	- Regions with favourable conditions	
Raw materials	- Good soil - Sufficient good quality water	
Labour	- Sufficient supply of unskilled personnel - Wage costs low	
Capital		- Inflation very high (1340%) - Poor financial position of growers
Infrastructure	- Extensive railway network	- Few paved roads
Knowledge infrastructure	- Poor education	

trated on its neighbour, Brazil. 40% of the apples exported are Red Delicious. Scandinavia and the EC (Italy) come next in order of importance as export regions.
Argentina exported fruit worth 573 million guilders in 1990, with pears accounting for 185 million guilders, apples 178 million guilders and oranges 81 million guilders.

Argentina imports only bananas and pineapples, virtually neither of which is produced domestically.
Argentina has an export share of 2% in the world trade in fruit.

Domestic market

The domestic market plays an important role as regards sales. There is a limited range available, which means that a reasonably large amount of fruit has to be imported. No fewer than 86% of the 32 million inhabitants live in the urban areas.
Domestic purchasing power is declining and demand for good quality products is less strong as a result.
About 60% of the apples produced go to the processing industry. Argentina is one of the largest suppliers of concentrated apple juice.

Network

Growers/wholesalers/retailers
The fruit sector is, in fact, controlled by large exporters who own very large orchards themselves. Growers are in an extremely weak position and are dominated by the large exporters. At an average selling price of about ƒ1.50 per kg on the foreign markets the transport costs alone amount to ƒ0.70 per kg, leaving only about ƒ0.20 to ƒ0.24 for the grower. The growers are not organized. Because of the poor profitability, the stands are replaced (too) late. The logical consequence is an obsolete range and less good quality.

It is extremely difficult to get a clear picture of the fruit trade. Exports are in the hands of large companies which are often financed with foreign capital. Exporters, in turn, are dependent on the importers in Europe. They therefore look for direct contacts, e.g. with supermarkets in the importing countries.
There are a number of organizations in the fruit sector which should have a stimulating effect on cultivation and sales. The willingness to cooperate is too low to be able to speak of a successful operation. One of the most important organizations is the CAFI, which is comparable with a Chamber of Commerce in Europe. This organization, with only 120 members, represents around 80% of exports.

Economic variables

Agriculture contributes 14% to the gross national product.
There is absolutely no willingness to cooperate either among the growers or the packers and exporters.

Government

Government policy is aimed at increasing domestic sales.
Argentina has an export tax - 23% in the case of apples - which is a tremendous obstacle to free trade.

Summary and prospects

Argentine fruit exports mainly consist of apples and grapes. Both production and the export trade are dominated by a number of large export-oriented companies. The small and medium-sized companies are disappearing because they cannot survive the competition as the result of a lack of knowledge of cultivation and sales.
There is absolutely no willingness to cooperate among growers, packers or exporters.
Accordingly, no strong growth in exports is expected.

5.11 Poland

Supply and trade from Poland

Supply
The production of fruit in Poland is variable, depending on the harvest (off-years), and in recent years has varied between 1.3 and 2.1 million tonnes, making it one of the largest producers in Europe.

Apple growing is the main sector (58% of the pome and stone fruit stand). It takes place throughout the country, with concentrations around the large cities. There are about 600,000 farms on which apples are grown.
In addition to varieties such as Idared, Jonathan and the MacIntosh types, the more modern varieties Jonagold, Elstar, Gloster and Gala have been planted in recent years. Rootstocks are of Polish origin because these have better resistance to frost. A changeover to weaker rootstocks is taking place. Sour cherries and plums are next in order of importance.
A significant amount of soft fruit is produced. In addition to 60,000 ha of strawberries (80% Senga Sengana), raspberries (11,000 ha), red and black currants (75 million bushes) and gooseberries (12.5 million bushes) are grown.

Trade

The trade in fruit for the country's own consumption plays an important part. About one quarter of the production is intended for this. The cooperatives are important in commercial sales. Private trading has also been advancing strongly here in recent years. The sale of fruit is strongly geared to industrial processing. About half of the production is absorbed by industry and processed into concentrate and deep frozen products. Production capacity amounts to 120 million tonnes, e.g. 60% of the apples produced are used for this purpose. Many of the processed products are exported.

Table 19: Polish production, imports and exports of the main fruit products (x 1,000 tonnes) in 1990

Product	Production	Imports	Exports fresh	Exports processed*
Apples	740	-	20	85
Strawberries	242	-	5	35
Berries	130	-	-	-
Cherries	75	-	-	-
Pears	43	-	-	-
Oranges	-	60	-	-
Lemons	-	57	-	-
Other citrus fruit	-	18	-	-
Bananas	-	30	-	-
Grapes	-	2	-	-
Peaches	-	5	-	-
Other fruit	100	1	3	50
Total	1,330	173	28	170

** = on the base of output* *Source: ZMP/COBRO/FAO*

Production factors

	strong	weak
Geography	- Situation favourable with respect to Europe	
Climate	- Good climate in NW	- Severe winters inland
Raw materials	- Sufficient land available, prices very cheap	- Sharp rises in fuel prices - Fertilizer/pesticides expensive
Labour	- Much cheap unskilled labour available	
Capital	- State companies could get money easily	- High inflation (75%) - High interest rate (80%) - Capital is expensive for the private companies and also difficult to obtain
Infrastructure	- Reasonably good railway network - Small-scale farms	- Highly polluted air and water in industrial regions - Low road density and limited telephone communication
Knowledge infrastructure	- Research well organized - Skilled labour sufficiently available	- Information not efficient - No study clubs

In the past, exports were aimed at the Soviet Union, but this business has declined significantly in recent years. Exports to the West are largely intended for Scandinavia (Sweden). Attempts have been made to increase sales in the EC in the past few years. However, the average quality of Polish fruit is still too low to allow it to compete and the unfavourable exchange rates also hamper sales.
Fruit imports did not play any great part until 1989; between 4% and 10% of the fruit consumed comes from imports. A rapid increase in banana and citrus imports occurred after 1989.

Domestic market

Poland has a population of about 38 million, 46% of whom are younger than 30 years. Sixty per cent of the Poles live in the towns. The per capita income is 40% of that in the EC.
The per capita consumption of commercially traded fresh fruit is only 30 kg, in addition to which another 4 kg of processed fruit is consumed per person. The main products in order of importance are apples, strawberries and cherries. An increase in consumption is expected as the result of a higher supply and larger imports of citrus fruit, depending on the economic developments.

Network

Cultivation
Most Polish fruit is grown on private farms which are small. Large farms (5 to 10% of the total area) are collective and state farms.
On average, the agricultural equipment is of a very modest level. As a result, intensification has not taken place. A start has recently been made with the aim of achieving plant systems of up to 2000 trees per ha (apples). The methods of keeping fruit have also lagged behind developments in other countries. Fruit can only be kept in air- and water-cooled stores.

Distribution
There is scarcely any organized sales machinery for fruit. Widespread use is made of foreign traders, in addition to the sales made by the cooperatives.

Economic variables

Poland was the first country in Eastern Europe that aimed to change its centrally-planned economy into a market economy by introducing reforms, which meant that inflation had to be controlled and the economy restructured. To achieve this, food, energy and raw materials subsidies were reduced or abolished. The zloty was made convertible, central planning was abolished, and an attempt is now being made to privatize the state companies and stimulate foreign investment. These measures initially resulted in a great increase in unemployment, a drop in real wages and a fall in production. This has tremendous consequences for the fruit growing industry which does not directly produce the primary needs of life. Pressure to export is increasing strongly as a result. For the time being, there is scarcely any question of a business culture, partly as a result of the fact that cooperatives were previously imposed by the state.

Government

To protect the country's own production the government has greatly increased import duties by between 25 and 30%, depending on the product. Direct government influence on companies was never so strong in Poland as in the other East Bloc countries. For example, there have always been many private firms, although these were admittedly small. There was, however, an influence on commercial selling which was largely regulated by state companies and cooperatives. This influence appears to be decreasing as a result of the reforms. Companies can spend foreign currency according to their own discretion to a greater extent.

Summary and prospects

Poland is one of Europe's major fruit producers. The methods of cultivation and the range are not very modern. The indifferent quality of the fruit harvested leads to a disproportionately high level of processing into juice, concentrate and deep frozen products for export. The low wages in Poland are an advantage as far as processing fruit products is concerned. The disappearance of the demand from the former Soviet Union and the rapidly growing demand for quality products in Poland itself will confront the fruit growers with great problems in the future, however, particularly also because funds for investment are very scarce.
After the zloty was made convertible in May 1991 its price was devalued by 15% with respect to the dollar. If the high inflation is not compensated by price cuts the increased production costs will reduce the profitability of exports still further. Exports to the EC are hampered by import levies.
The fruit growers produce on a very small scale and do not employ modern production techniques, so that few advantages of scale can be achieved. There is also a lack of knowledge in the field of marketing, transport, packaging and quality control. This situation will not change quickly in the short term.

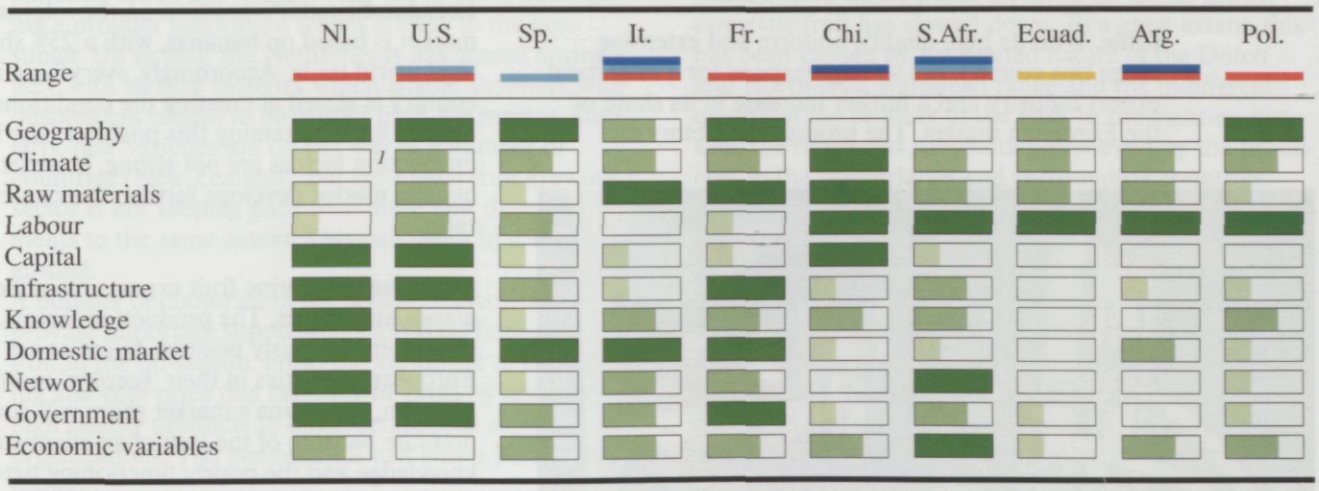
6. International competitiveness

Chapter 5 presents an overview of the competitiveness of the most important countries engaged in the exportation of fruit. The mutual competitive positions of these countries will now be analysed in this chapter. Countries can derive their competitiveness from a low cost price, a high level of investment and rapid innovations, or from their competitive position and innovations in the past.
Those which derive their strength from rapid innovations have the highest competitiveness, for they can rapidly adapt their product to the fast changing market conditions. These countries are not dependent on a low cost price or investments in innovations by other countries, but are strong enough to make innovations themselves.
These innovations are the result of a good balance between the production factors, the economic variables, domestic demand and the networks. An active search is made for new opportunities and the best answer to threatening developments.

The Netherlands is strong in the factors of knowledge, networks and infrastructure, so that we take the lead in innovation as regards cultivation. This has made a strong contribution to the fact that a modern range of apples came into being in the eighties, quality awareness increased and good propagating material is available. The negative aspects are the high labour costs and the occasional non-availability of good water. This increases the possibility of frost damage in blossom time.
In addition, the fragmented, and hence too small sales apparatus, weakens the export position. The Netherlands is the gateway to Europe for imported fruit.

United States. The production factors are favourable, and include a good climate and irrigation system, together with low wages which keep production costs low. The innovative ability is low because of the lack of a good network and failure to exchange knowledge; as a result of the great share of the processing industry, growers also have less direct contact with the market. Since the domestic market is not yet saturated and there is a good infrastructure, it may be expected that competition from the American product will continue to be low. The export orientation is too limited.

Table 20: Comparison of competitiveness



Spain. The favourable production factors permit a low cost price. Because of the gradual decrease in EC subsidies and the rapid rises in cost (labour) the country's competitive power will decrease, however. The infrastructure, exchange of knowledge and networks still call for marked improvement. If the expected growth in prosperity occurs domestic demand will go up sharply. The conclusion is that for the time being there is still room for imports in addition to the country's own production.

Italy. Italy's competitive power is based on the favourable production factors such as the climate, raw materials and situation with respect to the countries to which it sells. In addition, there are also less favourable factors such as high wage costs and capital costs, while the infrastructure is less well developed, particularly in the south. The knowledge infrastructure exists but is not utilized to optimum effect. Because of a large domestic market there is a lack of stimuli for innovation in export activities.

France. The production factors for fruit growing are favourable. There are two types of climate which are suitable for the cultivation of hard fruit: the North for the red-cheeked varieties and the South for Golden Delicious and Granny Smith. Sales can be improved by stronger organization. The infrastructure is good, but the exchange of knowledge clearly calls for improvement. By creating organizational structures the government has introduced the conditions for a flourishing fruit sector. With the exception of apples (where strong competition exists with the Netherlands) exports are relatively small. This can be partly explained by the extensive domestic market.

Chile. With its high quality, uniform and extensive range this country has strong weapons for a successful export industry and a further increase in its share of the European market. The production factors are favourable, and in combination with a stimulatory government policy this is proving beneficial. Because of the moderate returns achieved by small growers there are no innovations in these businesses. As a result, Chile may lag behind other suppliers. If the networks and exchange of knowledge were to be further developed, the large transport distances and the revaluation of the peso would be the sole factors preventing a substantial growth in fruit growing in this country.

South Africa. The strength of the export combine and the good quality of the fruit, together with a stimulatory government policy, have resulted in a good image on the European markets.
Although the country is not centrally located from the geographical viewpoint, the other favourable production factors - such as low labour costs and a good network - have ensured strong competitiveness. South Africa has a reasonably wide range of fruit products, but its prospects largely depend on political developments.

Ecuador. Ecuador's position on the international fruit market is based on bananas, with a 25% share in the total world trade. Accordingly, everything in this country is aimed at creating the conditions which are needed for maintaining this position. The high quality production factors are not strong, however. If the banana market develops further, this can entail certain risks.

Argentina. Argentine fruit exports mainly consist of grapes and apples. The production factors, apart from geography, are fairly positive. Supplies are sent to the European countries in their 'keeping' season. In the long run, Argentina's market share will come under pressure because of the lack of an adequate level of knowledge and the poorly functioning networks.

Poland. High inflation, together with rising production costs, are reducing the profitability of exports. The disappearance of the Russian market and the increasing

demand for quality products are confronting fruit growers with great problems. These are further intensified by the lack of funds for investment and adequate knowledge in the field of marketing, transport and packaging.

Summary and prospects

Many fruit producers in the export business derive their competitiveness from the favourable production factors and hence the low cost price. The further the market develops and global competition between countries and products increases, the more cost price will lose its force as a competitive weapon. Rapid innovations in quality, the range and the market approach are becoming increasingly important as a means of responding to the progressively higher demands of chain stores (and the consumer). Innovation in the range is more or less occurring only in breadth (new products such as kiwis, exotic fruits, etc.). In fact, within the traditional range (apples, pears, bananas, citrus and grapes) only the apple is undergoing a product innovation which is clear to the consumer. Up to now, the Netherlands has scored strongly here with its new varieties which enable suppliers with obsolescent ranges to be ousted from the market. Similarly, new varieties are on the way in a number of countries (New Zealand), but the Dutch fruit growing sector is not keeping pace with these new developments to the same extent. This can result in it losing ground.

A number of countries in the Southern Hemisphere provide important supplements for West European fruit in the off-season. From the viewpoint of marketing and cost price this can only be done by offering high quality products to large, centralized export organizations. The Netherlands can play a part in this respect.

The need for a low cost (growers') price can severely restrict the necessary innovations; this will apply to a much greater extent if the (wage) costs in th Southern Hemisphere rise.

7. Strategy

The Dutch fruit growing industry is relatively small, both as regards the domestic horticultural sector and international fruit growing. Sales of Dutch fruit in 1990 represented only 0.4% of the world fruit supplies. 75% of the fruit turnover is achieved by one product, namely the apple. The share in European sales amounts to only 6%, of which three varieties just manage to reach a share of over 1%, namely the Golden Delicious, Jonagold and Elstar. The second product (pears) has a 20% share of the turnover in Dutch fruit sales.

The climatic conditions are not optimum for a number of varieties of apple and most pear varieties. This therefore restricts competitiveness and the question is whether for this reason Dutch production capacity - as regards both the range and the possibility for year-round supplies - is not below a critical volume. A positive aspect is that the Dutch fruit growing industry can benefit at sales level by the innovative developments taking place in the vegetable sector, because the auction selling and distribution systems for both sectors are partly linked. The interaction between demand, the networks in the product chain and the economic variables is reasonably optimum as a result. Partly because of this the Netherlands has a leading place as an innovator in the field of cultivation.

The fact that because of the favourable geographical conditions extensive re-exports take place from all parts of the world to the surrounding countries provides an extra stimulus, the point being that it widens the range available to the trade.

Over the years, the growing consumer demand for fruit in North-West Europe has largely focused on citrus, bananas and exotic fruits. Demand for home-grown domestic fruit has slowed down. To a great extent, this has been caused by the limited nature of the Dutch and North-West European range and the indifferent quality of the product in the past. In the eighties, however, the range was substantially renewed by the producers in the Netherlands and surrounding countries. Green and yellow apples were replaced by red-cheeked apples of relatively high quality. In the case of pears, however, no change in the range occurred and the prospects here are therefore less favourable. In terms of cost price and the age of the stands, the Netherlands can now keep pace reasonably well in the international competition. Nevertheless, as a result of environmental problems and the tight labour market, production costs will rise again, which represents a new challenge. The aspects relating to quality, range, volume, price and distribution in this report force the sector to employ an appropriate strategy in order to strengthen the modest position of the Dutch fruit growing industry.

7.1 Market strategy

The hard fruit market in North-West Europe is showing signs of saturation, while the Dutch supply will grow. In addition, the Netherlands is not really export-oriented. Only 30% of the fruit produced is intended for export. With the present volume-based strategy a growth in the supply will lead to price cutting. It is therefore very essential to strengthen the export orientation. The new range (particularly Elstar and Jonagold) appears to have given a fresh boost to export possibilities.

The fruit growing sector employs a volume-based strategy which is still producing results and growth is still observable in various important markets. The rise in prosperity and increased health awareness is leading to an increased demand for fruit. Japan, Spain and the East European countries are examples of this. As far as that goes, the products in which the Netherlands is relatively strongest (e.g. apples) show the lowest growth in consumption.

In view of its relatively small scale on the international market, the Dutch fruit growing industry must become more aware of the fact that it will have to pursue a strategy which links up with the supplementary nature of its own supplies within the total range of fruit on the market. In this respect, re-exports from the Netherlands must be fully utilized in order to widen the narrow range of Dutch fruit (e.g. to include green and yellow apples and pears). The price level of Dutch fruit will benefit by this. Even on the domestic market, the Netherlands not only encounters competition from other apple and pear producers, but also from suppliers of other types of fruit.

An adjustment of the volume-based strategy is therefore essential in order to be able to continue following the competitors and give the Dutch product a clearly distinctive image compared with others on the market. Throughout the year, consumers demand good flavour and a certain hardness of the product. Environmental awareness with respect to cultivation is also playing an ever-greater role in the minds of consumers. This is supported by the government authorities. A shift from mass to quality segments is therefore required. Specialization is needed for this in order to be able to serve groups of customers with more or less similar wishes (market segments) as well as possible. Market research aimed at achieving higher margins on products grown by ecofriendly methods through appropriate marketing has priority.

Market segmentation

In mass product segments the Netherlands is encountering strong competition from foreign suppliers

(e.g. Chile for apples, Spain for oranges and Ecuador for bananas), who can offer high quality at a low price on the market as a result of favourable production factors. Competition based on mass products, where the low cost price is the main sales argument, is therefore virtually impossible for the Netherlands. Only sales of products specialized by race and quality presents opportunities for building up a reasonable market. Experience in other branches of industry has shown that the possession of market power has a positive effect on margins. Market power can be acquired in two ways, namely by ousting competitors or by becoming the market leader in one or several segments. As we have already seen, ousting the competition - which has a reasonably modern range - is not a realistic option for the Netherlands. The second, more gradual, strategy is aimed at specific market segments where there is still room in the market (the niche strategy). The most feasible approach is to opt for a further expansion of the market for existing and new varieties of red-cheeked apples in a larger part of the EC, as explained in the prospects in chapter 6. These require particularly intensive knowledge. This more gradual strategy will be developed further here.

By using the niche strategy (i.e. emerging more strongly in specific market segments where others are still not very active) an attempt is made to translate the strong points of the Dutch fruit growing industry into financial returns as far as possible. Pursuing this strategy means that individual companies will specialize in products or segments which link up with the consumer's needs and wishes.
The sector as a whole must strive for a more complete range – also by bringing in the re-export sector - and

for year-round supplies by integrating products from the Southern Hemisphere.
Market research will have to make an inventory of these consumers' wishes and this information will have to be passed on to the fruit growers to a greater extent than in the past.

Market research
In the case of market segmentation a part is played by several links in the chain. Firstly, the final consumer. He makes demands as regards the range, the internal and external quality, presentation and price. In addition, there is the sales channel which mainly makes demands with regard to keeping qualities, promotion, distribution, certainty of delivery and also price. This results in a number of product – market combinations

on the basis of which it is possible to develop ranges of products and services geared to the various segments. Existing market research, which is strongly focused on collecting information from the recent past, must be expanded to include possible developments in the near future in the various market segments. The existing information is often not specified by sales channel and is not very suitable for designing an active marketing strategy for each segment. In addition, it does not link up sufficiently with the growers' need for information which can be used in making investment decisions. The wishes of market segments must be constantly inventoried and trend-wise developments be determined. Price, product, distribution and promotion must be geared to each other. This knowledge constitutes an important starting point for the auction and wholesale policy and for the way in which entrepreneurs develop and manage their businesses.
Research in these fields is relatively expensive. The existing cooperation with the vegetable growing sector

must be strengthened at every level in the chain and can probably lead to cost reductions.

Market segments
The various market segments have not yet been clearly identified.
They can be divided by end user, buying motive and purchasing channel. The two major market segments will be discussed in detail.

Quality market via the specialized retail trade
The product for this market must be very attractive both visually and internally and also stay attractive on the shop shelf for a sufficiently long period of time. A strict selection must be made on the basis of the internal and external quality. The presentation (uniformity, size and colour) is extremely important in this segment. Even the present standard disposable wooden packaging probably has too little impact. Price is not the main marketing instrument in this exclusive segment. Because it is characterized by impulse buying, growth is still to be expected here.

Specific purchases via the general retail trade
In the eighties, the Dutch fruit growing industry responded effectively to the development in the North-West European consumer's taste as regards flavour and colour; 80% of sales are made in the EC. Nevertheless, the Netherlands has to share that market with many others in an environment where hard fruit is losing ground, particularly to citrus fruit and bananas.
The market share of the chain store plays a definite role here. Even now this is already higher than 50% in Europe. This segment is characterized by concentrated purchasing and the exclusion of trade partners.
Marketing instruments for the producer are the supply of large, standardized batches, price and certainty of delivery. Year-round availability is a principle requirement. Knowledge of price developments and the possibility of using shop brands are important preconditions for pursuing an optimum policy. Developments in environmental policy will first make themselves felt here.

7.2 Distribution strategy

Retail trade
Shifts are taking place in the retail trade in many countries of the world. The importance of the chain store business is increasing. The lower margins in businesses of this type can stimulate the specialized shops to adjust their margins downwards and/or to distinguish themselves in terms of quality or range. The drop in price and/or specialization in which this may result means an increase in demand. The supply, including

service, should be such that the chain store is attracted to buy the Dutch product. At present, these outlets switch over too readily and too quickly to other suppliers because the Dutch supply is at present too small (in scale).
New forms of distribution (think, for example, of company and sports club canteens and the catering industry) are also leading to great changes in requirements with regard to distribution, price formation, packaging (starch-coated and peeled apples, oranges, etc.) and service. Since the Dutch auction system does not yet meet these changed demands, this is leading to sales taking place outside the auction. Auction organizations can respond actively to these developments (possibly by becoming marketing organizations) in order to retain market shares for their members. The importance of a knowledge of developments in the retail trade is obvious here again.

Auctions
Despite a reasonably high volume of sales outside the auction sphere, these organizations still play an important role in distribution. They perform trade

functions which represent market power for the growers, such as central public price formation and stringently controlled funds transfers. They are also strong in a number of marketing instruments (efficient logistics, promotion and the provision of information). In addition, they have a number of indirect functions, such as maintaining the market equilibrium between the buyer and seller and taking over the sales activities from the grower, thus making specialization at production level possible. They also promote a sense of comradeship between growers, thus permitting an open exchange of knowledge.

The auction functions are therefore not only a cornerstone in the sales sphere, but are also essential for the sense of solidarity among colleagues which strengthens and confirms the economic variables, the system of values and the network. Any undermining of the auction system can therefore have consequences for the efficiency of sales. Nevertheless, certain parts of the system should be adapted to the requirements of the changing market.

Opting for the niche strategy will make it essential for some market segments to have their own sales formula within the context of the auction system, such as the selling agency function and carrying branded product lines for retail chains. The fruit can then be put into the sales packaging at the point of production. This prevents extra expense and unnecessary price increases. This form of auction function should be accompanied by certain pre-selling systems.

Obviously, price formation and logistics will become increasingly separate from each other in the future. This is already the case with the selling agency. A careful analysis of the consequences of market segmentation, the development of data networks and the increasing internationalization of trade are leading to these new forms of selling. In addition, a much more extensive concentration of auctions is necessary (at present the supply from the largest auction is still not enough to service a large chain in Germany). The fact that there are three to four specialized fruit auctions currently operating in the Netherlands, and only 10 large specialized exporters, is resulting in a one-sided situation.

The limited Dutch range of fruit and the need to maintain important auction functions make it difficult to develop new sales formulas, however. The auction formula is expected to evolve from being a 'clock' organization into a marketing organization. The Netherlands' re-exporting function should be part of these active Dutch auction marketing organizations. This can result in a marked expansion of the range to include products which are still showing strong sales growth.

Wholesaler/exporter

The wholesaler/exporter will play an important role in expanding the assortment by including the re-export range. The trade's contacts with the fruit terminal in Rotterdam can be further utilized by the Dutch trading partners (the auction system and the trade). A more segmented market also has a great influence on differentiation, and hence on the specialization of the wholesale trade.

7.3 International strategy

The inability to make year-round deliveries of a range of fruit is a great obstacle for the fruit sector. Alliances with a country (or countries) in the Southern Hemisphere can be lucrative in this respect, for this can result in a year-round supply season. A country such as Chile has many corresponding conditions, such as a maritime climate (cultivation of a Dutch range of red-cheeked apples possible) and a production-based business structure (companies which are prepared to operate in an auction selling system) so that cooperation can grow up which will be advantageous to both parties. The Dutch trade can be a very strong intermediary in this.

7.4 Cultivation strategy

Market segmentation has consequences for the fruit growers. In order to be able to service the market effectively producers will have to specialize in particular products and qualities, depending on the segment's requirements. The distinctive feature of the Netherlands is its high innovative capacity and intensive exchange of knowledge. These are production factors which facilitate specialization. The grower is better able to build up knowledge about the product and the

relevant segment and thus increase his efficiency and improve logistics. It is worth considering regrouping the supply of 7 major varieties into four large red-cheeked varieties (in order of importance: Elstar, Cox's, Boskoop and Jonagold) and to achieve an expansion of the Dutch supply from its present average of 400,000 tonnes per year to, say, 500,000 tonnes. Since low-priced varieties are being replaced by high priced apples, this must be possible without a drop in price occurring, provided marketing is optimum. The point is that as a result of this growth the market share in Europe (the European supply is the main price-determining factor) will increase by a maximum of only 1%. This means that the area in the Netherlands can go up by 3,500 ha. In addition, it is urgently necessary to make a systematic search for successors to Elstar and Jonagold, for these varieties too will reach the end of their life cycle and at present there are still no adequate replacement varieties available for North-West Europe.

As a result of specialization, a greater need will emerge for market information and market research. A good throughflow of this information is necessary, for specialization increases market risks.

There will also be more changes in the range and a switchover in cultivation. This, in turn, calls for more research into and information on cultivation. The size of the Dutch fruit growing industry is too small to be able to finance such a large-scale research and information system, particularly since a reduction in the government's contribution to this may be expected. In view of the fact that the rest of North-West Europe (Northern Germany, Belgium and the UK) are in the same position as the Netherlands (climate, range of varieties, sales, etc.), consideration should be given to entering into coalitions in order to obtain a more efficient development of the costs for the further evolution of both the businesses and the range. This can be done, for example, by founding one strong experimental station for fruit growing in North-West Europe. A coalition also means that sales specialization is strengthened and a range with greater depth will become available. These developments will be facilitated by the abolition of trade barriers (a unified EC).

In addition to market developments, government requirements also play a part. As regards the future, environmental regulations will have the most mandatory force. Restrictions on fertilizers and crop protectants constitute a great challenge for the sector, but in the long run they can strengthen the Netherlands' lead, provided this is commercially supported by marketing.

Summing up, it may be said that the Dutch fruit growing sector plays a modest role worldwide. Nevertheless, the Netherlands holds a number of strong trump cards such as a modern range of fruit, professional skill and high innovative capacity which must make it possible for the country to strengthen its position in the market. After a further innovation in the range and in growing techniques, innovation in sales techniques will have to take central place for this purpose.

A strengthening of market power means that the Dutch fruit growing industry will have to concentrate more strongly on the international fruit market, among other things by cooperating with other fruit suppliers (in North-West Europe in its 'own' season and range; in the Southern Hemisphere with a supplementary season and/or range). Research is needed to determine how fruit can be optimally marketed. Within the context of this strategy it may be desirable to increase the Dutch supply.

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