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The Grain Marketing System and Wheat Quality in France

By
William W. Wilson*
Lowell D. Hill

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* Wilson and Hill are in the Department of Agricultural Economics at North Dakota State University and University of Illinois, respectively.

North Dakota Agricultural Experiment Station
North Dakota State University
Fargo, North Dakota 58105

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THE GRAIN MARKETING SYSTEM AND WHEAT QUALITY IN FRANCE

William W. Wilson and Lowell D. Hill*

I. Introduction**

Traditionally the European Economic Community (EC) had been an importer of wheat, particularly stronger wheats which were used for purposes of blending. However, since the mid-1970s the EC has become an increasingly competitive net exporter of wheat and in recent years is a major competitor. The EC market share increased from 6 to 17 percent between the mid-1970s and 1987/88. In fact, in the last 10 years the EC is the principal exporting region which has gained market share, each of the other exporting countries generally losing. The US is the country which has lost the most market share.

There are many factors which have influenced these developments. While most recent attention focuses on the pricing policies of the EC and the value of the export restitution, there are a number of other phenomena of importance. These include productivity growth, generally improving end-use quality, trade policies, and favorable political relations with important growth regions/countries. In addition, the EC has been the largest exporter of wheat flour relative to all other exporting countries. The quality of wheat in the EC differs from that of the other traditional exporters. It is generally considered a lower protein, soft wheat which produces weak flour. However, the quality of wheat in the EC varies across the member countries. This is especially true with the increased production of wheat in the United Kingdom in recent years which has had noted problems associated with quality. However, in the case of France, the principal exporting country for the EC, the quality of wheat has been maintained in the past 10 years despite substantial increases in productivity.

The purpose of this study is to analyze the institutions, policies and trade practices in France that have an influence on the quality of wheat which is exported. In the second section background information is provided on wheat production and marketing in the EC and France. The relative importance of France in the EC wheat market is discussed. Supply and demand data are

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*Wilson and Hill are in the Department of Agricultural Economics at North Dakota State University and University of Illinois, respectively.

**Portions of this report were originally prepared under contract for the Office of Technology Assessment, US Congress. The specific project was entitled "Technology and Public Policy to Enhance Grain Quality and International Trade." Similar reports were prepared on Australia, Argentina, and Brazil, as well as numerous other reports. Some of the information for this study was collected during a visit to France during September 1987. Other participants on that trip included Dr. Mike Phillips from the Office of Technology Assessment of US Congress, Mr. Robert Zortman, Field Office Manager of the Federal Grain Inspection Service, USDA, and Dr. Wes Peterson, Texas A&M University.

presented as well as yield comparisons and general data or quality. Exports and market shares to principal EC markets as well as selected data on flour trade are presented. Section III provides a description of price policies in the EC. Particular attention is given to the administration of the intervention price, the principal mechanism which influences prices and quality. Section IV describes the wheat marketing industry. Conditioning practices are described as well as market channels. Section V describes the mechanism for variety development and release. The main topic of Section VI is the control of quality in France. Grading, inspection, certification are discussed. The final section provides the conclusions. A summary and evaluation of wheat quality in France are presented in this section.

II. Overview of Wheat Production and Marketing

Descriptive data are presented in this section on wheat production and marketing in the EC and France. First, the relative importance of France in EC wheat production is described. Subsequent sub-sections present selected data on supply/demand, productivity, exports, and flour trade. The final section presents historical data on wheat quality in France. Figures are contained at the end of this section and statistical tables corresponding to this section are in Appendix A.

A. France and the European Community

The European Community is a group of countries which joined together in 1957. Originally there were six member countries including Belgium, Federal Republic of Germany, France, Italy, Luxembourg, and the Netherlands. Since then, the UK, Ireland, and Denmark joined in 1973, Greece in 1981, and Spain Portugal joined in 1986. Currently there are 12 countries in the EC.[1]

Production of wheat has increased in the EC from 36 million metric tons (MMT) in the 1960s to a peak of 82 MMT in 1984. Since then production has decreased to 70 MMT in 1986 (Table 2.1). France is by far the largest wheat producing country in the EC with about 35-40 percent of the production in recent years. The relative importance of France in EC wheat production has been fairly constant through time. However, there have been significant declines in the relative importance of wheat production in Italy, decreasing from about 23 percent of EC production in the 1960s to 12 percent in recent years. Also of importance is that wheat production in the UK increased from 9 percent of the EC production to nearly 20 percent in recent years. Most of the increased production in the UK occurred after 1973, which is when the UK joined the EC. The production shares in the other member countries are relatively minor and generally stable (Figure 2.1). The area planted to wheat in France is about 35-37 percent of total wheat area in the EC (Table 2.2), but production in France is about 40-44 percent of that of the EC. This indicates the general tendency that average yields in France exceed most of the rest of the EC.

Production of wheat in France is located generally in the area around Paris. Wheat production extends north of Paris and across to the southwest. There is scattered production, although relatively minor, in the southern parts of France. The relative importance of the regions of production in France is shown in Table 2.3 for the 1986 and 1987 crops. The largest five regions produced 55 percent of the production in recent years.

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[1]Most data (at the time of this writing) are aggregated for the first 10 member countries. Thus the data are generally reported as EC10, representing the EC excluding Spain and Portugal.

B. Supply and Disappearance of Wheat

Data on the supply and disappearance of wheat in the EC are listed in Table 2.4 and shown in Figure 2.2. The EC has always been both an importer and exporter of wheat. Imports have been primarily for blending and improving the strength of the indigenous wheat. Generally prior to 1971 imports exceeded exports. However, since then exports have exceeded imports. Since 1977 exports have exceeded imports regularly and have increased at an escalating rate.

Domestic disappearance of wheat in the EC is quite high relative to total disappearance. In 1985/86, domestic disappearance was 77 percent of total disappearance in the EC, which is far greater than the other wheat exporting countries (Table 2.5). However, the percentage of domestic utilization in the EC in recent years follows a general decline compared to the earlier years. The primary domestic use of wheat in the EC is for human consumption in the form of bread products (Table 2.6). However, compared to other exporting countries, domestic use of wheat for feeding purposes is relatively high in the EC. In the past 10 years the proportion of wheat used for feed has increased from 25 to 32 percent, and that used for human consumption has decreased from 69 to 60 percent. This indicates that feed use of wheat has increased in relative importance.

An important feature of the EC marketing system is that relatively little is stored between marketing years. This has important implications for quality control and maintenance. Generally a very small proportion of production is stored into succeeding marketing years. This is a result of the general Common Agricultural Policy, and is also likely related to the relatively high cost of storage in France due to climatic conditions. Typically only 15-20 percent of the wheat production is stored, but this has increased in recent years (Table 2.7). For comparison all of the other wheat exporting countries, with the exception of Argentina, store a substantially larger proportion of production. There has been a significant increase in the percentage stored in the US and a decrease in Canada since the early 1970s.

The area planted to wheat in the EC is relatively constant and approximately equal to that in Canada (Tables 2.8, 2.9, and Figure 2.3). There are no major trends in area planted in either the EC or France. For comparisons, the area planted in the US is nearly double that of the EC in recent years. However, there is much more variability in area planted in the US, and substantial decreases since 1980 (Figure 2.3).

Productivity

The predominant type of wheat produced in France is a soft winter wheat. In addition, small amounts of soft spring wheat and durum are produced (similar comparisons are not available for the EC). Though durum production has been relatively incidental, there have been substantial increases in recent years. Yields for soft winter are greater than soft spring, which exceed those of durum (Table 2.10).

Yield comparisons between major exporting countries are made in Tables 2.11 and 2.12 and Figure 2.4. Yields in France and the EC are substantially

greater than the other exporting countries. In 1986, French wheat yields were 2.5, 2.4, 3.1, and 3.7 times as great as Canada, the US, Argentina, and Australia, respectively. However, yields in France have been decreasing since their peak in 1984, and to a lesser extent in the US, Argentina and Australia.

To evaluate productivity growth between countries, a semi-log model was estimated over the time series 1962-1986.[2] Results are shown in Table 2.13 along with the derived growth rate for each exporting country. This is strictly interpreted as the constant relative, or proportional, change in yields per year. Over the time series the fastest growth rate was that of France with an average of 1.3 percent yield growth per year. This compares to 0.73 percent for the US and lesser values for the other exporters. Also of interest is the R^2, which is the percent of variability in yields explained by the trend. These values for Australia, Argentina, and Canada are relatively low, indicating both very little growth and substantial variability in yields. Actual yields and those predicted from the growth model are shown in Figure 2.5.

Exports

The US has always been the largest exporter of wheat, followed by Canada, EC, and Australia, in approximate order or importance. Exports from the US have been more variable than the other exporters, and decreased between 1981/82 and 1986/87. The EC has traditionally been a relatively minor exporter, but has had notable growth since the mid-1970s which has exceeded that of the other exporters (Table 2.14, 2.15, and Figure 2.6). The market share for the US reached a peak of 49 percent in 1973/74 but decreased to 29 percent in 1985/86 (Table 2.16 and Figure 2.7). The market share of the EC has increased from 6 percent in the mid-1970s to 17 percent in the recent years. Market shares of the other exporters have been relatively constant. Another comparison is the proportion of production which is exported (Table 2.17). The EC exports a relatively small proportion of its production, 24 percent in recent years. That of the other exporters is substantially greater, especially for Canada, Australia, and to a lesser extent, Argentina. Thus, compared to other exporting countries, exports from the EC are of relatively less importance.

Exports to the largest markets for the EC are shown in Tables 2.18-2.21 and Figures 2.8-2.10. The largest markets (in descending order) are the USSR, Egypt, Algeria, Poland, Morocco, and Syria. Other markets are of lesser importance, and are largely located in the Mid-East and Africa. Besides the USSR, the principal markets for the EC are scattered throughout the Mid-East and Africa, which have had above average growth rates in imports (Wilson, Riepe, and Gallagher). Exports from the EC to the USSR were nil in the 1970s but increased substantially after 1981/82. Following Canada, the EC is the second most important wheat exporter to the USSR.

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[2]The estimated model was $\log y = \gamma + \beta T$ where y = yield, and T = trend, T = 1, 2, . . .

Market share data to these countries are shown in Table 2.19 and 2.21 and Figures 2.8-2.10. The EC market share of the USSR market has increased from nil in the 1970s to 21 percent in recent years. The market share of the US decreased from 63 percent to nearly 21 percent, nearly all of which was HRW. Algeria is a country in which the EC has increased, and the US has decreased, market shares. The EC market share went from virtually nil in the early 1970s to over 50 percent in the 1980s. The US share in this market declined continually. Poland is another country in which the EC has shown growth which was offset by losses for the U.S.

Wheat Flour Exports

The EC is the largest exporter of wheat flour, with domineering positions in each of the principal markets. Compared to the other exporting countries, flour exports are of great importance to the EC. In the 1970s up to 60-70 percent of wheat exports from the EC were in the form of flour (Table 2.22). The EC has had an important tradition of exporting flour vis-a-vis the other countries. This has been facilitated by important commercial relationships and by the flour export subsidy program of the EC. In recent years the relative importance of flour exports from the EC has declined (i.e., relative to wheat) and comprises 22 percent of exports in recent years. Thus, the increase in EC exports noted earlier has been disproportionately larger for wheat than flour. Also, the percentage of exports in the form of flour is less for France compared to the EC, suggesting that other EC countries must export a larger proportion of flour compared to wheat. Flour is of less importance, declining and nearly inconsequential for the US and other wheat exporting countries.

The principal wheat flour market is North Africa, which is just less than one-half of the world market (Table 2.23 and 2.24). This is followed by Sub-Sahara Africa. Both of these markets have had fairly rapid growth (Figure 2.11 and 2.12). Other markets are the Mid-East, USSR, and Latin America, each of which are declining in volume. In general, market shares of the other exporters to the regions are quite sporadic (Table 2.24 and Figure 2.13). The EC has had 60-70 percent of the North African market, with the US ranging from 11-54 percent in recent years. The US share of the Sub-Sahara market, however, has been increasing since 1981, and that of the EC has been decreasing.

C. Wheat Quality in France

Data have been collected by Institute Technique des Cereales et de Fourrages (ITCF) on wheat quality, as well as for other crops. Data were obtained for crop years 1976 to 1986 and are presented here briefly as a general description and to identify trends. French wheat is categorized into three, or sometimes four, principal types. The two most important are Standard and Superior milling wheat. There are up to 20 production regions delineated by the ITCF data. Crop quality data are collected by variety, each of which were previously assigned to one of the above categories. For purpose of this study the data were aggregated using a weighted average across producing regions for each of the two categories. Weights which were used were the percent of planted area to each region during 1987--similar area figures were not available for earlier years.

The resulting weighted average crop quality data are shown in Table 2.25 and Figures 2.14 and 2.15. Several points are of interest. Though the protein level for Standard wheat exceeds that of Superior wheat, the other direct measures of quality of protein (strength) are greater for Superior than Standard wheat. This may confirm why the French sometimes are more reliant on alveograph and Zeleny tests for trading and policy. Another important observation is that in the past two years the alveograph measures were substantially greater than the long-term average. Correlations between the quality characteristics and trend are shown in Table 2.26. Several correlations among the characteristics are of interest. There are positive and significant relationships between protein, Zeleny, and alveograph. Of particular interest is that in general there is no correlation with trend. With one exception, all of these are not significantly different from zero. This indicates that significant positive or negative trends are not apparent. This suggests that the increases in yield discussed above have occurred without sacrifices in crop quality. The one exception is that farinograph of the Superior wheat has a significant negative trend. Regressions between each quality factor and trend are shown in Table 2.27 and were used to plot the trends shown in Figures 2.14 and 2.15.

Wheat samples from the 1987 crop were obtained for purposes of making comparisons to US wheat standards and end-use performance. Seven samples were obtained at various location in France and analyzed officially using US methods and procedures. The results are shown in Table 2.28. Four of the wheat samples graded US No. 1, one graded US No. 2, one graded US No. 3, and one graded US No. 4. Average for each of the US factors and comparable French factors are also shown.

The seven wheat samples were also analyzed for end-use performance for soft wheat at the Soft Wheat Quality research lab at Wooster, Ohio. These results are shown in Appendix B. None of the soft wheat would be acceptable for US soft wheat flours based on a number of tests. Generally, the French wheats are an intermediate quality, somewhere between US soft and hard red winter wheats.

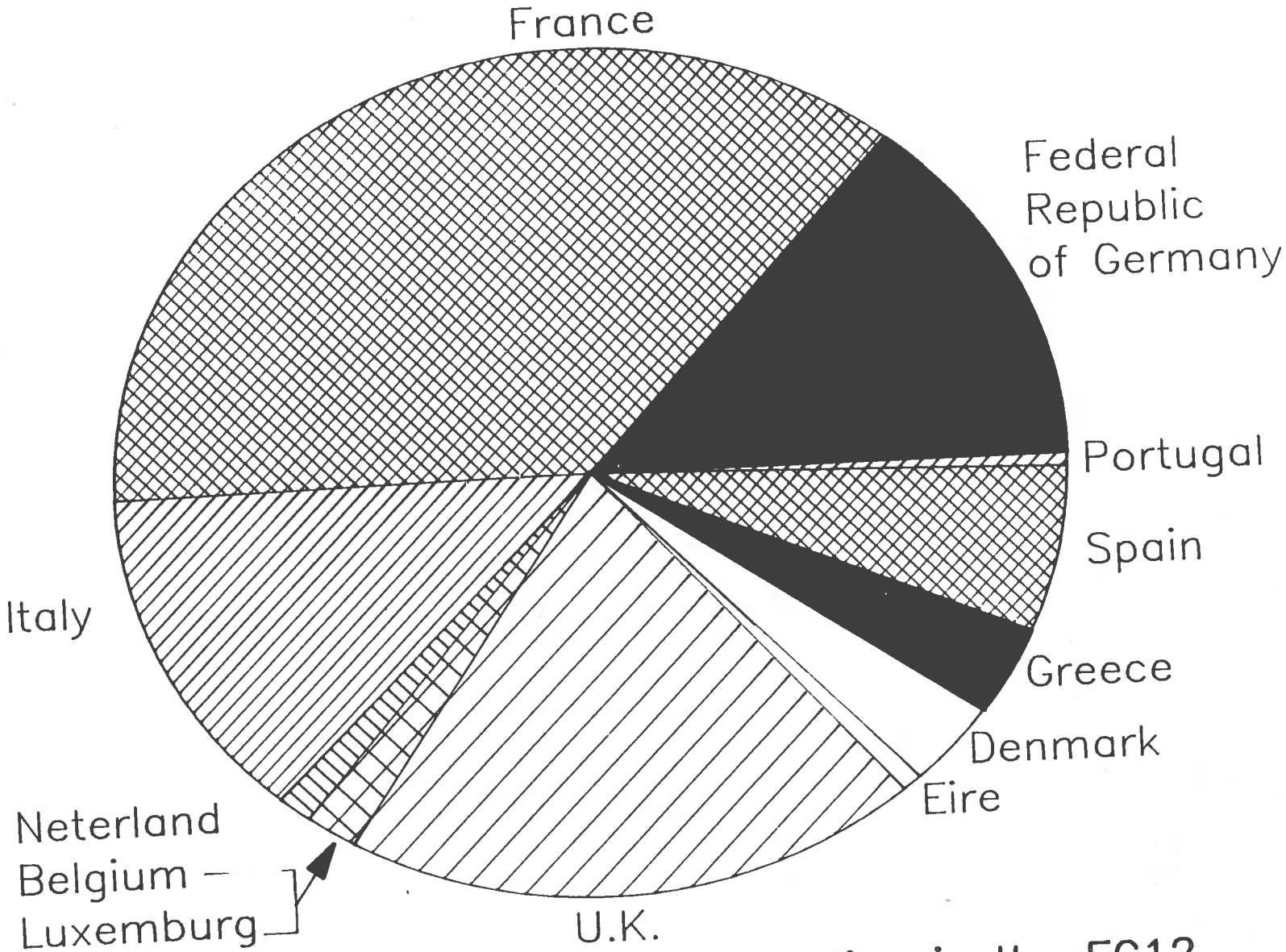

Figure 2.1 Shares of Wheat Production in the EC12 Countries for 1986

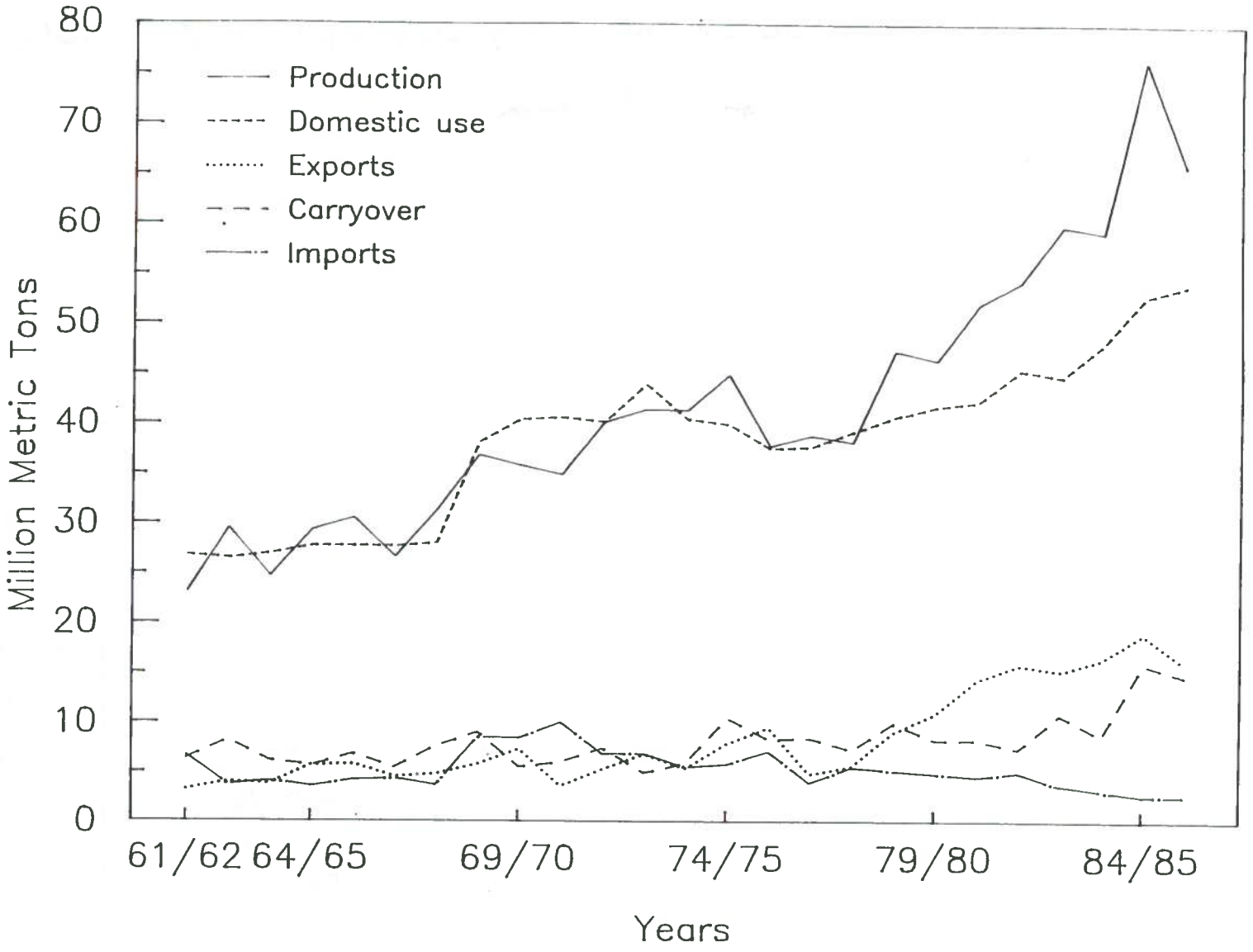

Figure 2.2 Wheat Supply and Disappearance for EC

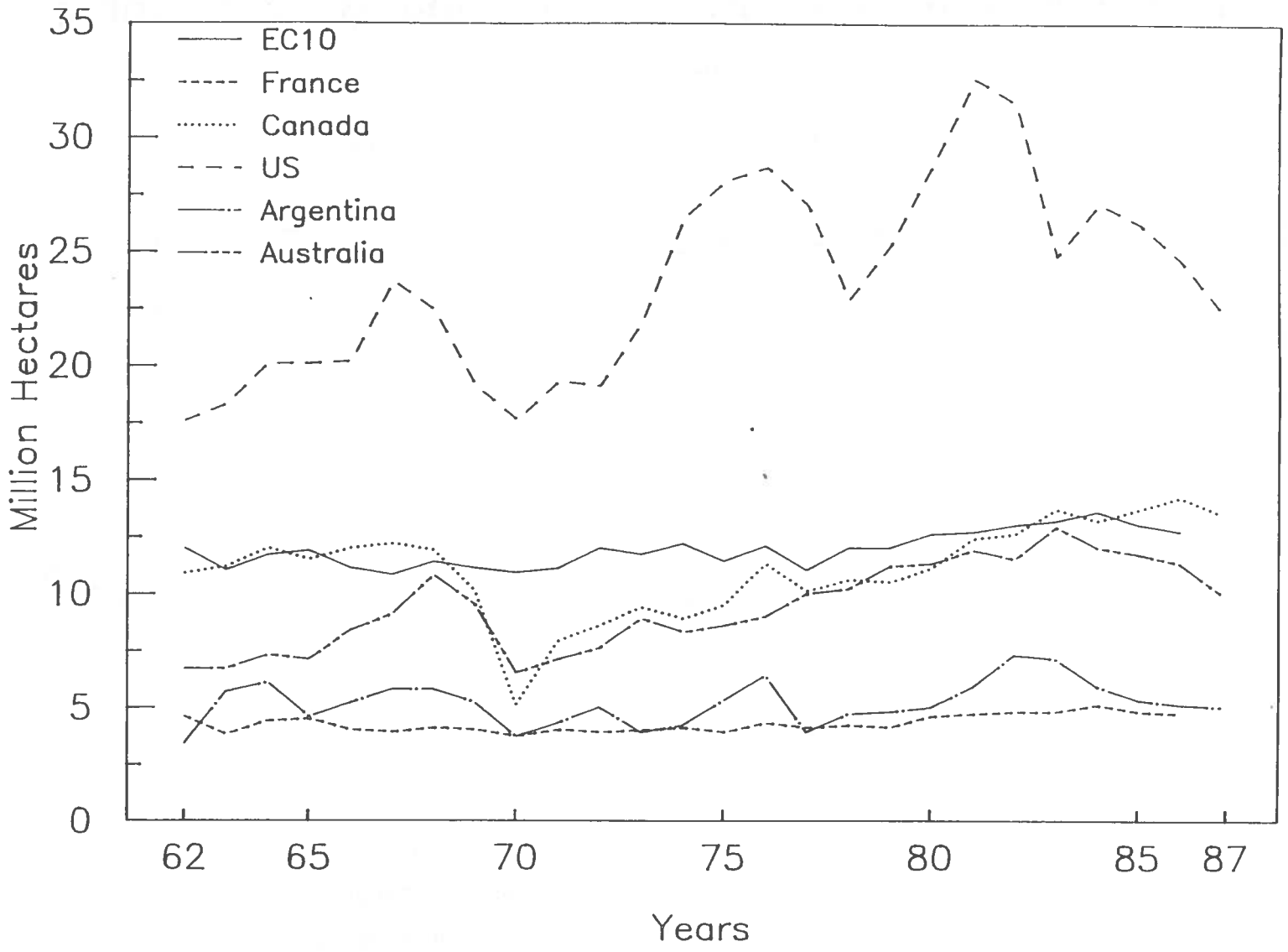

Figure 2.3 Planted Area by Major Exportors in Million Hectares

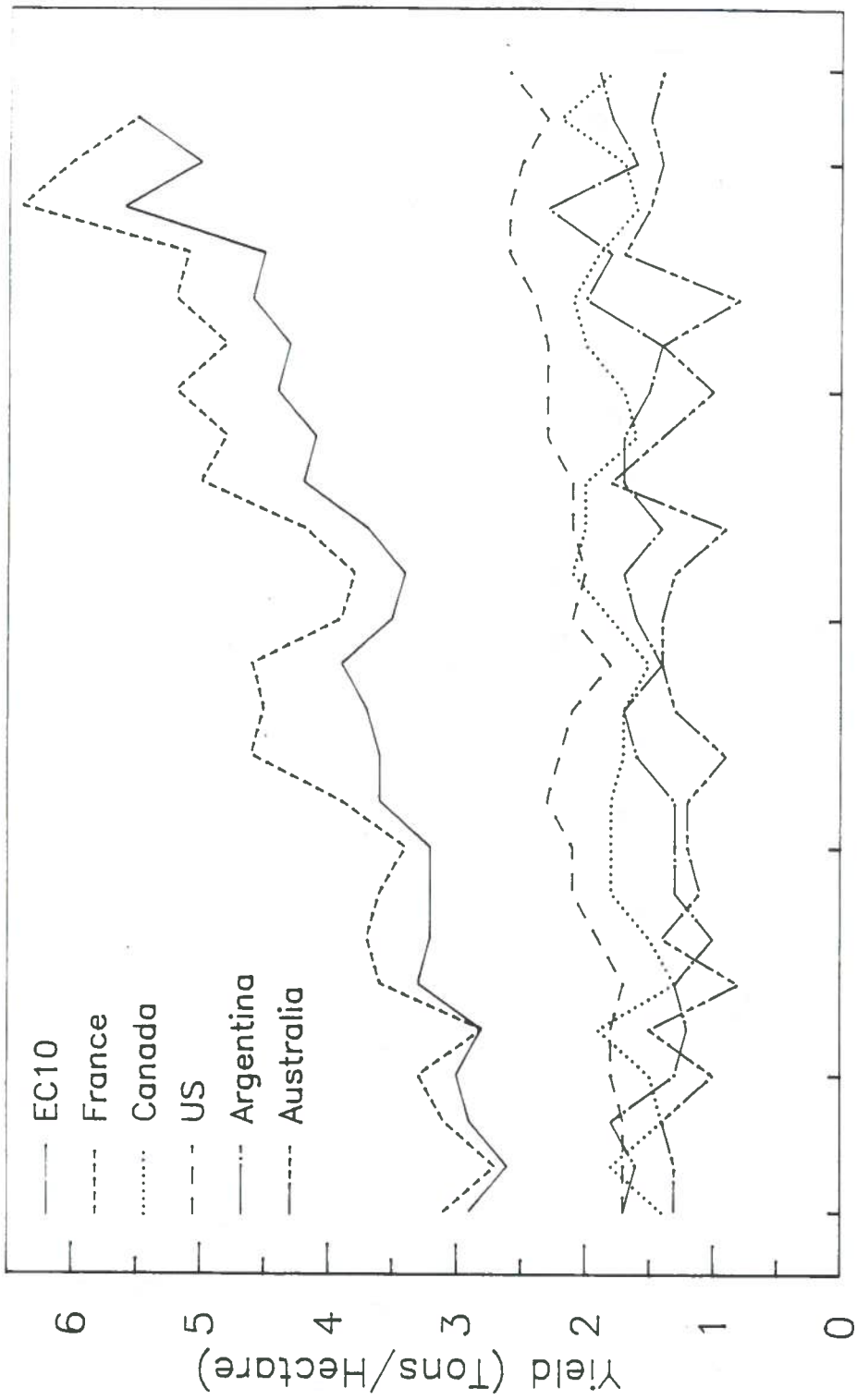

Figure 2.4 Yield by Major Exportors in Tons/Hectare

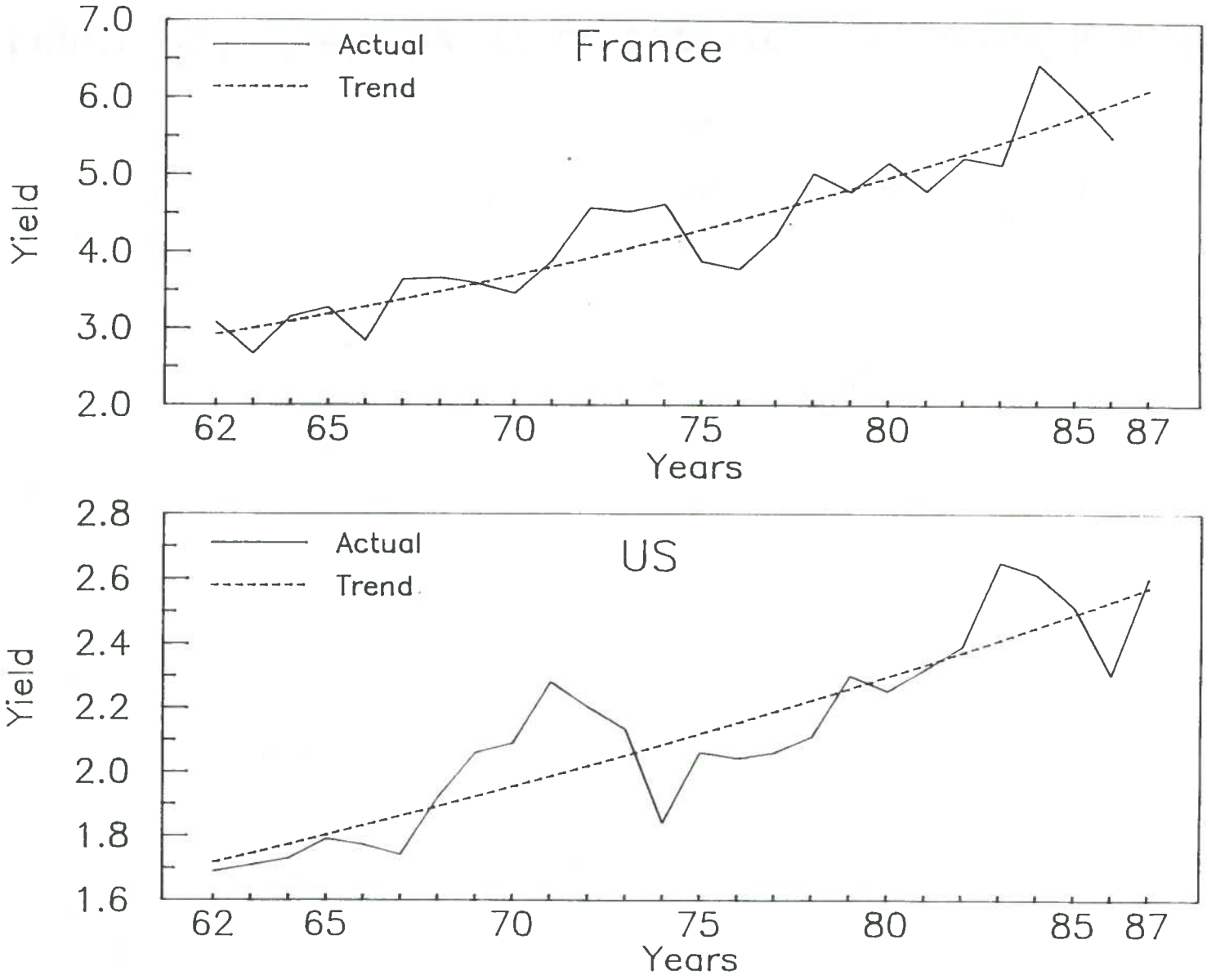

Figure 2.5 France and US Yield Trends

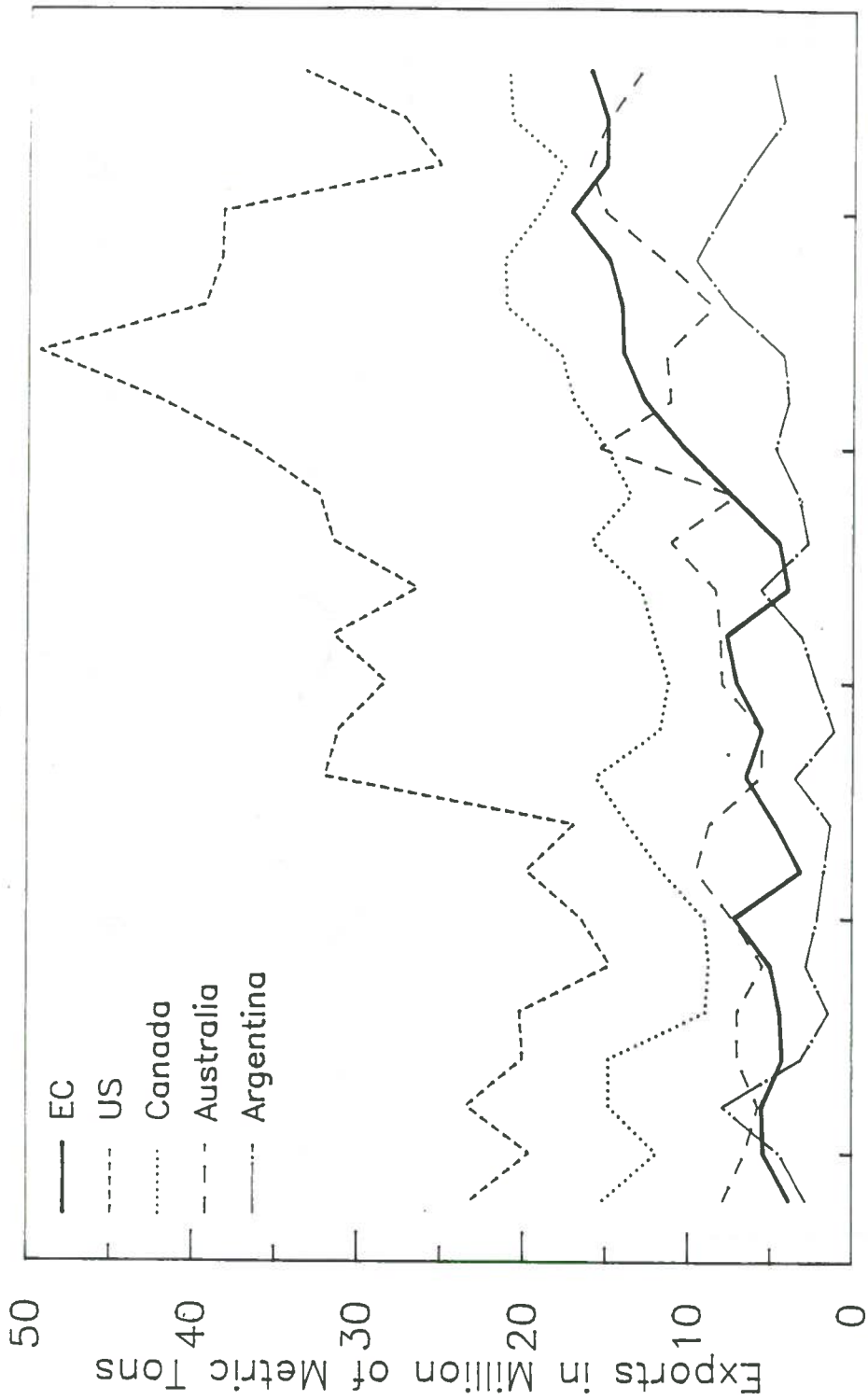

Figure 2.6 Exports by Major Exportors

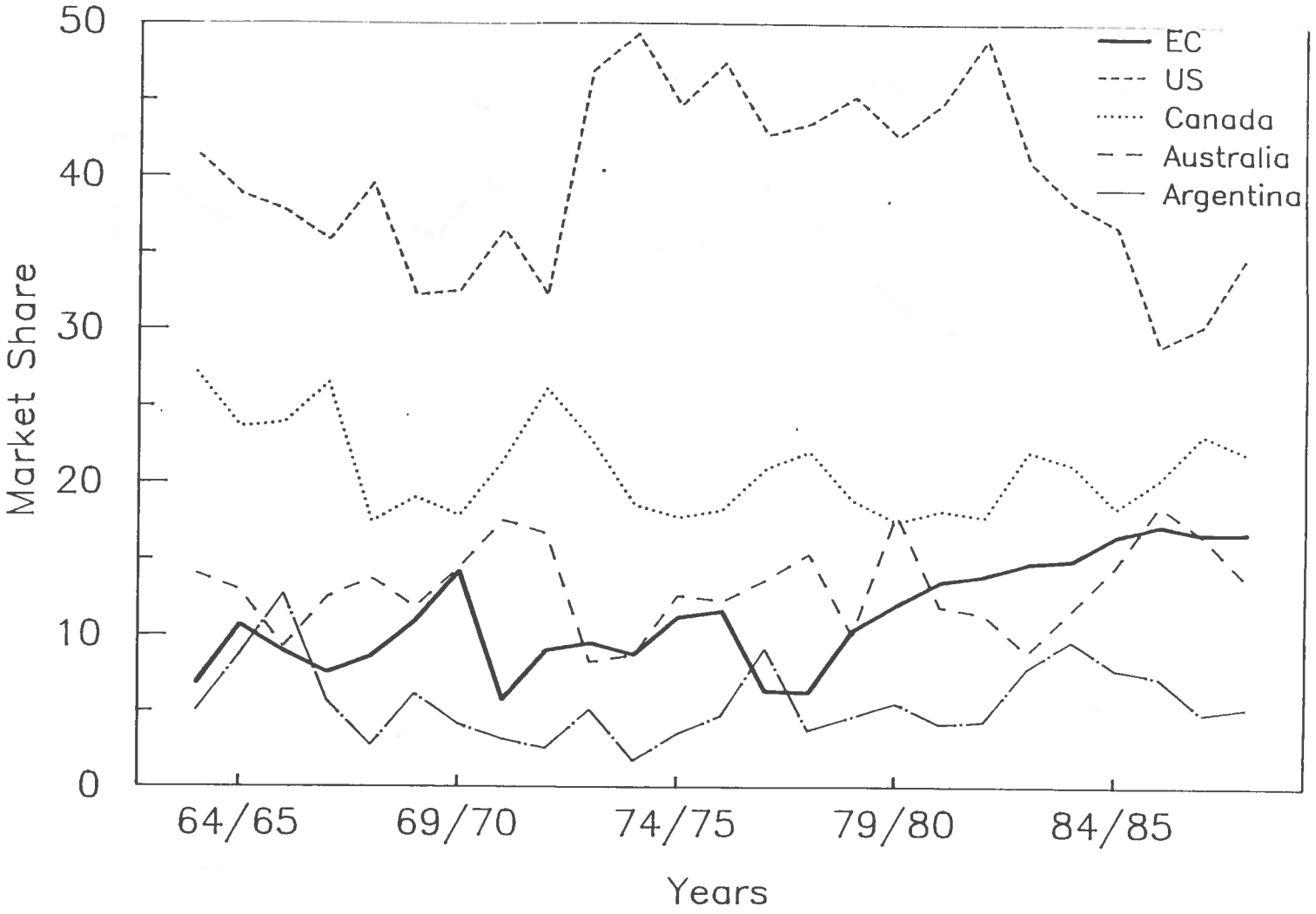

Figure 2.7 Market Share of Exports by Major Exportors

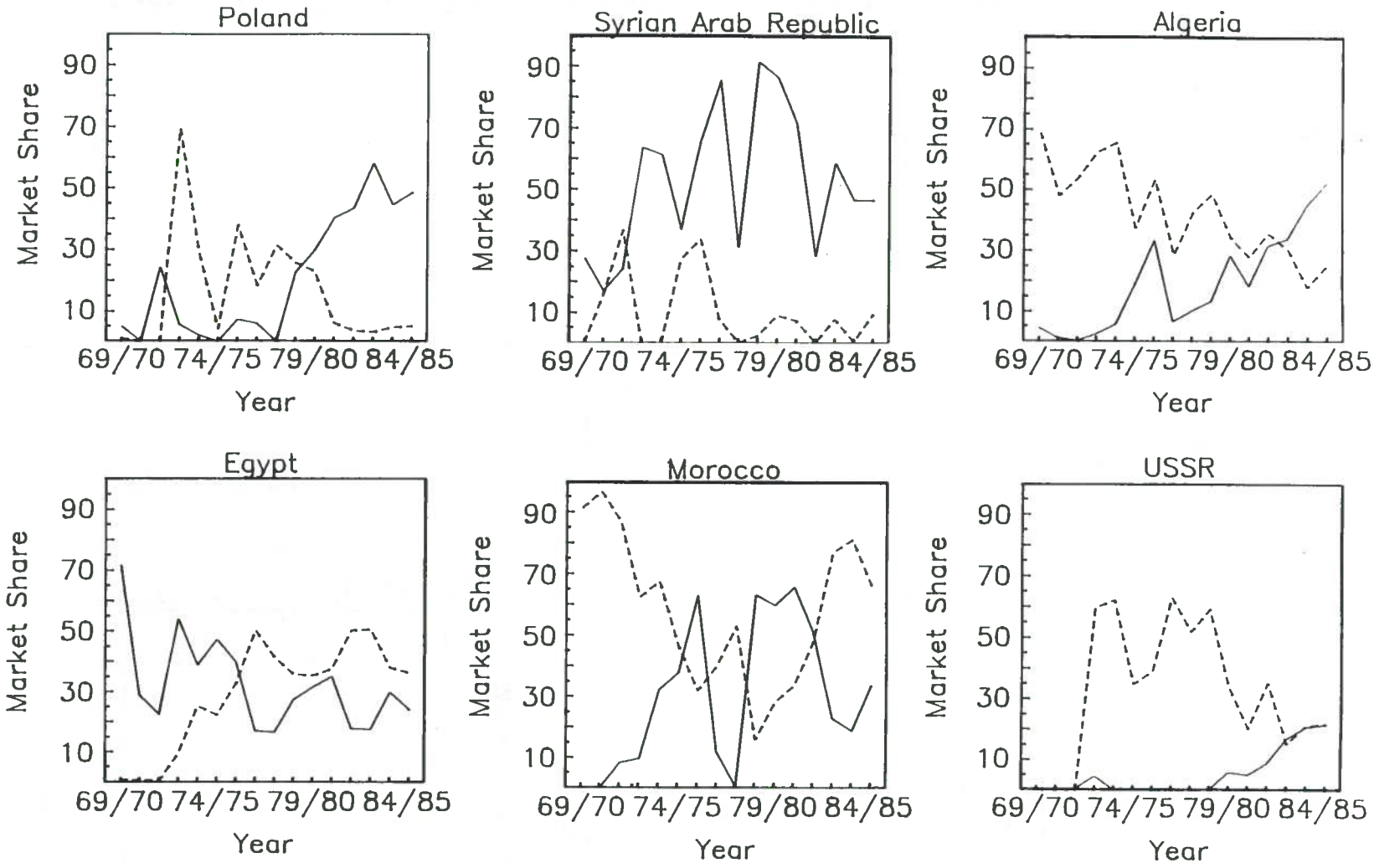

Figure 2.8 Market Share for EC (—) and US (---) to Selected Countries

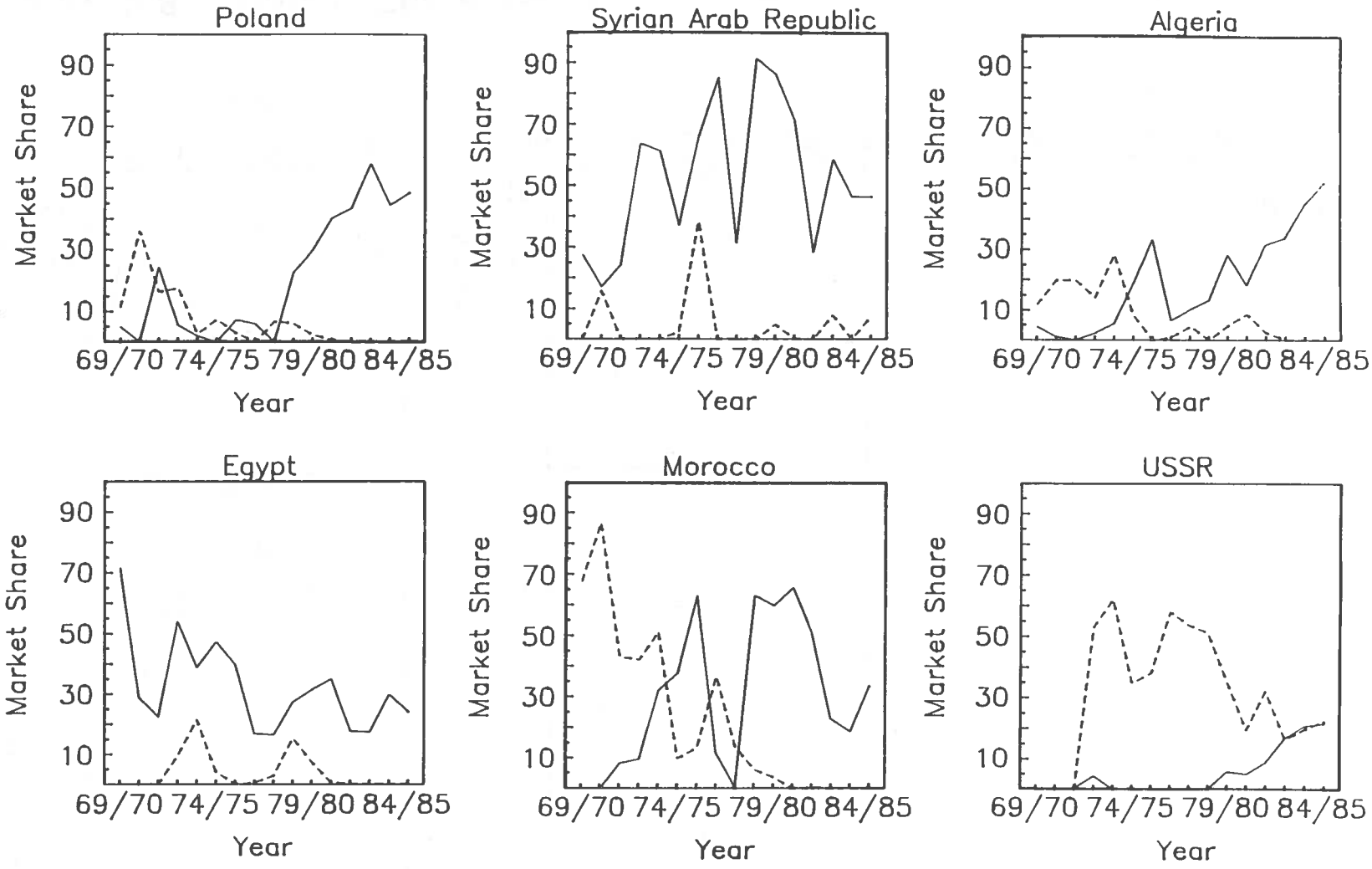

Figure 2.9 Market Share for EC (—) and US HRW(---) to Selected Countries

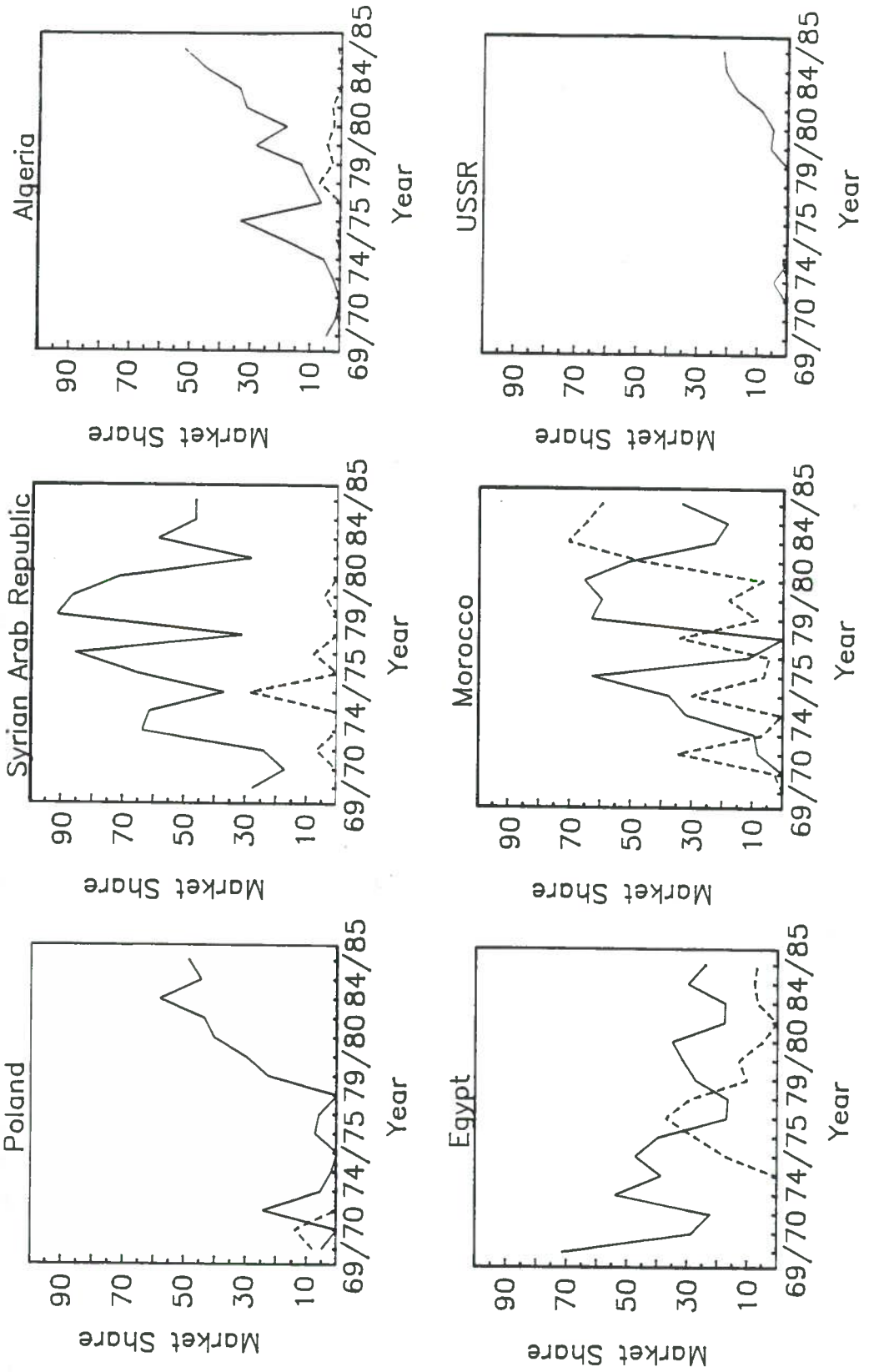

Figure 2.10 Market Share for EC (—) and US SRW(···) to Selected Countries

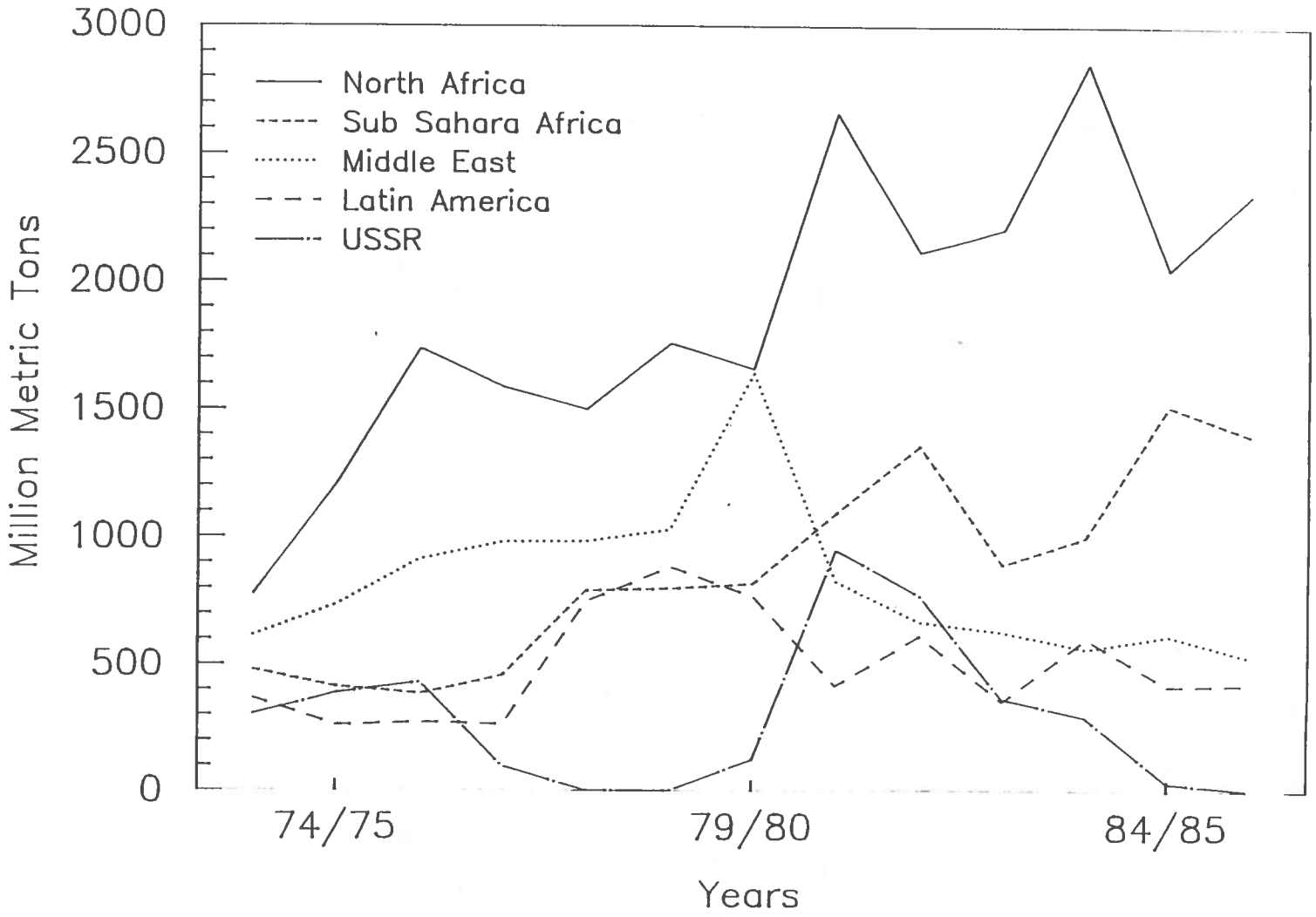

Figure 2.11 World Wheat Flour Exports to Major Destinations

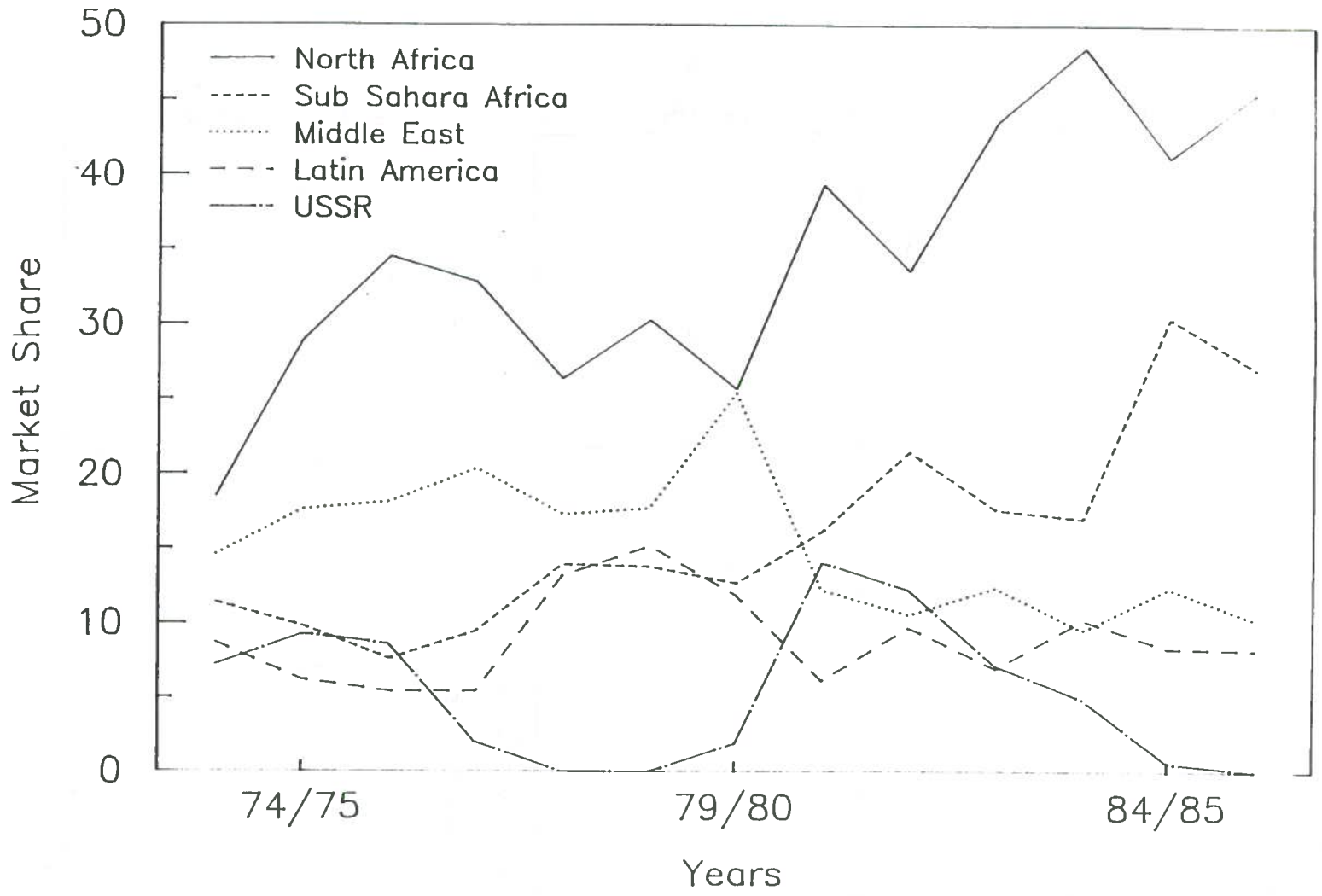

Figure 2.12 Share of World Wheat Flour Exports at Major Destinations

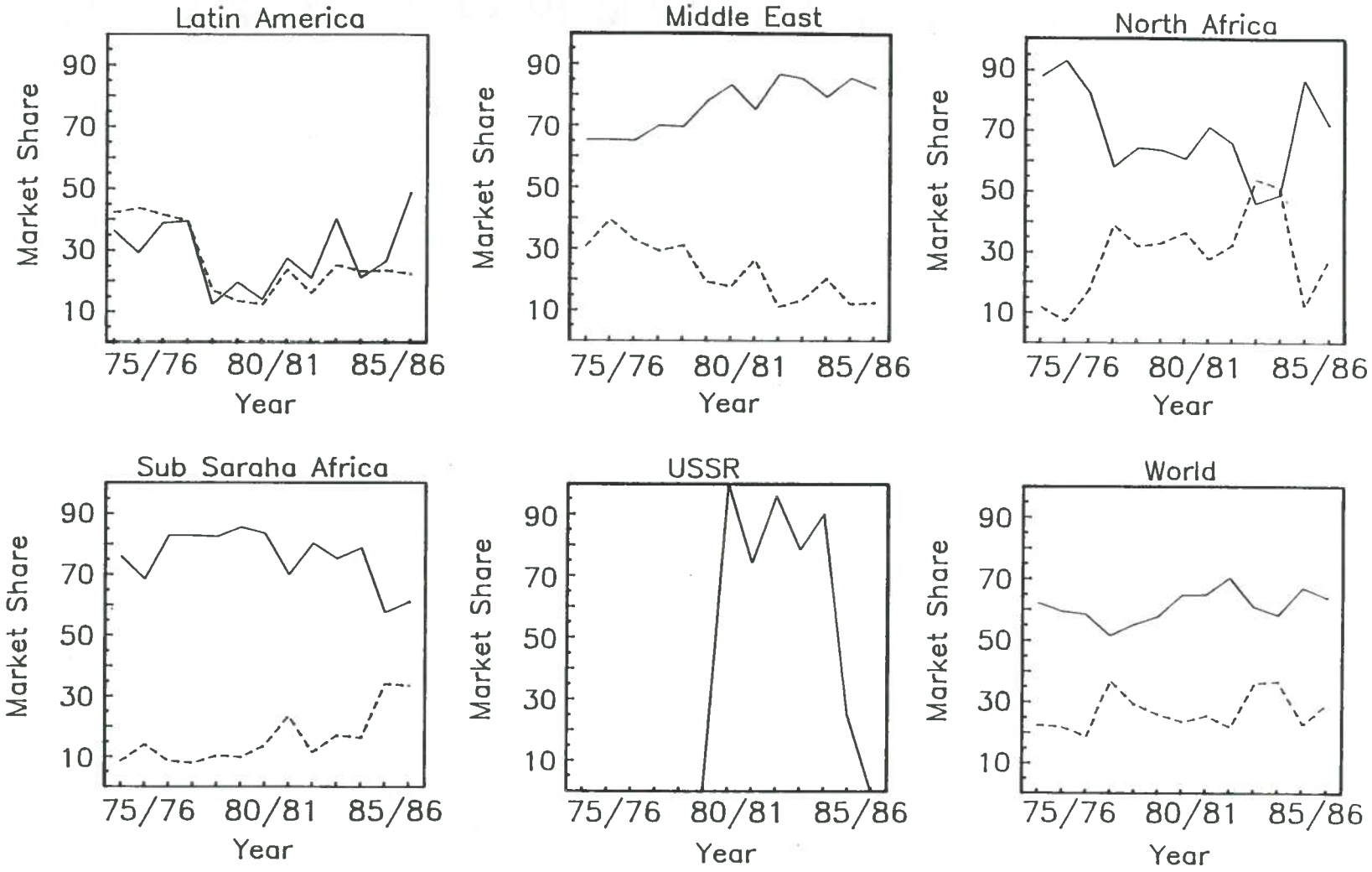

Figure 2.13 Flour Market Share for EC (—) and US (---) to Selected Countries

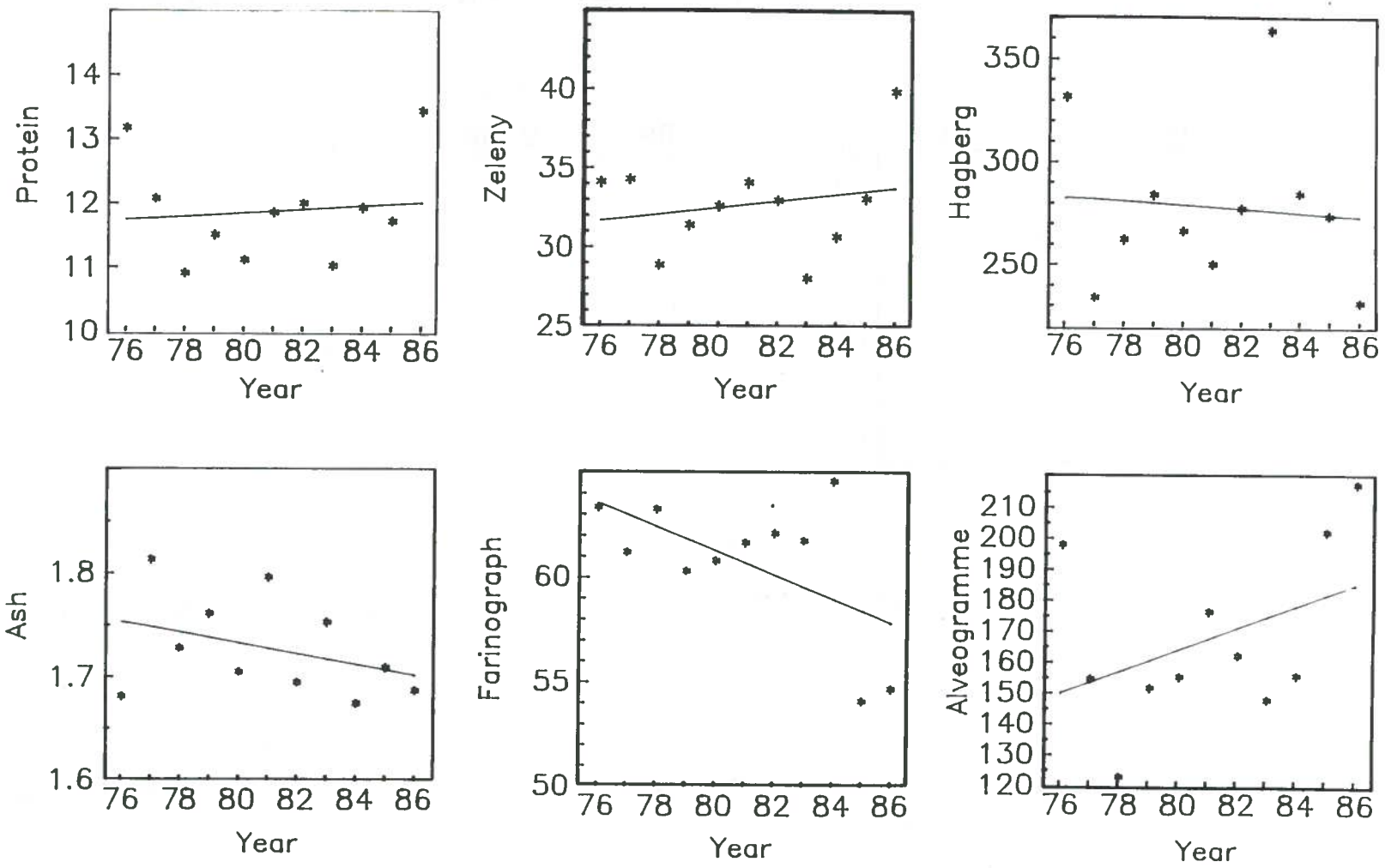

Figure 2.14 Trends in Wheat Quality in France, Superior Wheat (* actual data and — predicted)

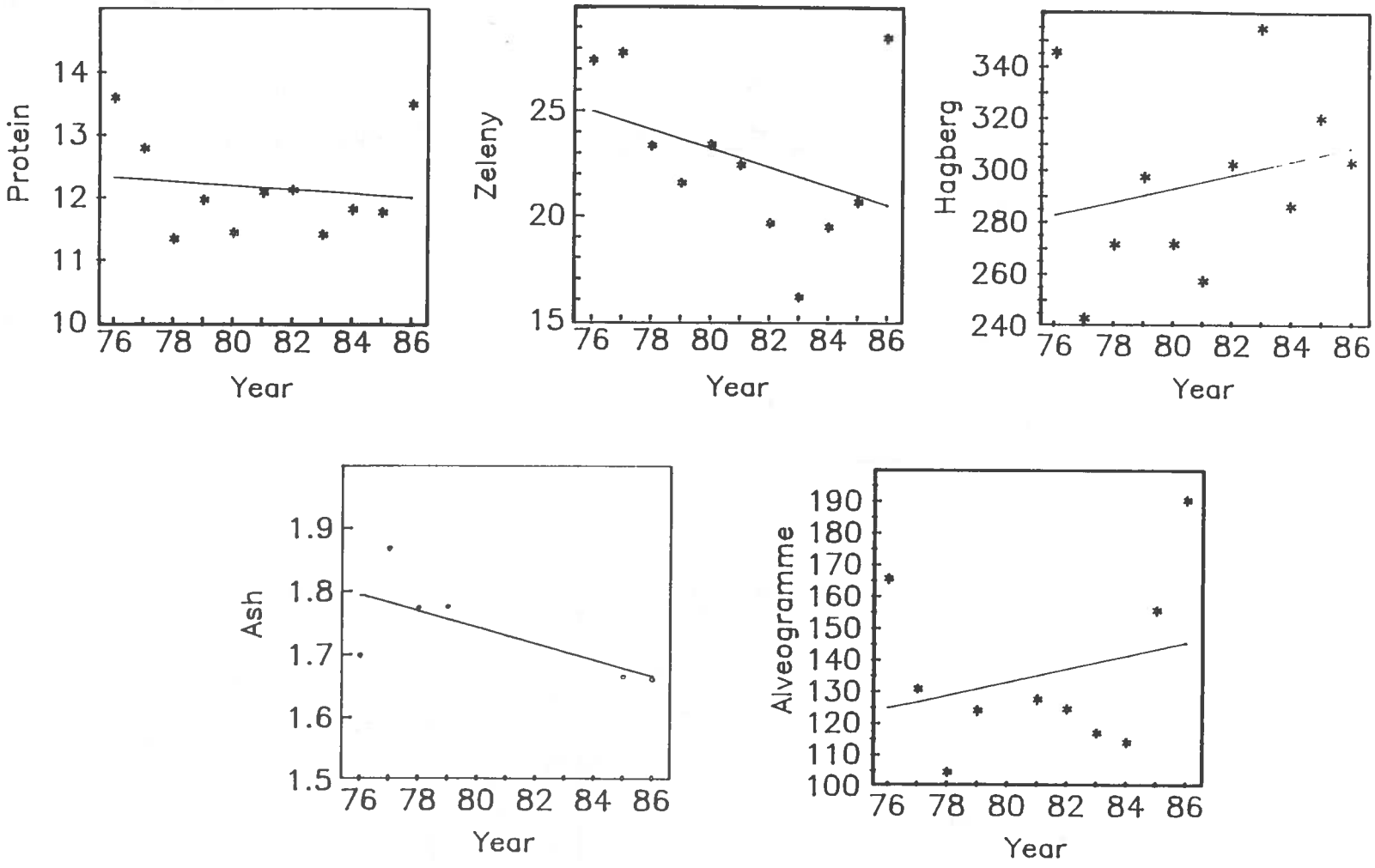

Figure 2.15 Trends in Wheat Quality in France, Standard Wheat (* actual data and – predicted)

III. Price and Income Policies in the EC

A. Overview

The common Agricultural Policy (CAP) which is the overriding policy affecting agriculture in the EC was enacted in 1962. The purpose of the CAP was to have coordinated agricultural policies across countries within the EC. Specific goals of the CAP were to encourage increased production, stabilize markets, ensure a fair standard of living to the farm sector, and to encourage security of supply. To achieve these goals there were three overriding principals to the CAP: 1) create a single community market; 2) an internal preference for community products; and 3) common sharing of policy costs.[3] Given these objectives of the CAP, a very complex system of mechanisms has evolved to regulate the market. This section provides a brief overview of these mechanisms, and the following subsections provide greater details particularly on how the CAP influences quality. As discussed below in detail, there are no official grade standards in the EC or individual countries, and it is the criteria for the intervention price mechanism which have important impacts on quality control. Further, there have been distinct efforts to change these criteria through time to achieve policy objectives.

Agricultural markets in the EC are subjected to a complex system of prices and regulations. The most important include target and threshold prices, intervention prices, variable import levies and export subsidies. The target and threshold price are somewhat generic and are not directly influenced by quality. The target price reflects the price that EC producers should receive for their grain. The threshold price is related to the target price by marketing costs and represents the minimum price for importing wheat. Given that world prices are generally less than the threshold price, a variable import levy (VIL) is calculated generally as the difference between these prices (e.g., threshold price minus world price). Complex adjustments are made in the VIL deviations to acount for quality differentials of imported wheat and external marketing and transportation costs.

Because EC domestic prices generally exceed world prices, and due to the increased production, the CAP uses an export restitution or subsidy to allow disposal of surpluses. In general, the export subsidies are the difference between local and world prices. Actual export refunds can be established by traders using fixed refunds for each zone ("droit commun") or by tender. Increasingly in recent years the tender has become the dominant mechanism. As a result the EC has had increased discretion about the value of export refunds. In the past these refunds have been generic across the quality of wheat being exported. However, in 1986/87 the EC allowed a 10 ECU/MT larger subsidy for milling wheat being exported from France versus the feed wheat being exported from the UK. The purpose of this differential restitution was due to the quality differences between France and the UK, the former being superior. However, the differential has been eliminated in

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[3]Most of the material in this section is taken from: Newman, Fulton and Glaser; USDA, FAS, Foreign Agricultural Circular, FG-42-81; and various issues of Toepfer International.

1987/88 due to the deteriorated quality of the French crop, and likely due to the political problems of administering differentials between countries.

B. Recent Developments in EC Prices

The single most important policy instrument affecting producer price levels and quality in the EC is the intervention price (IP). This is the level at which the EC is obligated to purchase wheat so long as it meets certain quality and eligibility criteria. The IP in the EC is similar to the US loan rate, both providing a price floor below which local prices seldom fall. An important difference, however, is that there is 100 percent eligibility in the EC so long as quality requirements are met, whereas in the US producers have to be program participants.

Intervention prices are stated in ECUs (European Currency Units), which is a common price across all member countries. MCAs (Monetary Compensatory Units) then apply to individual countries for currency translation. Thus, prices in a local currency may change in the opposite direction of a change in the IP if there has been a change in the MCA. Intervention prices and MCAs are set annually by the European Commission for the first month of the marketing year. Monthly increments are legislated for sales to intervention in later months.

The EC also sets price differences in the IP for different qualities of wheat. The recent history of EC policy prices is shown in Table 3.1. Target and threshold prices increased through 1983/84, decreasing moderately thereafter. Beginning in 1982/83, the European Commission was starting to be concerned about the EC prices getting out of line with world prices. However, program prices did not begin to decline until 1984/85. Intervention prices generally changed in the same magnitude as the target price.

During the period 1976/77 to 1984/85 the EC implemented a differential price policy in wheat called the "Silo Concept." Prior to that period of time, IPs for wheat exceeded that of feed grains, and there was a growing relative surplus of bread wheat and continual shortage of feed wheat. The silo concept was designed to reduce the incentives for producing bread wheat and stimulate use of wheat for feed. To that end, the intervention price for feed wheat was lowered to be equal to that of feed grains, and a higher reference price was introduced for various qualities of bread wheat. However, only limited quantities of bread wheat were eligible for the higher intervention price and these had to be intervened within the first three months of the market year. In 1984/85 the spread between these wheat types was also reduced. Despite the higher reference price for bread wheat, the intervention mechanism was never used, which would imply that market prices for these wheat types exceeded the relevant reference price. The goals of the silo concept were met by the early 1980s and the plan was abandoned and replaced by an undifferentiated intervention price for wheat in 1985/86. In the most recent years a spread was introduced for bread wheat (9 ECU/MT) and quality wheat (13 ECU/MT).

Generally local market prices exceed the intervention price. Figure 3.1 shows the intervention price and market price at principal EC locations. In most periods the intervention price was less than market prices, thereby

making the intervention mechanism largely inoperable. However, in recent years local market prices were increasingly intersecting the IP, thereby making the intervention mechanism more attractive.

Given the downward pressure on market prices relative to the IP in recent years, the European Commission has adopted a number of measures to reduce the use of the intervention mechanism. Two of these have been direct reduction in the realized intervention price. As of July 1986 the EC introduced a co-responsibility levy of 5.38 ECU/MT, or 3 percent. This is a tax on production to be collected at the point of first sale. The European Commission originally proposed a tax of 5.7 percent, but accepted 3 percent in the negotiation process. The purpose of the tax was to "make producers feel the realities of the market." Realized intervention prices were reduced another 6 percent beginning with the 1987/88 marketing year. Effectively the intervention agency of each country could pay only 94 percent of the nominal intervention price, and only during certain periods. These adjustments are ex-post and therefore not reflected in the prices shown in Table 3.1. However, the point is that the effect is to reduce the floor under which producer prices are supported.

In addition to the above there have been three indirect actions introduced through time which essentially reduce the attractiveness of intervention. First, the period in which grain could be eligible for intervention has been reduced. Second, in recent years payment is deferred. In 1987/88 for example, payment would be deferred for 110 days implying a foregone cost of interest of 3-4 percent. Third, the minimum quality standards to be eligible for intervention have been periodically tightened. These changes are discussed below in detail.

C. Administration of the Intervention Price Mechanism

Each member country in the EC has an intervention authority which is responsible for administering EC policies. That in France is Office National Interprofessional Des Cereales (ONIC). In the case of France, only licensed elevators (OS) are eligible for selling grains to ONIC--i.e., producers cannot use the programs directly as in the US. If an OS elevator decides its best marketing option is the intervention mechanism, it contacts ONIC with quality specifications and location. ONIC can take possession or ask the OS elevator to store it for them under a negotiated rate. ONIC pays the OS after the deferred time period discussed above, including monthly increments in accordance with the month of sale. Quality is determined at the expense of the seller. If either party rejects the first analysis of quality, a second may be used, the results of which are binding. Costs of the second analysis would be at the expense of the losing party.

In general one of the responses of the European Commission in recent years has been to tighten the quality standards to be eligible for intervention. The effect of this is to reduce the attractiveness of the intervention mechanism, resulting in lower market prices. The quality requirements to be eligible for intervention are shown in Table 3.2 for various time periods. The requirements were consistent during the period 1982/83-1985/86. Since then there have been a number of changes.

In the EC system there are three types of wheat for purposes of intervention--feed, bread, and quality. In some cases the factor limits are the same for each type. The principal differences between bread and feed wheat are the end-use characteristics represented by germination, falling number, protein, sedimentation and a dough test. To be eligible for the higher intervention price of bread wheat, minimum levels of these characteristics are required. If these characteristics are sufficiently high the wheat would be eligible for the intervention price for quality wheat.

A number of important changes occurred in recent years. Falling number requirements were increased, and protein decreased, for bread wheat in 1986/87. Test weight was increased for feed wheat from 68 to 72 Kg/hl in 1986/87, even though the EC recommended higher levels. Another end-use test, germination, was introduced for bread and quality wheat in 1986/87. There has been much controversy about changes in moisture requirements. In 1986/87 moisture was decreased from 16 percent to 14 percent for bread wheat and feed wheat. However, actual implementation was at the discretion of the individual countries, and allowances were made up to 15 percent if subjected to adverse weather. In 1987/88 the individual countries were allowed to fix higher ceiling levels for moisture. Some chose 15.5 percent, and others, including France, chose 15 percent.

The intervention prices described in Table 3.2 are subjected to legislated premiums and discounts for certain quality factors. Implicit in the prices is a premium of 3.59 ECU/MT for quality wheat over bread wheat and 9 ECU/MT for bread wheat over feed wheat. Other adjustments exist for moisture, test weight, and individual factors. Premiums for low moisture begin at 13.4 percent and is 0.17 ECU/MT per decimal point. Discounts for test weight begin at 76 Kg/hl, even though the absolute minimum is 72 Kg/hl. Following are the test weight discounts:

76 - 75	- .84 ECU/MT
75 - 74	-1.69
74 - 73	-2.53
73 - 72	-3.37

Discounts for protein level for bread wheat begin at 11.5 percent with an absolute minimum of 9.5. These discounts are:

11.5 - 11	-1.69 ECU/MT
11 - 10.5	-3.37
10.5 - 10	-5.06
10 - 9.5	-6.75
9.5	-8.43

Note that the discount for protein less than 9.5 percent results in the feed wheat prices. Discounts also apply to the other factors beginning at levels less than the maximum:

	Discounts Begin at:	Discount Rate ECU/MT Per 1/10 Percent	Maximum
Broken grains	3%	.084	5
Sprouted grains	2.5%	.084	6
Impurities	1%	.169	3
Grain admixture	5%	.084	12

Consequently, the intervention price mechanism includes price differentials for indigenous quality differences and for extraneous differences.

TABLE 3.1. EC GRAIN PRICES, 1981/82 - 1987/88

Year	Target Price	Threshold Price	Intervention Price			Reference Prices[1]	
			Quality Bread		Feed	Medium Quality	Minimum Quality
	ECU/MT						
1981/82	231	226	--	--	165	193	185
1982/83	251	246	--	--	179	209	199
1983/84	261	256	--	--	185	215	204
1984/85	259	254	--	--	183	213	196
1985/86	255	252	179	179	179		
1986/87	256	251	183	179	170		
1987/88[2]	256	251	183	179	170		

[1]Applied between 1976/77 and 1984/85 as part of the silo scheme. Minimal quality requirements had to be met, and default was to the "Feed Wheat" intervention price.

[2]Intervention prices do not reflect 6 percent adjustment for intervention during 1987/88.

TABLE 3.2 EC INTERVENTION QUALITY REQUIREMENTS FOR WHEAT

		Feed Wheat			Bread Wheat			Quality Wheat	
		1987/888	1986/87	1984/85	1987/88	1986/87	1984/85[2]	1987/88	1986/87
Sound basic grain	% min	88	88	88	88	88	90	88	88
Moisture[1]	% max	14.5-15.5	14	16	14.5-15.5	14	16	14.5-15.5	14
Natural weight	Kg/Hl min	72	72	68	72	72	72	72	72
Broken grains	% max	5	5	5	5	5	5	5	5
Grain and mixture	% max	12	12	12	12	12	5	12	12
Inc. shrunken kernels	% max	12	12	12	12	12	--	12	12
Impurities	% max	3	3	3	3	3	3	36	3
Sprouted grains	% max	6	6	8	6	6	6	6	6
Germination		--	--	--	85	--	--	85	--
Falling no.		--	--	--	220	220	180	240	240
Protein[3]		--	--	--	9.5	9.5	10.5	14	14
Sedimentation		--	--	--	20	20	--	35	35
Dough test[4]		--	--	--	positive	positive	--	positive	positive
Relevant intervention price (ECU/MT)		170	170	183	179	179	196	183	183

[1]Differs by country.
[2]Factor limits listed are for the "minimum quality" reference price to be eligible for the "medium quality" reference price protein must be 11.5 percent, sedimentation 25 and falling number 260.
[3](N X 5.7) of dry matter.
[4]First stage of the European baking test.

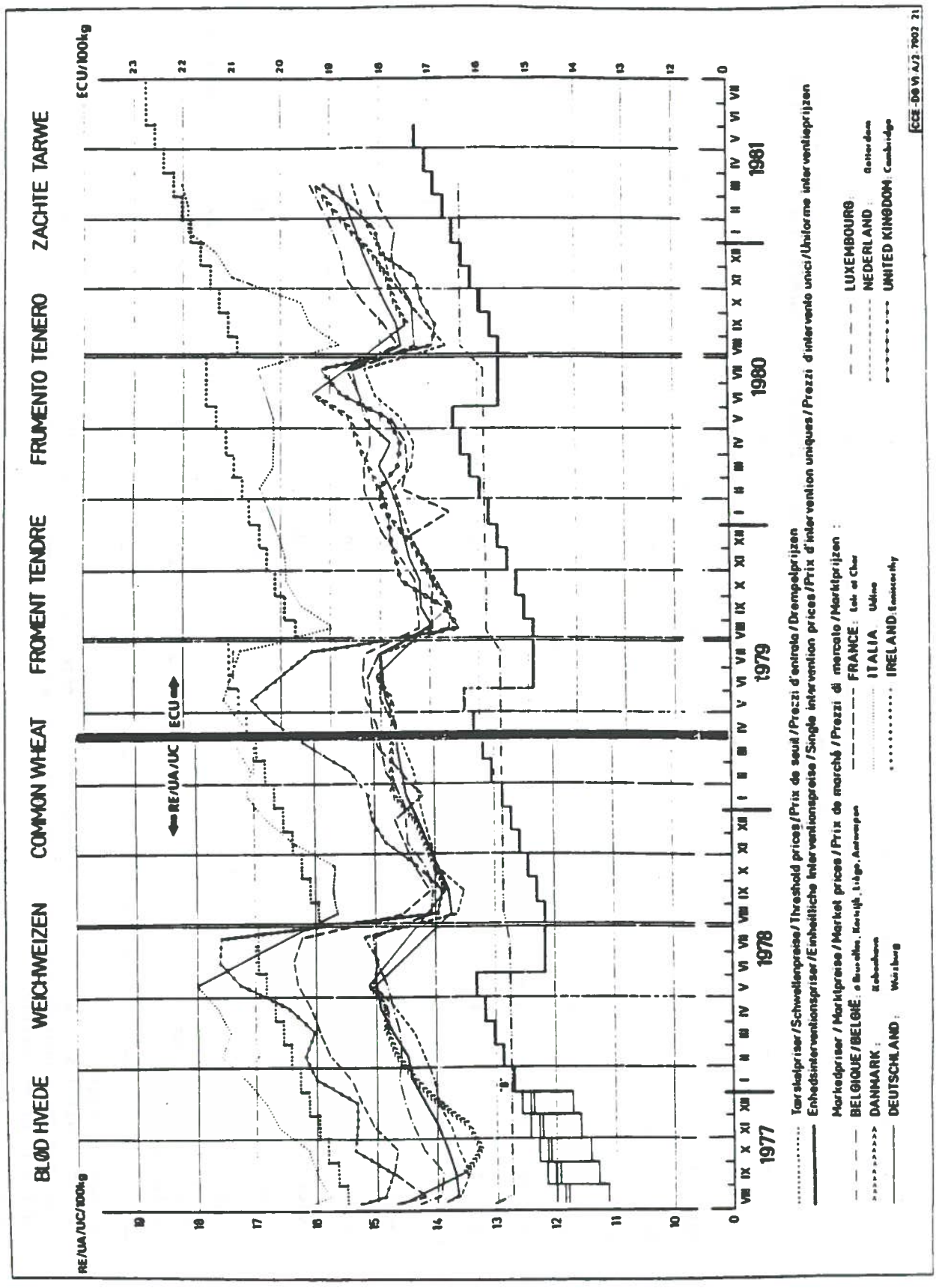

Figure 3.1. EC Intervention Prices, 1977-81.

IV. Wheat Marketing Industry

The grain marketing system in France is dominated by farmer-owned cooperatives for origination and multi-national traders for exports to third countries. Transactions between parties are largely determined by private negotiations with some terms standardized. Most of the conditioning of grain which does occur does so at the point of origination. The purpose of this section is to describe the marketing system for wheat in France. Subsequent sections provide detailed information on market channels, the organization of the industry, storage, marketing technologies and conditioning practices, the organization of the industry. In the final section a detailed description of pricing and commercial practices is provided.

A. Marketing Channels

About 70 percent of all grain which enters the marketing system is originated by farmer-owned cooperatives, the balance by private and multi-national traders. Grain shipped for domestic use is largely by truck, and to a lesser extent barge and rail. Most flour mills are located close to the point of production and are relatively dispersed, thereby requiring transport over relatively short distances.

There are 16 ports in France which export grain (Sosland, June 1986), but the Port of Rouen dominates with 47-53 percent of total grain exports. Table 4.1 shows the distribution of exports by the largest ports. The largest four ports in 1985/86 handled 76 percent of the grain exports from France.

The Port of Rouen handled about 7 percent of the market in international trade and is the world's largest port for flour. Rouen handled 63 percent of the wheat exports from France. In 1985/86 the distribution of exports across grains from Rouen were:

Wheat	6.4 MMT
Barley	1.4
Corn and Others	.3
	8.26

Thus, about three-fourths of the grain handled by Rouen is wheat. Grain arrives at Rouen by truck, barge, and rail as the distributions are shown in Table 4.2.

Truck is the dominant mode, likely due to the relatively short distance to the port. However, rail transport has been increasing. Unit trains are commonly used with 20 cars holding 60 tons per car (a total of about 44,000 bushels per train). Shippers can use either their own cars or those of a pool owned by private companies. Barges are active in northern France but have difficulty competing with railroads because the latter are indirectly subsidized by the government.

At the Port of Rouen there are eight export elevators with six operators, three coops and three private, and total storage capacity of about 1.0 MMT. There are also extensive bagging facilities (766,000 MT were exported in bags in 1984/85) with a new mechanized export terminal for handling bagged cargoes (Sosland, June 1986). Recently, automatic sampling equipment was installed in the export terminals, subsidized by ONIC which operates a wheat certification center. At the port of Rouen there are six private surveying companies and two private laboratories which are responsible for sampling, grading, and certification.

B. Organization of Firms in Wheat Marketing

There are three key sectors in the French wheat marketing industry. One is the farmer-owned cooperatives largely involved in origination and, to a limited extent, exporting. The second is the private grain traders; some are French and others are multi-national. These firms specialize largely in CIF sales. The third is the domestic milling industry. General characteristics of each are discussed in this section.

Cooperatives

Much of the present marketing system is based on the developments which occured in the world wheat economy of the 1930s. At that time ONIC operated as a national market board and all grain had to be sold to OS storage facilities. These are licensed elevators whose function in part is to collect taxes and administer quotas. The concept of the OS elevator still exists today, even though ONIC no longer operates as a national wheat board. Any firm could be licensed as an OS elevator so long as certain conditions are met.

A large proportion of the grain is delivered to the local OS elevator at the time of harvest due to generally limited on-farm storage. Mechanisms are set up through ONIC and the OS elevators for financing of harvest sales. Farmer-owned cooperatives are the dominant first handler of grain in France, with about 70 percent of the origination (Table 4.3). They are similar in structure to those of the U.S. Functions performed by these elevators include origination, conditioning, storage, financing, and input sales.

There are two national unions of cooperatives. One of these is UNCAC, which was originally created to promote production and export of French grains. It represents about 60-65 percent of the local cooperatives. In the last five years UNCAC has been active in exports, in part through its (recent) affiliation with Toepfer. About 70 percent of their export sales are made intra-EC, the balance being to third countries. As a matter of policy they are not active in domestic transactions (e.g., to processors) which would be competitive with their members. The other national cooperative, UGCAF, is not active in exports and is primarily involved in inputs.

The local elevators (visited by the authors) largely operated multi-plant satellite type systems. Many collection points exist for origination, storage, conditioning and to some extent, transhipment to larger houses. Two examples include the Sarthe and CAVAC. Sarthe has 15,000 members

and sales are distributed with 30 percent from crops, 30 percent from livestock, and 40 percent from inputs. They operate 60 collection points with shipments either by truck or rail depending on the logistical economics. Total storage capacity is 320,000 MT. Sarthe is affiliated with UNCAC. CAVAC, located in west central France, has 100 silos, but only six or seven large ones. Total storage capacity is 165,000 MT and 60 percent of the grain handled is exported through their own export elevator.

Exporters

Most of the grain exported from France is by the multi-national exporters, though there are several private French exporters (e.g., Levy, Souffle). Also, as indicated above, cooperatives are involved in exports to a limited extent, particularly to other EC countries. Some of the exporters operate their own facilities, while others simply buy FOB and make CIF sales. Only a few of the private exporters are involved in origination (Table 4.3) largely because of the dominance of the cooperatives as first handlers. Cargill is recently expanding in country origination. The private exporters are dominant in sales to non-EC destinations. An important risk, perhaps the single most important, in exporting is that of fixing restitutions with the EC for third country sales. Thus, the risk of restitutions and documentation apparently provide significant barriers to small scale exporting from France.

Milling Industry

The flour milling industry in France is very diverse and fragmented (much of the material in this section is from World Grain, September 1987). Most of the firms are family owned, and about 20 percent of the capacity is owned by cooperatives. There are a total of 1,215 mills which produced 5 million MT of flour in 1985. The largest milling company is Grand Moulin de Paris, which has 15-20 percent of the market share and produces 900,000 MT of flour from 14 mills. It is the dominant exporter and is also involved in the gluten industry. There are a total of 17 mills which produce in excess of 50,000 MT/year, and more than 600 produce less than 1,000 MT/year. The mills are dispersed geographically and are largely located at the point of wheat production.

An important reason for the current structure and operating practices of the industry is a quota system. In 1935 there were 9,000 mills, flour consumption was declining and there was a surplus of wheat. In order to control supply a quota mechanism was implemented with maximum allocations of wheat per mill. Thus, even though many firms exited the industry the remaining could not readily expand output. The quota system still exists today, but its administration has been liberalized. Part of the reason for the tremendous competitiveness of flour exports from France is that if the flour is exported, then the purchase of wheat is exempted from quotas. Thus, firms with excess capacity, and likely relatively low marginal milling costs, could utilize that capacity for export.

An important feature of the milling and baking industry in France is that of gluten. Extracting gluten from wheat is an industry which began in the mid-1970s. Gluten is used as an additive to low protein wheat to produce leavened breads. This technological development has been an important growth industry in France and the EC, and has provided much flexibility for the millers in meeting contract specifications.

C. Storage Capacity and Elevator Equipment

Storage capacity in France is concentrated at the country elevator level. Table 4.4 shows elevator storage by location and type at two time periods. In January 1985 total storage capacity was 53 MMT, and for comparison total grain production in France in the past six years has ranged from 46-59 MMT. Nearly one-half of the capacity is at the country elevator level, followed by on-farm and terminal silos. Most of the storage capacity at the country elevator level is controlled by cooperatives. In 1985 the average turnover rate (average of the best marketed production over the past five years divided by total storage capacity) of the country elevator sector was 1.56.

There is a drastic disparity in the average size of elevator. Forty percent of the country elevators have less than 1,000 MT storage capacity and can hold about 5 percent of the marketed production. Most of the country elevators serve as collection points and ship to more central elevators for conditioning and reshipment.

Selected characteristics of the elevator sector in France are shown in Table 4.5. In 1986 64 percent of the elevators were cooperative and the average capacity was 3,833 MT. Most of the country elevators are served exclusively by truck with about 20 percent also served by rail. The average size terminal elevator is 20,195 MT. Nearly one-third of the country elevators are equipped with dryers, but only 17 percent of the terminals have dryers. However, the latter have greater capacity. Most of the elevators have ventilation equipment. The average cleaning capacity at the country elevator level is 35 MT/hour, but that at the terminal elevator is substantially greater.

D. Conditioning[4]

In general, grain is conditioned (dry, clean, treat for insects) at the first receiving grain elevator. Since grain is conditioned when stored, it is not subject to deterioration in storage. Country elevators and receiving points are equipped with modern technology. Cleaners, barley sizers, dump pits, loading legs, belts, and augers were similar to those found in elevators throughout the United States. Based on the small sample there did appear to be more use of the Redler Chain Conveyor in place of the belt conveyors more common in the U.S. From the outside a typical storage facility appeared to be a long, flat building, but the inside consisted of numerous vertical bins.

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[4]Observations in this section are based on a tour by the authors of selected facilities throughout north and west France.

These bins were often filled by a long converyor, either belt or chain, running the length of the long building under the roof with the individual bins filled by a diversion off the chain conveyor. Sampling equipment differed markedly among individual elevators, one using a very primitive type of pan or bucket at the endgate with one or more samples being used to represent the truck load. Others had hydraulic operated vacuum probes. There appeared to be no requirement on the part of government agencies as to the method of sampling. This was left to the discretion of the individual operators.

Drying

Wheat is harvested at moisture levels above those normally experienced in the United States. Until 1987, wheat has had a base moisture of 16 percent in intervention standards. This base then carried into the market channel. A reduction of intervention moisture level has required that wheat be dried to 15 or 14.5 percent. All the firms that were interviewed insisted that 16 percent moisture could be safely stored. With the change in intervention base, their pricing and discounts were also changed. Regardless of intervention moisture, most wheat is apparently harvested below 15 percent moisture in normal seasons. In some regions and in some years, weather prevents drying in the field and some wheat is dried at the elevator. Since essentially all wheat is stored off the farm following harvest, drying takes place at the first handler or shortly after delivery into the market channel. Based on interviews, drying of wheat is relatively infrequent.

For comparison, corn is harvested at much higher moisture levels than in the United States. Shrink tables, for example, go up to 50 percent moisture content. Moisture levels reported by producers and elevators indicated that 30 percent is not unusual for corn harvested as shelled corn. This means high temperature dryers are essential. In some regions shelled corn is stored on the farm. High temperature dryers at the elevator were similar to those used in the U.S. Because of concern for breakage, elevator managers were using two-stage drying or aeration for removing the final moisture points of moisture. Much of the corn in the Loire Valley has been harvested in the ear and stored in long, very narrow cribs. Under these circumstances, drying takes place through natural aeration. However, grain handlers in the region reported problems with mold and alfatoxin from corn stored in this manner. The heavier grain production region father south in France is apparently harvesting with combines and the ear cribs are not in general use outside of this one region.

Cleaning

Throughout the market channel the question of impurities and broken kernels seemed to be of minor concern, especially for wheat. We were repeatedly told that farmers deliver clean grain (below 0.5 percent impurities) and that cleaning is seldom necessary to meet the export or intervention limits. Cleaners were present at every mill and every country elevator. Millers, however, have more stringent requirements. Some country elevators cleaned every load as it was delivered from the farm and recleaned again as the grain was being loaded out of storage for delivery to the

millers. However, at least one miller indicated that country elevators did not properly clean their grain and that it was necessary for them to reclean at the mill. Cleaners in operation at mills removed significant quantities of stones, straw, and other impurities. It was not clear if the same type of cleaners and scalpers were being used at both locations or if the mill cleaning was a more refined form of removing all of the non-millable materials to a level below that delivered from the country elevators. Cleaners were present at every mill and every country elevator. There was little evidence that cleaners at export elevators were used except for extraordinary and very unusual situations. Producers were paid net of the screenings, which is reflected in the final payments. Primary incentives for cleaning at the country elevator level include: 1) contracts include a maximum 2 percent impurities: 2) to reduce storage problems; 3) resale of screenings; and 4) millers generally expected clean wheat even though the contract limits may be loose.

In the case of corn, cleaning was more frequent because of the broken kernels, especially after the grain had been dried. However, country elevators again emphasized that farmers delivered clean corn into the market channel. Export elevators gave contradictory statements in terms of industry practices. Some insisted that cleaning and blending was necessary to meet the standards for export or milling with respect to broken kernels. Others insisted that broken kernels presented no problem. This may differ with where the drying takes place and the cleaning prior to their receiving the grain for export shipments.

Blending

Variety is extremely important to the French wheat industry, especially at the farm, country elevator, and flour miller levels. When it comes off the farm, wheat is placed in bins by groups of varieties according to milling yield and baking characteristics, good, average, feed wheat, etc. Although some blending of different qualities does occur on wheat moving to export channels in France, there does not seem to be the desire or necessity to blend wide margins of different qualities.

E. Pricing and Commercial Trading

Central to any marketing system is implementation of institutions and policies in commercial transactions. The purpose of this section is to describe the trading practices and commercial relations between market participants. In the first section below, an overview of the commercial aspects of grain trading is provided. This includes discussion of standards, inspection, contracts, and premiums and discounts. The second subsection provides details and examples of pricing and contracts at each point in the marketing system.

Overview

There are several aspects of the grain marketing system in France which significantly impact the commercial operation of the grain trading system.

First, there are no "official" standards with factor limits and grades in France. There are EC standards as described in Section III, but these are for intervention purposes only. In the past only a very small proportion of the wheat went into intervention and consequently these standards were of little direct impact. However, they do have an indirect impact because the EC standards for intervention prescribe the characteristics which are measured, some of which reflect end-use value. These have been adopted in part or in whole in commercial transactions. Second, variety plays a key role in some transactions. It is not uncommon for variety to be specified in contracts and in some cases certain varieties are excluded. A third important component is that there is not an "official" inspection agency (such as FGIS in the US). Private surverying companies compete in the provision of this service. Where appropriate the contract appoints the surveying company. In general, quality is specified as per private contracts and negotiations with terms varying across transactions. Quality limits and delegation of surveying/ inspection companies are negotiable terms of a commercial transaction. In cases where surveying/inspection agencies are not required (e.g., flour mills), then it is the long-term commercial relationship between participants which assures the integrity of the system.

Grain trading is facilitated in part through the use of the "Paris Contract." A copy of the Paris Contract and others referred to in this section are in Appendix C. This is a contract which prescribes standardization to grain trades and provides integrity through arbitration. This contract provides standardized terms regarding delivery, quality, etc. The Paris Contract therefore is used extensively for hedging purposes, with trades being as far as 9 months forward. In addition, the Paris Contract is used for the purposes of procurement in some cases, such as by exporters. However, for others such as flour millers, greater specificity is needed and the Paris Contract is not used for procurement, though it may be used for hedging. The Paris Contract has specific quality requirements. Typically those specified are: specific weight 76 kg/hl, 15 percent moisture, 4 percent broken, 2 percent impurities, and 2 percent sprout. For comparison these are greater than those required for EC intervention (Table 3.2).

In addition there are several addendums, one each for feed and milling wheat, in which provisions exist for slight deviations in quality. Specific premiums and discounts are established in this contract for deviations in quality and for the exclusion of varieties. The deviations from specified quality standards are the limits beyond which the merchandise can be rejected.

Premiums and discounts play an important role in valuation of particular lots of grain as well as in the allocation across end-users. Premiums and discounts for deviation in quality exist throughout the marketing system in France and are established by market pressures. There are, however, two mechanisms which influence actual premiums and discounts. One is the premiums and discounts and associated factor limits which exist in the intervention price mechanism described in Section III. These are fixed for each market year by the European Commission and apply only to grain entering intervention.

The Paris Contract also establishes premiums and discounts and associated limits. Copies of commercial contracts, including the Paris

Contract, are included in Appendix C. Table 4.6 shows the discounts and allowable limits for both feed and milling wheat. For each factor, tolerances from the contract specification and a maximum deviation are given. At that level the buyer has the right to reject and/or the contract is settled by arbitrage. In several cases the discount rate increases for higher levels of deviation (e.g., moisture, impurities). In the milling wheat contract varieties can either be specified or excluded, and different tolerances apply. Evaluation is based on 50 grain samples. For example, in a specified variety contract of 80 percent of one or more varieties, then 40 grains out of 50 would have to conform and following would be the discounts:

38-39 grains out of 50	no discount
37 grains out of 50	1/2 percent
36 grains out of 50	1 percent
35 grains out of 50	1-1/2 percent

Samples with less than 34 grains of the specified varieties could be refused or settled by arbitrage.

All of these discounts are expressed as a percentage of price. A recent example is that despite the abnormally large supply of sprouted wheat in the 1987 crops, the trade decided not to increase the discount but rather allowed it to be reflected in flat prices. An interprofessional committee meets periodically to review these discounts, but in general they have not changed appreciably in percentage terms. These discounts apply to all grain which is delivered subject to the terms of the Paris Contract. Consequently, at least in principal, the discount rate does not vary across regions in response to locational supply and demand conditions, but the actual amount discounted varies depending on the quality characteristics of a particular lot.

An important feature of the French marketing system is that variety is often a contract term. Variety is used as a proxy for end-use quality. In practice varieties are specified as either an individual variety, a category of varieties or excluded varieties. Given that varieties are in general not usually distinguishable, various mechanisms described below are used to assure the integrity of variety specification. Premiums and discounts also exist in commercial transactions for specific varieties.

Trading Practices

Producer/Elevator Transactions

Prices are generally calculated from some central market place, sometimes the intervention level, sometimes from the export market (e.g., Rouen). From these prices adjustments are made in deriving producer prices. Following is an example of derivation of producer prices in Sarthe, located in northwestern France:

	Cost	Price
	------F/MT------	
Delivered Rouen		1245
Transport	-60	
Loaded Sarthe		1185
Taxes French[1]	-46	
EC co-responsibility	-40	
Coop handling	-100	
Price to producer		999F/MT

[1]Includes 4-5 taxes collected at point of first sale.

For comparison the relevant intervention price at Rouen is 1180 F/MT and 1110 F/MT for milling and feed wheat, respectively. There is no use of futures markets at the country elevator level. Sales are either made back to back (facilitated in part by the Paris contract) or are covered by the intervention price with the increments for storage over time.

There are three basic alternatives for producer pricing. The dominant form of pricing is referred to as "Account Pricing" which essentially is a pooling mechanism by individual cooperatives. About two-thirds of the wheat is purchased by first handlers using this alternative. Under this alterantive, producers receive about 90 percent of the expected total price at the time of sale. In the example above the account price was 950 F/MT, the balance to be paid at a later time after which adjustments are made for quality deviations, etc. Note that the dominance of this alternative is due to the predominance of cooperatives in originating grain and that the cooperative by definition is selling for the account of the producer. The second alternative is for total payment at the point of delivery. About 30 percent of the transactions use this mechanism. The third alterntive is for delayed pricing. Only about 3 percent of the transactions use this alternative. In one case storage charges were not used because of the monthly increments in the intervention price. In another case farmers were free to sell under a quoted delayed price, and storage was provided by the elevator with charges to the producer, giving him the option of selling out of elevator storage at the time of his choice.

Several procedures/mechanisms are used at the country elevator level to verify the variety. First, in most cases the cooperative has sold seed to the producer and thereby knows its variety. Sales of certified seed ranged from 40-50 percent in one region to 80 percent in another. Second, producers must declare the variety at the time of first sale on the "Acce" certificate. These certificates were originally implemented for tax purposes (they can be obtained at Tabac shops) but also provide this important additional purpose. Penalties exist for incorrectly stating the variety on this statement. Third, cooperatives have the capability of evaluating questionnable lots by a fairly

rudimentary acid procedure, or by requesting an electrophoresis from a laboratory. However, normally these are not required. By knowing the varieties at the time of receipt, country elevators are capable of binning by varieties, or categories of varieties, and selling on the basis of varieties (or categories). In general the mechanisms described above are adequate for assuring variety at the point of first sale. However, one cooperative (Sarthe) indicated they have periodic problems with ascertaining and segregating by variety.

As described above, actual premiums and discounts for deviations in quality depend on market pressures. However, the premiums and discounts of the intervention programs and the Paris Contract override determinants of premiums and discounts at specific markets. Some indicated that actual premiums and discounts exceed those of the Paris Contract (Levy), which would suggest they are implicitly used as a competitive tool. Others indicated elevators typically adopt those of the Paris Contract, since that is the basis on which sales are made.

An example of a discount schedule is shown in Table 4.7. Discounts were not taken for other factors such as impurities. The discounts for germinated wheat in general did not begin until 10 percent. However, they indicated these would not apply this year. Instead, they planned to use the Hagberg test and make adjustments in the final payment.

In the case of moisture a base is established in the industry, generally on the basis of EC intervention standards. Moisture levels above that base are adjusted first by a set of shrink tables and second, by charges for drying. In the case of corn, for lower moisture levels (below 25 percent) the shrink table follows actual water loss based on the mathematical formula. However, at higher moisture levels, the shrink factor increases to the advantage of the buyer.[5] The base moisture for wheat was 15.5 percent; higher moisture was adjusted by weight shrink; any wheat containing over 16.5 percent received additional discounts (presumably a drying charge).

No premiums or discounts were attached to protein content but were implicitly reflected in the variety. Premiums and discounts for varieties were applied to categories of varieties. Examples which were quoted varied substantially but generally were:

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[5]For example, drying 100 bushels of 35 percent moisture corn to 15.0 percent results in 76.47 bushels calculated by the formula. The table provided by the elevator and apparently used throughout the industry shows remaining bushels are at 75.25 for that moisture content. The drying charge on that published form is even more erratic. For example, the first point of moisture removed is charged at the rate of .58 francs per quintal. At 30 percent moisture the charge is .62 francs per quintal per point of moisture removed. At 35 percent this drops down to .57 francs per quintal per point, and at 40 percent moisture the rate calculates to be .53 francs per qunital per point of moisture removed. This is not a uniformly graduated scale but one that first increases and then decreases with higher moistures.

Premium for Top Milling	5 - 10
e.g. Festival	5 - 15
	10 - 20 F/100 kg
Discount for feed	2 - 5
	3 - 5 F/100 kg

These are from a base price of 95 F/100 kg. For perspective, normally these have been premiums of 1-3 for milling. Thus, due to the apparent abnormally poor quality of the 1987 crop, the premium for top quality milling wheat has increased.

Flour Millers

Procurement of wheat by domestic wheat millers is premised largely by careful coordination and specification with sellers and/or through competitive pressures for performance on quality criteria. Flour millers typically have a long list of quality criteria which are important including: moisture, ash, protein, falling number, gluten, extraction, alveograph, farinograph, Zeleny, extensograph, and baking test. However, these are not all used in quality specifications for individual purchases--it would be impractical to do so. However, these tests are conducted at some stage in the procurement process.

Factors specified for individual shipments typically include those of the Paris Contract. In addition, limits may be specified for gluten strength (alveograph and/or Zeleny) and falling numbers (Hagberg). Many of these end-use characteristics are also represented in (or captured in) the variety specification. As an association, the millers categorize varieties according to milling characteristics. Purchasers then specify the particular variety, or use a category of varieties, or exclude particular varieties. Variety verification is done at the mill using electrophoresis since individual varieties are not visually distinguishable.

Actual procurement of wheat generally can take one of two forms. One is simply careful contract specification, with the right to refuse for deviations. Implemention is somewhat subjective but emphasis is placed on commercial and competitive relationships between buyer and seller. The consequences to a seller of incorrectly shipping wheat out of contract (e.g., by variety) are simply exclusion from subsequent purchases. The other procurement procedure which apparently is used more extensively, especially by smaller mills, involves visits to individual country elevators. By doing so mills can take samples from individual bins, seal the bins, and evaluate quality at their own laboratory. Purchases will then be made based on the quality evaluations. In the extreme case purchases could be made of the individual sealed bins. Note that this is the ultimate in purchases based on samples.

Export Specification

Merchants procuring wheat for exporting nearly always use the Paris Contract. One trader indicated that 80 percent of the wheat exported to third

countries is procured using this contract. Depending on the circumstances of the re-sale, variety may or may not be excluded in the purchase. Exporters also work closely with the private surveying/inspection companies in procurement. These companies provide a multitude of useful services including: overall crop quality evaluation at particular locations; coordination of quality evaluation and control at the point of origination with that of export specification; and supervision and quality evaluation at the point of export. As an example, in order to assure that quality of an export contract is met, an exporter may specify the same surveying/inspection company for origination and destination.

Specifications vary across all importing countries. First a distinction must be made between exports to other EC countries and those to third countries. In both cases the sale and function of the private surveying/inspection companies is similar. Sales to some EC countries use the German-Dutch contract (DNV No. 7) (see Appendix C). This allows for FAQ, or other quality specifications, and uses destination grades. Exports to all other EC countries use origin grades and quantity. It is not uncommon for exports to EC countries to exclude varieties.

Quality specification, as well as designation of the surveying/ inspection company, in sales to third countries are all part of the contract. Buyers typically use Paris Contract terms regarding physical factors such as test weight, broken, sprouted, etc. However, in addition, due to the heterogeneity of buyers, further specifications vary across importers. In the case of the USSR, for example, specifications include 11.5 percent protein and 23 zeleny. In the case of Algeria, the list of specifications include, hagberg, protein, zeleny, alveograph (W), machineability, sprout, test weight, impurities, and ergot (see (Appendix C). The point is that no official standards exist for export. Each transaction has the possibility of including a multitude of physical and intrinsic end-use specifications. These are facilitated in part through coordination between buyer and seller, and through the use of surveyors/inspectors.

No formal mechanism exists for handling foreign buyer complains regarding quality. These are purely contractual and subject to competitive pressures. However, one trader indicates that if a big problem developed ONIC would investigate.

TABLE 4.1. GRAIN EXPORTS FROM FRENCH PORTS

Port	1983/84	1984/85	1985/86	1986/87	1987/88
			MMT		
Rouen	5.49	8.90	8.26	7.5	7.0
LaPallice	.77	1.52	1.64	--	--
Bayonne	1.26	.75	1.05	--	--
Dunkerque	.34	.54	.84	--	--
LeHavre	1.11	1.25	.60	--	--
Others					
Total	11.55	16.06	15.42	--	--

SOURCE: Data from the Port Authority of Rouen.

TABLE 4.2. INBOUND GRAIN SHIPMENTS TO ROUEN

Year	Truck	Barge	Rail
	Percent		
1983/84	53	24	23
1984/85	42	25	33
1985/86	44	26	30

SOURCE: Data from the Port Authority of Rouen.

TABLE 4.3. DISTRIBUTION OF GRAIN IN FRANCE

	Percent	MMT
Production	100	46
Domestic Use	39	16
Feed		8.7
Flour		4.6
Semolina		.5
Mauserie		.1
Malt		.3
Commercialization (originated)		40
Cooperative	70	
Private merchants	27	
Multi-national	3	
Exports (total)	61	24
Intra-EC	49	
Third countries	51	
Exported as Processed Products		
Flour	.67	
Malt	.23	

[1]All grains.

SOURCE: Economies and Finances Agricoles, Ferrier 1986.

TABLE 4.4. STORAGE CAPACITY FOR ALL GRAINS IN FRANCE (1985 AND 1986)

	Capacity		Percent
	----------MMT----------		
	January 1985	August 1986	January 1985
On-Farm	17.5	NA	33
Silos and cells	10.2	NA	19
Threshing floors	5.2	NA	10
Corn cribs	2.1	NA	4
Country elevator	25.8	29.4	
Cooperatives	18.5	21.5	49
Private merchants	6.0	6.5	35
Other	1.3	1.4	11
			2
Terminal silos	5.6	6.9	11
Marketing centre	2.1	2.7	4
Sea ports	1.4	1.6	3
River ports	2.1	2.6	4
ONIC (rented)	2.2	2.9	4
Processors	1.94	1.99	4
Wheat milling	1.14	1.14	2
Feed	.80	.85	2
Total	53.0	--	--

SOURCE: Data from the Port Authority of Rouen.

TABLE 4.5. TECHNICAL CHARACTERISTICS OF THE ELEVATOR SECTOR IN FRANCE

	Country Elevator						Terminal Elevators							
			Private				Marketing Center Locations		Port Elevators					
	Cooperatives		Merchants		Total[1]				Sea		River		Total	
	1985	1986	1985	1986	1985	1986	1985	1986	1985	1986	1985	1986	1985	1986
Number	4841	4900	2630	2578	7661	7671	169	216	54	55	62	71	285	342
Average storage capacity (MT)	3835	4381	2268	2535	3368	3833	12526	12520	26830	29008	33172	36715	19728	20195
Modal shipping facilities (%)														
Rail	22	22	13	13	19	19	49	44	96	98	71	73	63	58
Barge/ship	6	5	2	2	4	4	14	9	100	100	100	100	49	40
Average modal shipping capacity (MT/hr)														
Rail	71	77	62	63	70	75	149	159	213	152	165	129	176	162
Barge	84	108	125	100	120	113	127	159	547	431	201	204	321	302
Truck	66	75	43	46	59	66	95	110	271	131	131	137	127	119
Elevator equipment														
% with dryers	30	30	31	32	30	31	17	13	13	15	34	49	20	17
Average drying capacity (points/hr)	1227	1344	991	1027	1166	1242	1484	1479	3350	3350	1843	2078	1869	1903
% with ventilation	76	76	73	75	75	76	64	65	65	--	82	83	68	69
Average cleaning capacity (T/hr)[2]	--	39	--	27	--	35	--	1241	--	192	--	101	--	73

[1]Total includes "elevators in common", other in addition to cooperatives, and private merchants.
[2]Calculated as average cleaning capacity per elevator assuming every elevator has a cleaner.

SOURCE: 1985 data is as of January 1, 1985 from USDA Attache Report FR-5084 American Embassy, Paris. Data for 1986 is as of August 1986 and is from "Evolution Des Capacities De Storage," Office National Interprofessional Des Cereals, November 1986.

TABLE 4.6. PRICE ADJUSTMENTS IN THE PARIS CONTRACT FOR FEED AND MILLING WHEAT[1]

Factor	Discount Rate[2,3]	Unit	Maximum Deviations Before Arbitrage
	----percent-----		
Test weight			
Feed	1	1 kg/hl	3 kg
Milling	1	1 kg/hl	2 kg
Moisture	1	first 1%	
	1-1/2	second %	2%
Broken	1/4	per point	3%
Sprouted	1/2	per point	3%
Impurities	1	per point 1-2%	
	2	per point 2-4%	4%
Hagberg[4]	1/1000	per second	15 seconds
Protein[4]	0	0.0-0.29%	
	1.2	.30	
	1.6	.40	
	2.0	.50	50%
Zeleny[4]	0	1	
	0	2	
	1.2	3	
	1.6	4	
	2.0	5	6%
Variety[4,5]			
Specified[6]	0	0-2 grains of 50	
	1/2%	3 grains of 50	
	1%	4 grains of 50	
	1-1/2%	5 grains of 50	5
Exlcuded	0	0-2 grains of 50	
	1/2%	3 grains of 50	3

[1]Unless indicated otherwise price adjustments are the same for milling and feed wheat.
[2]Adjustments are made to pre-tax prices.
[3]Prorated per 1/10 percent.
[4]Apply to milling wheat only.
[5]Based on samples of 50 grains and using electrophoresis.
[6]Varieties in contracts are either specified, or excluded.

TABLE 4.7. DISCOUNTS FOR COOPERATIVE DE LA SARTHE, AUGUST 4, 1987

	Net Wheat Price 95 F/100 Kg	
Factor	Allowable	Price Adjustment
Broken	2%	F/100 kg - .63 per point
Germinated	10%	10.1-15 - 1.0 15.1-20 - 2.0 > 20 - 3.0
Test Weight	76 Kg/hl	75 - 75.9 - .63 74 - 74.9 - 1.26 73 - 74.9 - 1.89 72 - 72.9 - 2.52 71 - 71.9 - 3.52 70 - 70.9 - 4.52 69 - 69.9 - 5.52 . . . 65 - 65.9 - 9.52 > 65 - 9.99

V. Variety Development and Release

The background information in Section II demonstrated that productivity growth in France has exceeded that of all other exporting countries and there have not been sacrifices in quality. In fact, there have been improvements in quality along several dimensions. Also the previous section indicated that the French marketing system places tremendous emphasis on the variety, or categories of varieties, as indicative of end-use quality. France has a rigid system for the development and release of varieties. This operates through a catalogue of official varieties. Being specified in this catalogue is a prerequisite to production and marketing of seeds. Certain criteria have to be met for a variety to be considered, including both agronomic and end-use quality. This section explains the institutions regulations, and industry in France which administer the development and release of seeds.

Two government agencies under the authority of the French Minister of Agriculture control the release of new varieties and the production and distribution of seed for wheat, corn, soybeans and others. GNIS controls the production and distribution of certified seed, regulating many of the same factors used in seed laws in the United States--purity, germination, accurate labeling, etc. The regulations are promulgated and enforced by various departments in GNIS. Their authority extends to the contracts between seed companies and growers.

Control of new varieties is achieved through the Comite Technique Permananet de la Selection des Plantes Cultivees (CTPS). This committee is composed of representatives of plant breeders (in fact every breeder is automatically invited to designate a rerepresentative), producers, millers, and other users. There are 55-60 members on this committee, which sets the criteria, establishes the tests, evaluates the results and recommends to the Minister of Agriculture those varieties to be registered in the official catalog. Without this approval it is unlawful to multiply and sell the variety in France.

A third agency indirectly involved is the Technical Institute for Cereals and Forages (ITFC). ITCF was created in 1959 as an association between the Farmers Union and the Cereal Producers and Cooperatives and is financed by a tax of 3.7 F/MT on cereals. It has responsibility for research and extension and is working primarily for the benefit of producers and their cooperatives. Most of the responsibility for testing and quality evaluation resides with ITCF, but other research agencies and laboratories--private and public--also provide test facilities.

A catalogue of varieties (Catalogue Official Des Especes et varieties) which lists all the varieties of a particular crop which are licensed is published annually. Selected pages of the catalogue for wheat are shown in Appendix D. These are varieties which have been recommended to the Ministry of Agriculture by CTPS for release. A variety can only be produced and marketed legally after it is registered and listed in this catalogue.

All varieties are subject to automatic removal from the registry 10 years after registration. A variety may be removed at any time if problems arise. The catalogue is a licensing mechanism, but it is also the market mechanism, subject to the catalogue restriction, which determines what is

produced. In 1986, for example, the top three varieties (Festival, Fidel, and Camp Remy) were seeded on 45 percent of the area planted.

CTPS is essentially the committee responsible for determining whether a variety is approved. In general both agronomic and quality factors are considered. However, before a variety is accepted for testing by CTPS it must meet three general criteria: (1) distinguishable--the variety or line must differ from other known varieties on at least one important morphological or physiological characteristic. In the case of wheat protein, chemistry is evaluated through electrophoresis to establish a unique pattern that is used as a "fingerprint" for that variety, even in commercial sales where variety is specified; (2) homogeneity--a variety or line is considered homogeneous if the tested plants reproduce the same genetic characteristics as other plants selected from the same variety or line. In the case of wheat, 200 seeds are planted and no more than two plants may be differentiated by physiological or morphological characteristics. A bulk seed test is also required in which fewer than three plants in 1,000 may be differentiable; (3) stability--a line is considered stable if successive generations conform to the original essential characteristics.

CTPS has developed a grading system for candidates for registry that allows for a trade-off between yield, agronomic characteristics and end-use quality. Basically each new variety must be proven superior to existing varieties on either quality or productivity to obtain approval. This is achieved by selecting a "witness" variety in each region to serve as the standard against which the new variety is measured. This "witness" variety is generally the most popular variety planted by farmers. In the case of wheat, a tableau exists with yield vs. quality in a two-way matrix (see Appendix D) with a quantitative scale. Any new variety must equal the yield of the witness and be equal to the average yield of all new varieties under test. The tableau differentiates between bread quality wheat and feed quality wheat. Additional points may be garnered for insect and disease resistance. As an example, the quality parameter is "W" from the alveograph (a measure of strength)[6] and comparisons are made to "Capitole," which is a variety released in 1964 and reinstated in 1984. If a variety being tested has a W equal to 90 percent of Capitole, then the yield would have to be between 97 and 106 percent of that of Capitole, depending on other agronomic characteristics. These are fairly formal and rigid mechanisms and all breeders are aware of the tableau.

In the case of feed wheat and corn, the primary criteria is yield. Other agronomic considerations include rate of maturity, resistance to lodging, tolerance to cold at planting time, and susceptibility to insects and disease. As with wheat there is a numerical scale of points. Each variety is given a score between 0 and 5 for resistance to diseases and insects with zero being very susceptible. Although end-use quality is less important in registering corn than in registering wheat and the tests are less extensive, quality corn generates a maximum of 10 points on the registration score card.

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[6]The zeleny test was used previously and abandoned. However, the EC has since incorporated Z into the intervention mechanisms thereby making the Z score more important.

The points for quality are assigned by CTPS on the basis of type (white corn gets an automatic 5 points; waxy and opaque 10), protein and oil. The minimum oil content for garnering points is 10 percent, 4 to 8 points above traditional commercial varieties.

Breeders also have responsibilities in evaluating the acceptability of new varieties. They must submit a dossier covering morphology and physiological characteristics, based on trials at three locations. At the same time, the breeder furnishes seed to CTPS for distribution to independent testing locations in regions designated by the breeder. Yield and quality tests as well as the tests for distinction, homogeneity, and stability are conducted by the breeder as advance information and simultaneous information. Testing for entry into the register is conducted by ITCF and INRA in test plots distributed over the appropriate growing region for the variety. Varieties may be approved for one or more regions. Quality tests include all traditional tests of chemical properties plus actual baking tests conducted by ITCF. These tests provide a check on, as well as additional information to, the tests conducted by the breeder and reported in the dossier required in the original application for registration. CTPS evaluates a submitted variety for two years. Typically CTPS accepts 200 varieties the first year and narrows it down to 35 for the second year of evaluation. Generally, up to 10 new varieties are released each year.

Time required for testing, approval, and distribution of new varieties has been shortened by many breeders, who gamble on approval and multiply the seeds while the tests are underway. GNIS estimated seven years between identification of a new line and commercial distribution of the variety. A commercial breeder estimated a minimum of four to five years but with an additional four years of research preceeding the identification of the new line.

The Paris International Convention was adopted in 1961 to provide plant variety protection. Under this authority breeders are assured protection for varieties for up to 25 years. New varieties are generated by public and private researchers. There are currently about 120 private and cooperative companies producing new varieties of wheat, and nearly 70 percent of the new varieties of all seeds have originated in the private sector. Industry comments place this ratio above 95 percent for new wheat varieties. INRA has been the major public institution generating new varieties of wheat and maize. A private breeder stated INRA had produced only one successful variety of wheat in the last 10 years. They have been more successful in the development of maize varieties.

Plant breeders, farmers, millers, and government were nearly unanimous in their approval of the protection offered by the French system of variety control and in the success of the system in fostering yields and higher quality of wheat. The only criticism related to the lack of statistical tests in making comparisons and occasional lack of objectivity in making allowances for effects of unusual weather.

VI. Quality Control in France

The purpose of this section is to describe the details of grading, sampling, and inspection in France. Following a brief overview the first sub-section describes handling practices, and subsequent sub-sections describe sampling, grading, inspection, and weighting authority. The final section provides a brief description of quality control in flour exports.

A. Overview

There are four important features of the French marketing system which have an overriding impact on the organization (or implementation) of the system for grading and inspection, some of which were discussed in Section IV. First, there are no official standards which establish standardized numerical grades. There are EC standards which were described in Section III, but these are only used for intervention purposes. Private contracts for trading purposes have evolved and in a sense serve the purpose of providing standards for trading.[7] Second, the private contracts specify important factor limits and premiums and discounts for deviations (however, the penalties are substantial). In addition variety, or sometimes excluded varieties, are contract terms. There is a great deal of emphasis in the French marketing system on variety which has been incorporated into trading, thereby making variety identification critical. Third, there is not an official agency with the responsibility of sampling and inspection. Private surveying companies play this role. Fourth, throughout the marketing system there is great emphasis on commercial relationships and competitive pressures which assures the integrity of the system.

Private contracts specify each quality factor individually. These contracts may vary to some extent within the domestic milling industry, but are somewhat standardized for procurement and sometimes sales by exporters. The typical wheat export contract provides for the factor specifications listed below.

Test Weight	76 kilograms per hectoliter (59 lbs. per bushel)
Moisture	14.5 - 15 percent
Broken Kernels	4.0 percent
Sprouted Kernels	2.0 percent
Impurities	2.0 perent not more than 0.5 percent may be miscellaneous impurities

In addition most contracts may require chemical tests to determine milling or baking qualities. These may include electrophosis for variety verification, zeleny (Z) and the Hagberg falling number.

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[7] ONIC tried to implement official standards with numerical grades during the early 1980s but were abandoned due to non-use.

B. Grain Handling Practices

Grain handling practices at various points in the marketing system are described in Tables 6.1-6.3. Wheat is segregated typically by variety or categories of varieties. Cleaning is done at country elevators. Insects are seldom a problem. Grain is checked for insects throughout the marketing system; when insects are found the grain is immediately fumigated. Some elevators treat with a contact insecticide as the grain is placed into bins. Empty bins are treated before placing grain into them.

C. Sampling and Grading

Sampling and inspection practices at each point in the marketing system are described below. In addition, certification and the extent and use of government agencies in the inspection system are discussed. Throughout the system a number of factors are measured depending on the terms of the contract. The procedures and measurement of these factors are described in Table 6.4.

Samples are obtained by various methods, from hand dipping to mechanical diverter samples depending on location and who is obtaining the sample. Portion sizes for analysis are reduced to a workable size by different methods. Sample dividers such as the Boerner are seldom used. More often than not the samples are hand mixed and hand dipped from a container. The final portion analyzed is hand adjusted to obtain the exact portion size desired.

Producer deliveries of grain are sampled and inspected when it arrives at the first receiving elevator. Every load is inspected by elevator personnel. Samples are obtained in a variety of ways from a mechanical trier to a quart container which is used to obtain the grain as it flows from the truck to the dump pit. Each inbound truck or trailer is tested for test weight and moisture. Broken, impurities, and sprouted kernels are also examined, but this varied some depending on the elevator and the overall quality of the crop. Some elevators run a falling numbers test rather than pick for sprouted kernels. Producers must also declare the variety of wheat. Each load delivered must be accompanied by a document that declares the owner, weight, taxes, variety of wheat, and other identification and quality information.

Wheat is binned at the country elevator by varieties representing milling yield and baking characteristics. Some elevators will turn and sample the grain from each bin in order to run various end use tests that were too technical and too time consuming to conduct at the time of harvest. This practice is sometimes done in conjunction with the French millers who are searching for good quality milling wheat. Other elevators maintain composite samples of all the grain placed into each bin. The composite sample may be used for analysis. Either way the elevator operator has an good idea as to the physical and chemical qualities of the wheat in each bin.

Generally grain moving to mills is not sampled or inspected because the mills request specific wheat varieties that have undergone chemical tests and that meet the desired baking requirements. Grain moving to export channels is

either sampled and inspected at the shipping point or at the receiving elevator by a surveying company, depending on the terms of the contracts. Grain shipped between elevators must meet the quality specified in the export contract. Grain not meeting specified export contract may be rejected by the surveying company or receiving elevator.

The first step in the physical exporting process is to examine the vessel for condition. The vessel holds must be clean, dry, and free of live insect infestation. If a single insect is found the vessel is declared unfit to load grain. During loading, the grain is sampled continuously by private surveying company employees. Three export elevators that were visited had mechanical samplers. Two of the mechanical samplers were diverter type and the other was a point type sampler. Mechanical samplers were located in the elevator after final elevation, similar to the US. The sample is analyzed each hour between 500 and 2500 MT sublots. In addition to the mechanical sampler a surveyor is also stationed near the end of the loading point. A sample is obtained from the running stream by use of a quart size cup with a handle. This sample is taken immediately prior to the grain going into the vessel. It is checked for test weight, moisture, and odor, and visually examined for impurities, sprout and other factors which may affect the grain quality. This process alerts the surveyor if grain does not meet the quality specified in the contract 100 perent of the time and the grain flow to the vessel is immediately stopped. A zero insect tolerance is a matter of practice. If a single insect is found, the grain is treated in the ship's holds. The elevator selects the fumigant and the surveying company monitors fumigation. Samples at the mechanical sampler site are reduced to an appropriate size by use of a type of cargo divider. Portion sizes for analysis in the lab were reduced to a workable size by hand mixing and hand dipping. The final portion worked is hand adjusted to the exact portion size desired. Hand adjusting reduces the accuracy of analysis. The inspection process is relatively simple and is performed in a lab at the export elevator. The quality factors listed under "quality factors for wheat" in this report are analyzed for each sublot. The analytical results of each sublot are recorded on a loading log. These logs vary in design from elevator to elevator. (For an example, see Appendix E). A detailed explanation of the sampling and inspection system is provided in Table 6.5.

There is no government agency which exercised authority over quality or quantity of grain as it moves through market channels. The only government agency which may influence quantity or quality is the "Service des Instruments de Service" (weights and measures). They test all inspection and weighing equipment annually for accuracy. This includes grain industry and surveying company equipment and instruments.

Private surveying companies such as SGS, Thionville, etc., provide the closest thing to uniform inspection. They inspect all grain moving in export channels and at the request of the interested parties, provide inspection at interior locations in France. SGS handles by far the largest percentage of inspection, but other surveyors may be used depending on the terms of the contract. These private companies generally follow the procedures established by EEC Regulation No. 273175 dated 29 October 1975: (See Appendix No. F).

Inspection procedures vary considerably throughout the marketing system, which can be expected when there is no supervising body to insure uniformity. Surveyors have tremendous control of overall export shipments to include weighing, sampling, and inspecting the grain and running chemical analysis required in the contract. They have authority to stop loading when grain does not meet the quality specified by the contract. Controls to stop loading are located next to the sampling station in order to immediately stop operation if "off contract" grain is running. Exporters deliver as close to the contract quality limits as the surveying company permits. SGS issues and certificates, depending on terms of contract, and may accept responsibility for quality and quantity at destination (see Appendix G for an example percent on SGS Certificate).

D. Export Flour

Wheat variety is extremely important to the wheat millers in their effort to process good baking quality flour. Millers often go directly to the country elevator and test wheat. Electrophoresis is commonly used for testing varieties. Mills request a specific wheat quality in their contract. If the wheat does not meet the desired specifications when it arrives at the mill it is rejected back to the shipper. The normal contract specifies the following quality factors: test weight 76 kilograms per hectoliter, 4.0 percent broken kernels, 2.0 percent sprouted. There are very few problems with biological defects such as mold, sick wheat, etc. in French wheat, but sprouted kernels are a problem. The French millers use the NIR to test moisture, protein, starch, ash, etc.

Export flour in France moves much faster from mill to vessel than it does in the US. Flour is seldom placed in storage in France. It moves direct from the mill to the vessel and is almost always aboard the vessel within two weeks after milling.[8] The French seldom if ever have insect problems. The mill is fumigated one to three times per year for insect infestation. In France, sacked flour is transported from the mill to the port in open top box cars covered with tarpaulins. It is placed in slings and when it arrives at the port the contents of the entire car is slung from the rail car to the vessel.

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[8]In the US, flour is usually placed in storage at the port waiting for a vessel, often for up to 30 days or more.

TABLE 6.1 GRAIN HANDLING PRACTICES AT COUNTRY ELEVATORS

Activity	
Receival/Binning	Wheat is cleaned and placed in bins by variety according to milling and baking characterstics.
Drying	Wheat is seldom dried even though it is often harvested at 16.0% mo. Corn is harvested at 25-35% mo. Corn is either dried or stored in cribs on the farm.
Cleaning	Effective weed control results in a low leve of misc. impurities (FM & Dockage). Most elevators clean grain before placing in bins for storage. All country elevators have cleaners.
Insect Treatment	All bins are treated before storing grain. Many elevators treat with a contact insecticide as grain is placed into bins.
Storage	Generally stored in silo type bins but not for the purpose of blending at time of loading. Grain is often turned and sampled for end-use quality tests.
Disposal of Screenings	Generally sold to feed manufacturers. It never added back to grain once removed.

TABLE 6.2 GRAIN HANDLING PRACTICES FOR INTER-ELEVATOR MOVEMENTS (INCLUDING INBOUND TO EXPORT)

Activity	
Receival/Binning	Most grain has already been cleaned, but they do bin by end use quality factors.
Drying	Most corn is dried as it comes off the farm, therefore there is little need to be concerned with drying on inter elevator shipments.
Cleaning	Since most grain is cleaned when it comes off the farm there is little concern with cleaning. Some cleaning is done at time of shipment depending on the specifi-cations of the contract. There is a desire to ship clean grain so as to please the customer.
Screenings Disposal	Generally sold to feed manufacturers.
Blending	Some blending on wheat moving to export channel is done. There does not seem to be the desire or necessity to blend wide margins of different quality. Seldom are more than 2 bins blended together. No blending done on grain delivered to French millers.

TABLE 6.3. GRAIN HANDLING PRACTICES AT EXPORT

Activity	
Receival/Binning	Received & placed in bins according to end use qualities. Grain not meeting export contract specification is rejected by the export elev.
Drying	Very few export elevators have driers; grain is conditioned prior to arriving at export elevator.
Cleaning	Most export elevators do not have cleaners. Grain is expected to be clean when it arrives at export elevator or it is rejected.
Screening	Since most elevators do not have cleaners grain is expected to be clean when it arrives at export elevator or it is rejected.
Insect Infestation	If one live insect is found loading is stopped and a decision is made as to whether the vessel will require fumigation.

TABLE 6.4. FRENCH GRADING PROCEDURES

Factor	Measure	Procedure
1. Test weight	Kg/hl	Kilograms per hectoliter determined (in most cases) by use of Dickey John Grain Analyser (GACII)
2. Moisture	1/10%	Determined (in most cases) by use of the Dickey John Grain Analyzer (GACII)
3. Extraneous Matter	1/10%	Sieve 100 grams (in some cases 2 separate 50 gram portions) over a 1 mm sieve. All material passing through is extraneous matter. This becomes a component of the factor impurities. (see impurities below)
4. Broken Kernels	1/10%	From the above sieved sample portion remove all broken kernels. This includes all kernels of which the endosperm is partially uncovered and from which the germ has been removed.
5. Sprouted Kernels	1/10%	From the above sieved sample remove all sprouted kernels (the line on sprout is similar to U.S.)
6. Misc. Impurities	1/10%	Includes material that passes through the lum sieve plus weed seeds, husks, chaff, straw, sand stones, etc. (FM and dockage combined in US standards) and damaged kernels such as mold, heat damaged, smutty, etc.
7. Grain Impurities	1/10%	Includes shriveled kernels, of the above 100 gram sample that passes through a 2mm (5/64) X 20 mm sieve, plus kernels that are frost damaged, green damaged, insect damaged, sick damaged, other grains and all material included from miscellaneous impurities above.

TABLE 6.5. EXPORT SAMPLING AND INSPECTION SYSTEMS

Activity	
Responsibility	As required by the contract a surveying company is hired to inspect export grain. ONIC may be request ed by some state traders, but percentage of ONIC inspections is very low
Vessel Examination	If a single live insect in jurious to stored grain is found vessel is declared unfit to load
Export quality	Any quality of grain may be exported that is agreed to by the contract. Most wheat contracts require 75 KHL, 14.5-15% mo. 4.0% broken, 2.0% sprouted, 2.0% impurities with not more than 0.5% misc. impurities. Grain flow to the vessel is stopped whenever grain does not meet quality specified in contract
Sampling	Mechanical sample for sublot analysis. Also samples taken from belt immediately prior to loading to insure it meets quality 100 percent of the time
Insect Exam	Random examination continuously during loading by surveyors attending belt. If a single insect is found, the entire ship hold must be fumigated
Samples Analyzed	Sublot samples of between 500 to 2500 tons are analyzed. (Generally each hour) results are recorded on log
Final Grade Basis	Weighted average of all sublots analyzed and final grade determined from these results
Quality Control	Sublot samples are analyzed by surveying company. Also surveying company has employee stationed on loading belt to immediately stop loading if grain does not meet quality specified in contract. No tolerance allowed

VII. Summary, Conclusion, and Comparisons

The EC has always been both an importer and exporter of wheat, importing primarily for blending and improving the strength of the indigenous wheat. However, in the past 10 years, exports have increased and imports have declined. The EC has become the principal exporting region which has gained market share. In recent years the EC has become particularly competitive in traditional US markets, most notable being the USSR, Algeria, and Egypt. France is by far the largest wheat producing country in the EC with about 35-40 percent of the production in recent years. The purpose of this study was to analyze the policies, institutions, and trading practices that have an influence on quality of grain which is exported. In the first sub-section below, a summary and discussion of principal findings is presented, and in the following sub-section, comparisons are made to the US on particular areas of interest.

A. Summary of Principal Findings

This report provides a detailed description of the French grain marketing system, and the impacts of policies, institutions, and trading practices on grain quality. Following is a brief discussion of principal findings related to quality:

1. Wheat Market Fundamentals
   a) Domestic utilization of wheat comprises about 75 percent of total use, which is very large compared to other exporters. The principal use of wheat domestically is for bread products, but there has been an increase in the proportion used for feed in recent years.

   b) Only a relatively small proportion of the wheat production is stored between crop years (compared to the US and other exporters), thereby minimizing problems associated with inter-year storage.

   c) Wheat flour comprises about 22 percent of the wheat exports in recent years, and the EC is the largest exporter of wheat flour in the world.

2. Productivity Growth and Wheat Quality

   a) The wheat produced in France is largely a winter planted soft wheat. The quality is generally a lower protein, medium strength wheat and the end-use performance is likely somewhere between US soft and hard winter

   b) Yield growth in the EC and France has exceeded that of other exporters. The average growth rate has been 1.3 percent per year compared to .73 percent per year for the US and lesser values for other exporting countries.

c) There generally have not been significant trends in wheat quality in the past 10 years. However, the quality of the 1985 and 1986 wheat crops exceeded the long-term average. This indicates that the yield growth has occured without sacrifices in crop quality.

3. Policy

a) The principal overriding policy in the EC is the Common Agricultural Policy (CAP) which includes the Intervention Price (IP) as the key policy instrument affecting producer prices and quality differentials.

b) There are no official grain standards in the EC or in individual countries, and it is the criteria for intervention which largely is adopted as minimum standards in the marketing system.

c) The intervention price includes premiums and discounts for quality factors and differences in end-use performance criteria--differences between feed, bread, and quality wheat.

d) There have been several actions in recent years to reduce the effectiveness of the IP. One has been to tighten the quality requirements to be eligible for the nonfeed intervention prices. In addition the IP for feed wheat was equated to that of other feed grains. Despite these efforts, it does not appear that the quality has improved.

4. Variety Development and Release

a) The release of varieties is subject to approval by the government. Formally, a committee exists which makes recommendations to the French Minister of Agriculture, who in turn licenses a variety.

b) Criteria for release include both agronomic and quality, and includes a trade-off between a measure of end-use performance (the alveograph score in the case of wheat) and yield.

5. Wheat Marketing Industry

a) An important characteristic of the French marketing system is that there is very limited on-farm storage. A very large proportion of grain is delivered to the marketing system at harvest.

b) The country elevator sector is largely locally owned cooperatives, and exporters are dominated by private multinationals, though one national coop has an important share for intra-EC sales. Sales to domestic mills are normally direct from the country elevator.

6. Conditioning of Grain

a) As a general rule, conditioning of grain (drying, cleaning, and treatment for insects) is done at the point of first sale.

b) Drying of wheat is relatively infrequent, but is routine for corn.

c) Wheat was generally clean at the farm level due to good weed control and proper combine adjustment. However, all of the elevators were equipped with cleaners and it was a common practice to clean as the grain was received, as well as when loading out. Incentives to do so include contract requirements, resale of screenings, and as a preventative measure to reduce storage problems.

d) Wheat was segregated by categories of varieties, and the only blending which did occur was within categories. Variety is used as a proxy for end-use performance. Blending to factor limits was in general not a practice due in part to limited quality varieties.

7. Grading and Inspection

a) There are no official standards in France or numerical grades. The only official quality criteria is the requirements for the intervention mechanism.

b) Private contracts predominate for trading and specifications vary across end-users. Typical factor limits for an export contract include: test weight 76 kg/hl; moisture 1.45-15%; broken kernels 4%; sprouted kernels 2%, and impurities 2%. In addition, in most domestic transactions, and some export, several end-use performance criteria (e.g., alveograph, zeleny, etc.) are contract terms.

c) Variety also plays a very important role in some transactions and for segregation. Variety is used because the end-use performance of each variety is known, and direct measures of end-use performance are not easily measured. In practice, transactions specify a particular variety, cateogies of varieties, or excluded varieties.

d) No official agency has the responsibility for inspection. These functions are performed competitively by private firms, the designation of which may be a term of an export contract. A number of functions are performed by these firms, but of particular importance is that they have the potential to the wheat quality inbound and outbound.

8. Contracts and Trading

a) The dominant instrument used for trading is the "Paris Contract." This is a standardized contract used for hedging and trading, and includes provisions for arbitration. Embedded in the contract are premiums and discounts for deviations from specified factor limits, including varieties. These are expressed as a percent of the underlying price and are generally adopted throughout the system.

b) As a general rule this Paris Contract is not used by domestic millers for procurement, though they may use it for hedging. Instead they use highly specific contract terms for quality, including variety (or categories of varieties) and other end-use performance measures. In the extreme case it would not be uncommon for a miller to take samples from bins at particular country elevators, and after extensive quality evaluation, purchase specific bins from specific elevators. It is not uncommon for export contracts to include measures of end-use performance.

B. Comparisons to the U.S.

Selected comparisons are made below between the marketing system in France and the US. Presentation is organized by policies, institutions, and trading practices:

1. Policies

   a. Price

      France. The key policy affecting prices is the intervention price, which includes premiums and discounts for factors, and premiums for wheat with superior end-use performance. The price for the lowest quality wheat is equated to that of feed grains. Efforts have been made to tighten quality requirements in recent years.

      US. The principal price policy is the loan rate, which has premium and discounts. However, these are largely for grade factors, rather than necessarily end-use performance, with the exception of protein. Generally these premiums and discounts have not been responsive to market conditions (Wilson, Gallagher, and Anderson).

   b. Farm Storage

      France. Farm policy through the CAP has not encouraged development of extensive on-farm storage. Similarly, as a result of CAP there is relatively limited inter-year storage.

      US. The US farm policy in the past decade has in general encouraged extensive on-farm storage, as well as inter-year storage.

2. Institutions and Regulations

   a. Variety Development and Release

      France. Mechanisms exist which regulate the release of varieties, generally based on both agronomic and quality criteria.

      US. There are no regulations, state or federal, which affect release of new varieties. Release of varieties is influenced to some extent by land grant colleges. However, it is largely the market which determines the adoption of varieties.

   b) Grade Standards

      France. No official standards exist.

      US. Official standards are those of the Federal Grain Inspection Service (FGIS).

c) Inspection Agency

France. There is not an official agency in charge of inspection. Private firms perform this function.

US. All grain which is exported is inspected and graded by FGIS.

3. Trading and Commercial Practices

a) Contracts

France. Contract terms with respect to quality are determined by negotiations, largely reflecting buyers' needs. These quite often include direct or indirect measures of end-use performance.

US. In domestic transactions grade factors are contract terms. Class, protein level (in the case of hard wheats) and location are used as proxy for end-use performance.

b) Premiums and Discounts

France. The market determines the level of premiums and discounts but are generally those of the "Paris Contract."

US. the market determines the level of premiums and discounts.

c) Conditioning (cleaning, drying, blending)

France. Market pressures and contract terms provide incentives to condition grains. Most conditioning is done at the country elevator at the time of receipt. Most wheat is cleaned prior to shipment to the millers and exporters.

US. Market pressures and contract terms dictate the extent of conditioning. However, with exception of the upper midwest Hard Red Spring and Durum, wheat is not routinely cleaned.

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APPENDIX A

STATISTICAL TABLES

Table 2.1. Share of Wheat Production in the EC12 Countries, 1960-1986.

Country	1960-63	1970-73	1980-83	1984	1985	1986
Federal Republic of Germany	4.4	14.6	13.7	12.4	13.8	13.8
France	32.3	35.7	39.0	40.0	40.5	36.4
Italy	22.7	19.6	14.3	12.1	11.9	12.9
Neterlands	1.5	1.5	1.5	1.4	1.2	1.2
Belgium/Luxemburg	2.3	2.1	1.6	1.6	1.7	1.8
U.K.	9.0	10.2	15.5	18.1	16.8	19.7
Eire	1.1	0.6	0.5	0.7	0.9	0.7
Denmark	1.4	1.3	1.7	3.0	2.8	3.2
Greece	4.1	3.9	4.3	2.8	2.5	3.4
Spain	11.4	9.4	7.3	7.3	7.4	6.3
Portugal	1.5	1.4	0.6	0.6	0.5	0.5
Total Wheat Production (MMT)	36.5	48.0	62.1	82.5	71.5	70.3

Source: Toepfer International, 1986/87

Table 2.2. Area and Prodution of Wheat for France as a Percent of EC10, 1962 - 1985.

Year	Area	Production
	Percent	
1962	38.1	40.5
1963	35.0	36.0
1964	37.4	41.0
1965	38.1	41.6
1966	36.0	36.9
1967	36.3	39.7
1968	36.0	40.8
1969	36.2	40.5
1970	34.2	37.1
1971	35.8	38.6
1972	32.9	41.7
1973	33.8	41.3
1974	34.1	40.3
1975	34.1	37.5
1976	35.3	38.9
1977	37.4	43.2
1978	34.7	43.7
1979	34.0	40.0
1980	36.3	43.0
1981	37.4	41.9
1982	37.2	42.3
1983	36.6	41.7
1984	37.6	43.4
1985	37.1	44.0
1986	36.6	.
1987	.	.

Source: World Wheat Statistics, various years, London.

TABLE 2.3 FRENCH REGIONS OF WHEAT PRODUCTION, 1986 AND 1987

Region	Production		Percent of French Wheat Production		Rank
	1986 (MMT)	1987	1986	1987	
Bordeaux	3.6	.43	1	1	15
Clermont-Ferrand	5.3	.73	2	2	14
Dijon	1.72	2.37	7	8	5
Lille	1.81	1.91	7	7	6
Amiens	3.34	3.45	13	12	2
Lyen	.55	.92	2	3	13
Marseille	.81	.10	3	--	--
Chalomo-Sur-Marne	2.65	2.72	10	9	3
Nancy	1.15	1.22	5	4	11
Rennes	1.06	1.21	4	4	12
Nantes	1.42	1.60	6	5	9
Orelans	4.06	5.04	16	17	1
Paris	1.61	1.86	6	6	7/8
Poitiers	1.51	1.62	6	6	7/8
Rouen	2.41	2.65	9	9	4
Toubuse	1.18	1.35	5	5	10
Montpellier	.05	.05	--	--	
TOTAL	25.50	29.30			

SOURCE: ONIC, Marche Des Cereales, July 1987.

Table 2.4. EC Wheat Supplies and Dissappearance for Crop Years 1961/62 - 1985/86 (MMT)*

	Supply				Disappearance			
Year	Beginning Stocks	Production	Imports	Total	Domestic	Exports	Total	End-of-Year Carryover
1961/62	6.5	23.1	6.6	36.2	26.7	3.2	29.9	6.3
1962/63	6.5	29.5	3.7	39.7	26.4	4.0	30.4	8.2
1963/64	8.2	24.6	4.1	36.9	26.9	3.8	30.7	6.1
1964/65	6.1	29.3	3.5	39.0	27.7	5.7	33.4	5.6
1965/66	5.6	30.5	4.2	40.3	27.7	5.8	33.6	6.8
1966/67	6.8	26.5	4.3	37.6	27.6	4.5	32.1	5.4
1967/68	5.4	31.3	3.6	40.4	28.0	4.8	32.8	7.6
1968/69	7.7	36.8	8.5	52.9	38.1	5.8	43.9	9.0
1969/70	9.0	35.7	8.4	53.2	40.4	7.3	47.7	5.5
1970/71	5.5	34.8	10.0	50.3	40.6	3.6	44.2	6.0
1971/72	6.0	40.1	6.8	52.9	40.1	5.3	45.4	7.4
1972/73	7.4	41.4	6.8	55.6	43.9	6.8	50.7	4.9
1973/74	4.9	41.3	5.5	51.7	40.4	5.4	45.8	5.9
1974/75	7.4	44.9	5.8	58.2	39.9	7.9	47.8	10.4
1975/76	10.4	37.7	7.1	55.2	37.5	9.5	47.0	8.3
1976/77	8.3	38.8	3.9	51.0	37.7	4.8	42.6	8.4
1977/78	8.4	38.1	5.5	52.0	39.2	5.6	44.8	7.2
1978/79	7.2	47.3	5.1	59.6	40.7	9.0	49.7	9.9
1979/80	9.9	46.3	4.8	61.0	41.8	10.9	52.7	8.2
1980/81	8.2	52.0	4.5	64.8	42.3	14.3	56.6	8.2
1981/82	9.2	54.2	5.0	68.5	45.4	15.8	61.2	7.3
1982/83	7.3	59.8	3.6	70.7	44.7	15.2	59.9	10.8
1983/84	10.8	59.1	3.1	73.0	48.1	16.4	64.4	8.6
1984/85	8.6	76.4	2.6	87.6	52.8	18.9	71.7	15.9
1985/86	15.9	65.9	2.6	84.4	53.9	15.9	69.8	14.6

*Six original member states to 1967/68, nine member states to 1980/81, thereafter ten member states.

Source: World Wheat Statistics, various years, London.

Table 2.5. Domestic Disappearance as a Percent of Total Disappearance

Year	EC10	US	Canada	Australia	Argentina
1961/62	89.4	45.8	28.4	29.8	56.3
1962/63	86.9	47.5	29.4	24.3	65.9
1963/64	87.6	40.7	20.9	23.4	51.8
1964/65	83.0	47.0	26.9	26.8	36.8
1965/66	82.6	45.7	21.2	34.7	40.1
1966/67	86.1	47.5	23.7	22.2	59.1
1967/68	85.3	45.4	31.7	32.1	65.5
1968/69	86.7	57.5	35.0	25.2	65.0
1969/70	84.7	56.0	32.6	22.7	64.6
1970/71	91.9	51.0	28.2	22.7	81.5
1971/72	88.4	57.5	25.9	26.5	75.2
1972/73	86.6	39.9	23.3	45.3	63.9
1973/74	88.3	39.5	28.7	29.9	72.1
1974/75	83.6	39.5	29.8	26.2	72.7
1975/76	79.8	38.1	28.0	25.0	64.5
1976/77	88.7	44.1	26.4	20.8	40.7
1977/78	87.5	43.3	23.8	24.5	73.4
1978/79	81.9	41.2	28.7	17.8	48.1
1979/80	79.3	36.3	25.7	20.3	45.7
1980/81	74.8	34.1	24.2	26.5	55.7
1981/82	74.2	32.4	22.0	18.1	56.3
1982/83	74.7	37.6	19.3	36.6	33.8
1983/84	74.6	43.7	20.3	15.4	38.4
1984/85	73.6	44.7	23.5	15.0	34.6
1985/86	77.3	54.4	24.4	16.0	50.0

Source: World Wheat Statistics, various years, London.

TABLE 2.6. SOURCES OF EC DOMESTIC DEMAND, 1975/77-85 (MMT)

Year	Total Domestic Use	Animal Feed		Human Comsumption	
1976/77[1]	39.9	9.8	(25)[2]	27.6	(69)
1977/78	40.3	10.9	(27)	26.8	(67)
1978/79	42.7	11.9	(28)	27.8	(65)
1979/80	43.6	12.3	(28)	28.0	(64)
1980/81	44.1	13.1	(30)	27.7	(63)
1981/82	44.5	13.6	(31)	27.5	(62)
1982/83	44.7	14.9	(33)	26.2	(58)
1983/84	42.1	13.7	(33)	25.4	(60)
1984/85	43.6	14.3	(33)	26.1	(60)
1985/86	43.7	14.2	(32)	26.1	(60)

[1]EC-10.
[2]Percent shown in parentheses.

SOURCE: Eurostat.

Table 2.7. End-of-Year Carryover as a Percent of Production

Year	EC10	US	Canada	Australia	Argentina
1961/62	27.5	107.3	138.0	7.4	4.2
1962/63	27.7	109.5	86.2	7.5	8.8
1963/64	25.0	78.6	63.5	6.2	24.8
1964/65	19.1	63.7	85.4	6.6	29.7
1965/66	22.2	40.7	64.7	6.4	2.9
1966/67	20.5	32.5	69.1	17.3	10.0
1967/68	24.3	35.7	113.4	18.6	20.1
1968/69	24.6	52.5	131.1	49.0	9.3
1969/70	15.3	61.3	150.3	68.4	15.6
1970/71	17.3	54.1	221.4	43.1	29.5
1971/72	18.6	53.3	110.2	16.9	11.6
1972/73	11.8	28.3	68.5	7.3	3.8
1973/74	14.3	14.5	62.4	15.7	22.8
1974/75	23.2	18.2	60.4	14.6	19.7
1975/76	21.9	31.3	46.7	22.2	12.1
1976/77	21.7	51.9	56.5	18.1	20.2
1977/78	18.9	57.6	61.0	8.3	23.0
1978/79	20.8	52.0	70.5	25.7	19.9
1979/80	17.7	42.3	62.3	26.4	12.6
1980/81	15.8	41.5	44.4	18.8	11.6
1981/82	13.5	41.6	39.2	30.2	6.0
1982/83	18.1	54.8	37.3	25.9	4.6
1983/84	14.5	57.8	34.7	34.3	8.5
1984/85	20.8	54.9	35.2	47.0	3.4
1985/86	22.2	77.1	31.6	44.0	4.3

Source: World Wheat Statistics, various years, London.

Table 2.8. Area Planted by Major Exportors (in Million Hectares)

Year	EC10	France	Canada	US	Argentina	Australia
1962	12.0	4.6	10.9	17.6	3.4	6.7
1963	11.0	3.8	11.2	18.3	5.7	6.7
1964	11.7	4.4	12.0	20.1	6.1	7.3
1965	11.9	4.5	11.5	20.1	4.6	7.1
1966	11.1	4.0	12.0	20.2	5.2	8.4
1967	10.8	3.9	12.2	23.7	5.8	9.1
1968	11.4	4.1	11.9	22.4	5.8	10.8
1969	11.1	4.0	10.1	19.1	5.2	9.5
1970	10.9	3.7	5.1	17.6	3.7	6.5
1971	11.1	4.0	7.9	19.3	4.3	7.1
1972	12.0	3.9	8.6	19.1	5.0	7.6
1973	11.7	4.0	9.4	21.9	3.9	8.9
1974	12.2	4.1	8.9	26.5	4.2	8.3
1975	11.4	3.9	9.5	28.1	5.3	8.6
1976	12.1	4.3	11.3	28.7	6.4	9.0
1977	11.0	4.1	10.1	27.0	3.9	10.0
1978	12.0	4.2	10.6	22.9	4.7	10.2
1979	12.0	4.1	10.5	25.3	4.8	11.2
1980	12.6	4.6	11.1	28.8	5.0	11.3
1981	12.7	4.7	12.4	32.6	5.9	11.9
1982	13.0	4.8	12.6	31.5	7.3	11.5
1983	13.2	4.8	13.7	24.8	7.1	12.9
1984	13.6	5.1	13.2	27.1	5.9	12.0
1985	13.0	4.8	13.7	26.2	5.3	11.7
1986	12.7	4.7	14.2	24.6	5.1	11.3
1987	.	.	13.5	22.4	5.0	10.0

Source: World Wheat Statistics, various years, London.
Data for 1986 and 1987 from FAS and Toepfer.

Table 2.9. Area Planted by EC and US Total and Selected Classes (in Million Hectares)

Year	EC10	US		
		Total	HRW	SRW
1978	12.0	22.9	14.8	2.5
1979	12.0	25.3	15.5	3.4
1980	12.6	28.8	16.5	4.7
1981	12.7	32.6	17.6	6.8
1982	13.0	31.5	17.5	7.0
1983	13.2	24.8	16.7	6.3
1984	13.6	27.1	17.6	5.9
1985	13.0	26.2	17.2	4.3
1986	12.7	24.6	15.9	4.1

Source: World Wheat Statistics, various years, London.
Wheat Situation and Outlook Report, ERS, WS-278, May 1987

TABLE 2.10 YIELDS AND PRODUCTION OF WHEAT BY TYPE IN FRANCE, 1978 - 87

	Yield (T/Ha)			Production (MMT)		
Year	Winter Soft Wheat	Spring Soft Wheat	Durum	Durum Soft Wheat	Spring Soft Wheat	Durum
1978	5.10	3.68	3.25	20.4	.25	.31
1979	4.85	4.37	3.42	17.9	1.26	.34
1980	5.23	4.08	3.69	22.9	.32	.43
1981	4.85	4.08	3.33	22.0	.28	.41
1982	5.30	4.27	3.22	24.6	.33	.37
1983	5.20	3.88	3.54	24.2	.21	.40
1984	6.53	5.06	4.42	32.2	.22	.58
1985	6.08	5.14	4.43	27.7	.32	.73
1986	5.56	3.98	3.87	25.3	.17	1.022
1987	6.23	--	4.65	28.6	--	1.42

SOURCE: Eurostat.

Table 2.11. Yield by Major Exporters (MT/ha)

Year	EC10	France	Canada	US	Argentina	Australia
1962	2.9	3.1	1.4	1.7	1.7	1.3
1963	2.6	2.7	1.8	1.7	1.6	1.3
1964	2.9	3.1	1.4	1.7	1.8	1.4
1965	3.0	3.3	1.5	1.8	1.3	1.0
1966	2.8	2.8	1.9	1.8	1.2	1.5
1967	3.3	3.6	1.3	1.7	1.3	0.8
1968	3.2	3.7	1.5	1.9	1.0	1.4
1969	3.2	3.6	1.8	2.1	1.3	1.1
1970	3.2	3.4	1.8	2.1	1.3	1.2
1971	3.6	3.9	1.8	2.3	1.3	1.2
1972	3.6	4.6	1.7	2.2	1.6	0.9
1973	3.7	4.5	1.7	2.1	1.7	1.3
1974	3.9	4.6	1.5	1.8	1.4	1.4
1975	3.5	3.9	1.8	2.1	1.6	1.4
1976	3.4	3.8	2.1	2.0	1.7	1.3
1977	3.7	4.2	2.0	2.1	1.4	0.9
1978	4.2	5.0	2.0	2.1	1.7	1.8
1979	4.1	4.8	1.6	2.3	1.7	1.4
1980	4.4	5.2	1.7	2.3	1.5	1.0
1981	4.3	4.8	2.0	2.3	1.4	1.4
1982	4.6	5.2	2.1	2.4	2.0	0.8
1983	4.5	5.1	1.9	2.6	1.8	1.7
1984	5.6	6.4	1.6	2.6	2.3	1.5
1985	5.0	6.0	1.7	2.5	1.6	1.4
1986	5.5	5.5	2.2	2.3	1.8	1.5
1987	.	.	1.8	2.6	1.9	1.4

Source: World Wheat Statistics, various years, London.
1986 and 1987 from FAS (FG-9-97).

Table 2.12. Yield by EC and US Total and Classes (MT/ha)

		US		
Year	EC10	Total	HRW	SRW
1978	4.2	2.1	2.0	2.3
1979	4.1	2.3	2.3	2.7
1980	4.4	2.3	2.2	2.8
1981	4.3	2.3	2.0	3.0
1982	4.6	2.4	2.3	2.5
1983	4.5	2.6	2.7	2.6
1984	5.6	2.6	2.5	2.8
1985	5.0	2.5	2.4	2.7
1986	5.5	2.3	2.2	2.5

Source: World Wheat Statistics, various years, London.
Wheat Situation and Outlook Report, ERS, WS-278, May 1987

TABLE 2.13 GROWTH RATES IN YIELDS FOR MAJOR EXPORTERS

	γ	β	R^2	Growth Rate %/Year
EC-10	1.42 (120.33)	0.0114* (13.84)	.90	1.14
France	1.45 (88.46)	0.0133 (11.60)	.86	1.32
Canada	1.18* (56.24)	0.0043 (2.90)	.28	0.42
US	1.22* (109.28)	0.0075* (9.54)	.81	0.75
Argentina	1.11* (37.05)	0.0055* (2.60)	.23	0.55
Australia	1.07* (25.97)	0.0019 (0.65)	.02	0.19
World	1.07* (131.56)	0.01146* (20.15)	.95	1.14

NOTE: Figures in ( ) are t-ratios and * indicates significantly different from zero at the 10 percent level.

Table 2.14. Total Wheat Exports by Major Exportors (MMT)

Year	EC*	US	Canada	Australia	Argentina	Total
1963/64	3.8	23.1	15.1	7.8	2.8	55.8
1964/65	5.4	19.6	11.9	6.5	4.4	50.5
1965/66	5.5	23.4	14.8	5.7	7.9	62.0
1966/67	4.2	20.0	14.8	7.0	3.1	55.8
1967/68	4.4	20.2	8.9	7.0	1.4	51.2
1968/69	5.0	14.7	8.7	5.4	2.8	45.7
1969/70	7.2	16.5	9.0	7.3	2.1	50.7
1970/71	3.1	19.8	11.6	9.5	1.7	54.3
1971/72	4.7	16.9	13.7	8.7	1.3	52.5
1972/73	6.5	32.0	15.6	5.6	3.5	68.3
1973/74	5.5	31.1	11.7	5.5	1.1	63.1
1974/75	7.1	28.3	11.2	8.0	2.2	63.4
1975/76	7.7	31.5	12.1	8.1	3.1	66.5
1976/77	3.9	26.4	12.9	8.4	5.6	61.8
1977/78	4.5	31.5	15.9	11.1	2.7	72.4
1978/79	7.4	32.4	13.5	7.2	3.3	71.7
1979/80	10.3	36.6	15.0	15.4	4.7	86.0
1980/81	12.7	42.1	17.0	11.1	3.9	94.0
1981/82	14.0	49.3	17.8	11.4	4.3	100.7
1982/83	14.1	39.3	21.1	8.5	7.5	96.1
1983/84	14.9	38.3	21.2	11.6	9.6	100.3
1984/85	17.2	38.2	19.1	15.1	8.0	104.1
1985/86	15.0	25.1	17.6	16.1	6.3	87.0
1986/87	15.0	27.3	20.8	14.9	4.3	90.1
1987/88**	16.0	33.3	21.0	13.0	5.0	95.8

*Six original member states to 1967/68, nine member states to 1980/81, ten member states to December 1985, thereafter 12 members.

**Preliminary

Source: World Wheat Statistics, various years, London;
1986/87 From FAS(FG-9-87)

Table 2.15. Total Wheat Exports by EC, Total US and Classes (MT)

Year	EC*	US		
		Total	HRW	SRW
1963/64	3.8	23.1	13.6	2.2
1964/65	5.4	19.6	16.2	1.2
1965/66	5.5	23.4	10.2	1.8
1966/67	4.2	20.0	10.3	1.9
1967/68	4.4	20.2	10.2	3.2
1968/69	5.0	14.7	7.4	1.4
1969/70	7.2	16.5	9.2	0.8
1970/71	3.1	19.8	12.3	0.7
1971/72	4.7	16.9	9.2	1.2
1972/73	6.5	32.0	19.1	1.8
1973/74	5.5	31.1	19.9	0.7
1974/75	7.1	28.3	14.1	3.9
1975/76	7.7	31.5	15.8	4.5
1976/77	3.9	26.4	11.4	4.9
1977/78	4.5	31.5	14.6	5.4
1978/79	7.4	32.4	16.6	2.6
1979/80	10.3	36.6	19.7	4.2
1980/81	12.7	42.1	19.1	8.1
1981/82	14.0	49.3	20.5	12.5
1982/83	14.1	39.3	18.5	8.8
1983/84	14.9	38.3	19.2	6.0
1984/85	17.2	38.2	19.5	6.9
1985/86	15.0	25.1	11.2	4.2
1986/87	15.0	27.3	11.8	3.1
1987/88	16.0	33.3	17.0	4.4

*Six original member states to 1967/68, nine member states to 1980/81, ten member states to December 1985, thereafter 12 members.

Source: World Wheat Statistics, various years, London, IWC and Grain Market News and Wheat Situtation.

Table 2.16. Market Shares of Total Wheat Exports by Major Exportors

Year	EC*	US	Canada	Australia	Argentina
1963/64	6.8	41.4	27.1	14.0	5.0
1964/65	10.7	38.8	23.6	12.9	8.7
1965/66	8.9	37.7	23.9	9.2	12.7
1966/67	7.5	35.8	26.5	12.5	5.6
1967/68	8.6	39.5	17.4	13.7	2.7
1968/69	10.9	32.2	19.0	11.8	6.1
1969/70	14.2	32.5	17.8	14.4	4.1
1970/71	5.7	36.5	21.4	17.5	3.1
1971/72	9.0	32.2	26.1	16.6	2.5
1972/73	9.5	46.9	22.8	8.2	5.1
1973/74	8.7	49.3	18.5	8.7	1.7
1974/75	11.2	44.6	17.7	12.6	3.5
1975/76	11.6	47.4	18.2	12.2	4.7
1976/77	6.3	42.7	20.9	13.6	9.1
1977/78	6.2	43.5	22.0	15.3	3.7
1978/79	10.3	45.2	18.8	10.0	4.6
1979/80	12.0	42.6	17.4	17.9	5.5
1980/81	13.5	44.8	18.1	11.8	4.1
1981/82	13.9	49.0	17.7	11.3	4.3
1982/83	14.7	40.9	22.0	8.8	7.8
1983/84	14.9	38.2	21.1	11.6	9.6
1984/85	16.5	36.7	18.3	14.5	7.7
1985/86	17.2	28.9	20.2	18.5	7.2
1986/87	16.6	30.3	23.1	16.5	4.8
1987/88**	16.7	34.8	21.9	13.6	5.2

*Six original member states to 1967/68, nine member states to 1980/81, ten member states to December 1985, thereafter 12 members.

**Preliminary

Source: World Wheat Statistics, various years, London.
1986/87 From FAS(FG-9-87)

Table 2.17. Exports as Percent of Production for Major Exportors

Year	EC10	US	Canada	Australia	Argentina
1961/62	13.7	58.4	126.3	72.0	47.7
1962/63	13.5	58.8	58.6	74.5	32.6
1963/64	15.4	74.7	82.2	77.3	39.0
1964/65	19.4	56.5	66.6	72.4	56.9
1965/66	19.1	65.9	90.1	67.3	91.1
1966/67	16.9	57.0	62.3	67.1	35.2
1967/68	15.3	50.5	56.7	75.0	30.7
1968/69	15.8	35.0	47.1	45.2	43.1
1969/70	20.5	42.0	51.6	77.7	32.6
1970/71	10.3	54.6	131.3	114.7	17.2
1971/72	13.2	39.1	95.1	90.2	28.5
1972/73	16.4	76.6	108.1	62.8	39.2
1973/74	13.0	67.4	70.6	61.9	22.8
1974/75	17.5	57.9	81.0	75.3	28.7
1975/76	25.2	55.3	72.2	68.7	36.1
1976/77	12.4	44.4	57.0	82.7	53.0
1977/78	14.7	54.9	80.8	86.4	31.6
1978/79	19.0	67.2	61.9	64.6	49.3
1979/80	23.6	64.4	92.4	81.5	58.3
1980/81	27.4	63.6	84.3	88.6	45.0
1981/82	29.1	63.6	74.4	67.4	45.8
1982/83	25.4	54.6	79.9	82.5	65.3
1983/84	27.7	59.0	82.1	64.3	59.7
1984/85	24.7	54.9	82.7	80.2	68.4
1985/86	24.1	37.5	75.3	90.6	50.6

Source: World Wheat Statistics, various years, London.

Table 2.18. Exports of Wheat to Major EC Destinations (000 MT)

Country = ALGERIA

Year	EC	US	Australia	Canada	Argentina	Total
1969/70	16	243	.	42	40	354
1970/71	6	318	.	333	.	665
1971/72	.	471	.	318	29	877
1972/73	16	408	.	212	.	655
1973/74	91	1,046	.	390	65	1,600
1974/75	363	717	.	613	103	1,924
1975/76	531	849	.	83	61	1,593
1976/77	81	356	.	423	211	1,258
1977/78	174	721	.	543	20	1,705
1978/79	134	487	.	346	.	1,006
1979/80	564	679	.	499	.	1,986
1980/81	329	504	.	750	.	1,824
1981/82	725	816	.	587	101	2,294
1982/83	678	610	.	483	.	2,008
1983/84	1,058	419	.	820	.	2,365
1984/85	1,129	539	.	472	.	2,164

Country = BANGLADESH

Year	EC	US	Australia	Canada	Argentina	Total
1969/70	.	.	.	.	.	.
1970/71	.	.	.	.	.	.
1971/72	3	362	14	86	.	1,115
1972/73	157	745	53	224	555	1,734
1973/74	245	730	277	341	73	1,716
1974/75	632	790	299	332	18	2,121
1975/76	232	533	83	152	.	1,000
1976/77	230	376	109	90	.	805
1977/78	241	491	147	297	.	1,183
1978/79	197	552	52	365	.	1,221
1979/80	145	1,178	448	396	.	2,172
1980/81	191	210	109	136	.	659
1981/82	301	560	123	179	.	1,165
1982/83	368	718	49	428	.	1,564
1983/84	206	443	510	451	.	1,632
1984/85	239	1,576	262	56	7	2,189

Country = EGYPT

Year	EC	US	Australia	Canada	Argentina	Total
1969/70	1,717	14	.	57	.	2,401
1970/71	857	16	1,275	441	.	3,013
1971/72	599	5	1,801	64	.	2,698
1972/73	1,643	283	729	30	.	3,048
1973/74	1,230	798	736	.	.	3,189
1974/75	1,601	750	848	.	15	3,394
1975/76	1,482	1,225	1,025	.	.	3,759
1976/77	686	2,059	1,034	211	64	4,109
1977/78	754	1,902	1,246	540	.	4,637
1978/79	1,513	1,967	1,253	154	.	5,541
1979/80	1,619	1,808	1,689	37	.	5,156
1980/81	2,362	2,531	1,846	12	.	6,753
1981/82	1,050	3,020	1,587	352	.	6,012
1982/83	1,063	3,120	1,819	22	24	6,188
1983/84	2,182	2,767	1,704	596	50	7,331

1984/85	1,628	2,453	2,208	461	.	6,819

Country = IRAQ

Year	EC	US	Australia	Canada	Argentina	Total
1969/70	.	.	55	28	.	85
1970/71	.	8	436	322	.	828
1971/72	7	.	192	44	.	298
1972/73	.	.	.	.	.	.
1973/74	.	459	116	1	.	576
1974/75	1	.	255	183	.	439
1975/76	.	107	340	133	.	580
1976/77	.	58	529	200	92	969
1977/78	17	532	537	245	.	1,681
1978/79	.	488	481	3	.	1,467
1979/80	30	472	1,187	488	.	2,300
1980/81	40	138	575	467	94	1,366
1981/82	181	49	816	230	277	1,577
1982/83	205	925	403	310	50	1,900
1983/84	296	1,171	859	632	.	2,960
1984/85	189	868	1,216	367	.	2,836

Country = LIBYAN ARAB

Year	EC	US	Australia	Canada	Argentina	Total
1969/70	183	.	.	.	.	215
1970/71	183	.	19	.	21	244
1971/72	187	4	16	.	20	260
1972/73	288	5	.	.	.	309
1973/74	224	15	.	.	24	285
1974/75	265	.	.	.	128	417
1975/76	329	.	.	.	109	438
1976/77	210	.	.	14	135	409
1977/78	152	39	.	.	39	330
1978/79	151	.	.	.	.	452
1979/80	286	.	.	14	.	424
1980/81	311	11	.	65	.	485
1981/82	271	.	.	258	.	529
1982/83	298	.	.	154	.	452
1983/84	389	32	.	112	51	585
1984/85	305	17	.	103	.	465

Country = MOROCCO

Year	EC	US	Australia	Canada	Argentina	Total
1969/70	.	258	.	23	.	282
1970/71	.	599	.	20	.	620
1971/72	50	521	.	29	.	600
1972/73	52	335	.	21	.	538
1973/74	285	599	.	1	.	888
1974/75	373	456	.	17	90	987
1975/76	874	439	.	73	.	1,386
1976/77	105	370	.	24	385	924
1977/78	3	939	.	317	31	1,774
1978/79	897	224	.	20	39	1,422
1979/80	1,015	476	.	215	.	1,705
1980/81	1,363	695	.	12	.	2,076
1981/82	1,167	1,109	.	15	.	2,312
1982/83	312	1,067	.	.	.	1,388
1983/84	430	1,889	.	.	.	2,330

1984/85	910	1,798	8	.	.	2,718

Country = POLAND

Year	EC	US	Australia	Canada	Argentina	Total
1969/70	60	10	.	71	.	1,195
1970/71	.	1	.	82	.	1,972
1971/72	378	.	.	49	.	1,553
1972/73	48	610	.	79	.	880
1973/74	34	509	.	109	.	1,758
1974/75	.	52	.	74	.	1,287
1975/76	138	717	.	350	.	1,892
1976/77	167	526	.	805	629	2,885
1977/78	.	775	.	702	.	2,470
1978/79	528	596	.	555	.	2,332
1979/80	1,143	870	102	1,518	.	3,827
1980/81	1,563	235	.	1,165	.	3,877
1981/82	1,659	136	.	1,511	.	3,817
1982/83	1,683	89	.	775	.	2,899
1983/84	898	97	.	75	206	2,025
1984/85	999	106	.	49	57	2,057

Country = SWITZERLAND

Year	EC	US	Australia	Canada	Argentina	Total
1969/70	206	193	3	119	.	534
1970/71	73	191	31	106	.	404
1971/72	225	133	1	61	.	435
1972/73	229	151	1	76	.	457
1973/74	68	112	.	164	.	353
1974/75	160	66	.	94	.	390
1975/76	117	79	.	60	.	260
1976/77	68	137	10	103	31	355
1977/78	5	184	.	130	10	371
1978/79	128	68	.	48	.	307
1979/80	118	99	.	102	2	324
1980/81	210	88	.	47	.	345
1981/82	163	99	.	58	.	336
1982/83	80	120	.	151	.	360
1983/84	248	96	.	151	.	534
1984/85	88	99	.	50	.	250

Country = SYRIAN ARAB

Year	EC	US	Australia	Canada	Argentina	Total
1969/70	40	.	.	79	.	145
1970/71	96	90	.	314	52	570
1971/72	153	232	.	217	.	632
1972/73	141	.	.	70	.	222
1973/74	128	.	12	70	.	210
1974/75	123	91	.	.	.	334
1975/76	131	67	.	.	.	198
1976/77	292	26	.	24	.	342
1977/78	175	.	.	352	.	563
1978/79	335	9	.	.	.	367
1979/80	455	48	.	20	.	529
1980/81	276	28	.	.	.	389
1981/82	167	.	.	.	.	591
1982/83	379	51	.	211	.	647
1983/84	263	2	25	157	79	569

1984/85	621	127	.	501	.	1,339

Country = TUNISIA

Year	EC	US	Australia	Canada	Argentina	Total
1969/70	136	252	.	48	.	458
1970/71	91	204	.	57	.	392
1971/72	59	197	.	52	.	308
1972/73	112	72	.	39	.	233
1973/74	149	138	.	16	.	303
1974/75	82	177	.	11	24	320
1975/76	256	85	.	.	.	359
1976/77	77	136	.	47	231	516
1977/78	27	301	.	41	29	633
1978/79	205	170	.	73	21	627
1979/80	208	538	.	49	.	805
1980/81	279	221	.	23	.	584
1981/82	417	239	.	10	.	671
1982/83	297	235	.	.	7	645
1983/84	320	628	.	.	24	973
1984/85	238	574	.	14	.	846

Country = USSR

Year	EC	US	Australia	Canada	Argentina	Total
1969/70	.	.	.	1,105	.	1,105
1970/71	.	.	.	315	.	315
1971/72	18	.	502	2,821	.	3,409
1972/73	704	9,468	908	4,168	.	15,899
1973/74	1	2,725	17	1,596	29	4,389
1974/75	.	978	656	313	680	2,828
1975/76	.	3,966	1,328	3,151	1,155	10,153
1976/77	.	2,869	368	1,183	139	4,559
1977/78	.	3,274	255	1,688	1,123	6,340
1978/79	5	2,967	136	1,892	.	5,024
1979/80	685	3,920	2,741	1,806	2,021	11,686
1980/81	717	3,000	2,465	4,464	2,975	14,911
1981/82	1,727	6,876	2,348	4,779	3,104	19,645
1982/83	3,396	3,036	1,004	6,953	4,218	20,140
1983/84	4,274	4,357	1,535	5,762	3,605	20,560
1984/85	6,078	6,123	2,040	7,633	4,057	28,156

Source: World Wheat Statistics, various years, London.

Table 2.19. Market Share of Wheat to Major EC Destinations

Country = ALGERIA

Year	EC	US	Australia	Canada	Argentina
1969/70	4.5	68.6	.	11.9	11.3
1970/71	0.9	47.8	.	50.1	.
1971/72	.	53.7	.	36.3	3.3
1972/73	2.4	62.3	.	32.4	.
1973/74	5.7	65.4	.	24.4	4.1
1974/75	18.9	37.3	.	31.9	5.4
1975/76	33.3	53.3	.	5.2	3.8
1976/77	6.4	28.3	.	33.6	16.8
1977/78	10.2	42.3	.	31.8	1.2
1978/79	13.3	48.4	.	34.4	.
1979/80	28.4	34.2	.	25.1	.
1980/81	18.0	27.6	.	41.1	.
1981/82	31.6	35.6	.	25.6	4.4
1982/83	33.8	30.4	.	24.1	.
1983/84	44.7	17.7	.	34.7	.
1984/85	52.2	24.9	.	21.8	.

Country = BANGLADESH

Year	EC	US	Australia	Canada	Argentina
1969/70	.	.	.	.	.
1970/71	.	.	.	.	.
1971/72	0.3	32.5	1.3	7.7	.
1972/73	9.1	43.0	3.1	12.9	32.0
1973/74	14.3	42.5	16.1	19.9	4.3
1974/75	29.8	37.2	14.1	15.7	0.8
1975/76	23.2	53.3	8.3	15.2	.
1976/77	28.6	46.7	13.5	11.2	.
1977/78	20.4	41.5	12.4	25.1	.
1978/79	16.1	45.2	4.3	29.9	.
1979/80	6.7	54.2	20.6	18.2	.
1980/81	29.0	31.9	16.5	20.6	.
1981/82	25.8	48.1	10.6	15.4	.
1982/83	23.5	45.9	3.1	27.4	.
1983/84	12.6	27.1	31.3	27.6	.
1984/85	10.9	72.0	12.0	2.6	0.3

Country = EGYPT

Year	EC	US	Australia	Canada	Argentina
1969/70	71.5	0.6	.	2.4	.
1970/71	28.4	0.5	42.3	14.6	.
1971/72	22.2	0.2	66.8	2.4	.
1972/73	53.9	9.3	23.9	1.0	.
1973/74	38.6	25.0	23.1	.	.
1974/75	47.2	22.1	25.0	.	0.4
1975/76	39.4	32.6	27.3	.	.
1976/77	16.7	50.1	25.2	5.1	1.6
1977/78	16.3	41.0	26.9	11.6	.
1978/79	27.3	35.5	22.6	2.8	.
1979/80	31.4	35.1	32.8	0.7	.
1980/81	35.0	37.5	27.3	0.2	.
1981/82	17.5	50.2	26.4	5.9	.
1982/83	17.2	50.4	29.4	0.4	0.4
1983/84	29.8	37.7	23.2	8.1	0.7

1984/85	23.9	36.0	32.4	6.8	.

Country = IRAQ

Year	EC	US	Australia	Canada	Argentina
1969/70	.	.	64.7	32.9	.
1970/71	.	1.0	52.7	38.9	.
1971/72	2.3	.	64.4	14.8	.
1972/73	.	.	.	.	.
1973/74	.	79.7	20.1	0.2	.
1974/75	0.2	.	58.1	41.7	.
1975/76	.	18.4	58.6	22.9	.
1976/77	.	6.0	54.6	20.6	9.5
1977/78	1.0	31.6	31.9	14.6	.
1978/79	.	33.3	32.8	0.2	.
1979/80	1.3	20.5	51.6	21.2	.
1980/81	2.9	10.1	42.1	34.2	6.9
1981/82	11.5	3.1	51.7	14.6	17.6
1982/83	10.8	48.7	21.2	16.3	2.6
1983/84	10.0	39.6	29.0	21.4	.
1984/85	6.7	30.6	42.9	12.9	.

Country = LIBYAN ARAB

Year	EC	US	Australia	Canada	Argentina
1969/70	85.1	.	.	.	.
1970/71	75.0	.	7.8	.	8.6
1971/72	71.9	1.5	6.2	.	7.7
1972/73	93.2	1.6	.	.	.
1973/74	78.6	5.3	.	.	8.4
1974/75	63.5	.	.	.	30.7
1975/76	75.1	.	.	.	24.9
1976/77	51.3	.	.	3.4	33.0
1977/78	46.1	11.8	.	.	11.8
1978/79	33.4	.	.	.	.
1979/80	67.5	.	.	3.3	.
1980/81	64.1	2.3	.	13.4	.
1981/82	51.2	.	.	48.8	.
1982/83	65.9	.	.	34.1	.
1983/84	66.5	5.5	.	19.1	8.7
1984/85	65.6	3.7	.	22.2	.

Country = MOROCCO

Year	EC	US	Australia	Canada	Argentina
1969/70	.	91.5	.	8.2	.
1970/71	.	96.6	.	3.2	.
1971/72	8.3	86.8	.	4.8	.
1972/73	9.7	62.3	.	3.9	.
1973/74	32.1	67.5	.	0.1	.
1974/75	37.8	46.2	.	1.7	9.1
1975/76	63.1	31.7	.	5.3	.
1976/77	11.4	40.0	.	2.6	41.7
1977/78	0.2	52.9	.	17.9	1.7
1978/79	63.1	15.8	.	1.4	2.7
1979/80	59.5	27.9	.	12.6	.
1980/81	65.7	33.5	.	0.6	.
1981/82	50.5	48.0	.	0.6	.
1982/83	22.5	76.9	.	.	.
1983/84	18.5	81.1	.	.	.

1984/85	33.5	66.2	0.3	.	.

Country = POLAND

Year	EC	US	Australia	Canada	Argentina
1969/70	5.0	0.8	.	5.9	.
1970/71	.	0.1	.	4.2	.
1971/72	24.3	.	.	3.2	.
1972/73	5.5	69.3	.	9.0	.
1973/74	1.9	29.0	.	6.2	.
1974/75	.	4.0	.	5.7	.
1975/76	7.3	37.9	.	18.5	.
1976/77	5.8	18.2.	.	27.9	21.8
1977/78	.	31.4	.	28.4	.
1978/79	22.6	25.6	.	23.8	.
1979/80	29.9	22.7	2.7	39.7	.
1980/81	40.3	6.1	.	30.0	.
1981/82	43.5	3.6	.	39.6	.
1982/83	58.1	3.1	.	26.7	.
1983/84	44.3	4.8	.	3.7	10.2
1984/85	48.6	5.2	.	2.4	2.8

Country = SWITZERLAND

Year	EC	US	Australia	Canada	Argentina
1969/70	38.6	36.1	0.6	22.3	.
1970/71	18.1	47.3	7.7	26.2	.
1971/72	51.7	30.6	0.2	14.0	.
1972/73	50.1	33.0	0.2	16.6	.
1973/74	19.3	31.7	.	46.5	.
1974/75	41.0	16.9	.	24.1	.
1975/76	45.0	30.4	.	23.1	.
1976/77	19.2	38.6	2.8	29.0	8.7
1977/78	1.3	49.6	.	35.0	2.7
1978/79	41.7	22.1	.	15.6	.
1979/80	36.4	30.6	.	31.5	0.6
1980/81	60.9	25.5	.	13.6	.
1981/82	48.5	29.5	.	17.3	.
1982/83	22.2	33.3	.	41.9	.
1983/84	46.4	18.0	.	28.3	.
1984/85	35.2	39.6	.	20.0	.

Country = SYRIAN ARAB

Year	EC	US	Australia	Canada	Argentina
1969/70	27.6	.	.	54.5	.
1970/71	16.8	15.8	.	55.1	9.1
1971/72	24.2	36.7	.	34.3	.
1972/73	63.5	.	.	31.5	.
1973/74	61.0	.	5.7	33.3	.
1974/75	36.8	27.2	.	.	.
1975/76	66.2	33.8	.	.	.
1976/77	85.4	7.6	.	7.0	.
1977/78	31.1	.	.	62.5	.
1978/79	91.3	2.5	.	.	.
1979/80	86.0	9.1	.	3.8	.
1980/81	71.0	7.2	.	.	.
1981/82	28.3	.	.	.	.
1982/83	58.6	7.9	.	32.6	.
1983/84	46.2	0.4	4.4	27.6	13.9

1984/85	46.4	9.5	.	37.4	.

Country = TUNISIA

Year	EC	US	Australia	Canada	Argentina
1969/70	29.7	55.0	.	10.5	.
1970/71	23.2	52.0	.	14.5	.
1971/72	19.2	64.0	.	16.9	.
1972/73	48.1	30.9	.	16.7	.
1973/74	49.2	45.5	.	5.3	.
1974/75	25.6	55.3	.	3.4	7.5
1975/76	71.3	23.7	.	.	.
1976/77	14.9	26.4	.	9.1	44.8
1977/78	4.3	47.6	.	6.5	4.6
1978/79	32.7	27.1	.	11.6	3.3
1979/80	25.8	66.8	.	6.1	.
1980/81	47.8	37.8	.	3.9	.
1981/82	62.1	35.6	.	1.5	.
1982/83	46.0	36.4	.	.	1.1
1983/84	32.9	64.5	.	.	2.5
1984/85	28.1	67.8	.	1.7	.

Country = USSR

Year	EC	US	Australia	Canada	Argentina
1969/70	.	.	.	100.0	.
1970/71	.	.	.	100.0	.
1971/72	0.5	.	14.7	82.8	.
1972/73	4.4	59.6	5.7	26.2	.
1973/74	0.0	62.1	0.4	36.4	0.7
1974/75	.	34.6	23.2	11.1	24.0
1975/76	.	39.1	13.1	31.0	11.4
1976/77	.	62.9	8.1	25.9	3.0
1977/78	.	51.6	4.0	26.6	17.7
1978/79	0.1	59.1	2.7	37.7	.
1979/80	5.9	33.5	23.5	15.5	17.3
1980/81	4.8	20.1	16.5	29.9	20.0
1981/82	8.8	35.0	12.0	24.3	15.8
1982/83	16.9	15.1	5.0	34.5	20.9
1983/84	20.8	21.2	7.5	28.0	17.5
1984/85	21.6	21.7	7.2	27.1	14.4

Source: World Wheat Statistics, Various Years, London.

Table 2.20. Exports of Wheat to Major EC Destinations with Comparison to US HRW and SRW (000 MT)

Country = ALGERIA

Year	EC	US Total	US HRW	US SRW
1969/70	16	243	42	.
1970/71	6	318	132	.
1971/72	.	471	171	.
1972/73	16	408	92	.
1973/74	91	1,046	454	.
1974/75	363	717	157	16
1975/76	531	849	.	.
1976/77	81	356	13	.
1977/78	174	721	78	124
1978/79	134	487	.	28
1979/80	564	679	96	94
1980/81	329	504	157	44
1981/82	725	816	55	71
1982/83	678	610	.	.
1983/84	1,058	419	.	.
1984/85	1,129	539	.	27

Country = EGYPT

Year	EC	US Total	US HRW	US SRW
1969/70	1,717	14	.	.
1970/71	857	16	.	.
1971/72	599	5	.	.
1972/73	1,643	283	283	.
1973/74	1,230	798	683	.
1974/75	1,601	750	134	570
1975/76	1,482	1,225	.	1,022
1976/77	686	2,059	26	1,522
1977/78	754	1,902	133	1,336
1978/79	1,513	1,967	846	560
1979/80	1,619	1,808	375	664
1980/81	2,362	2,531	39	335
1981/82	1,050	3,020	5	.
1982/83	1,063	3,120	.	409
1983/84	2,182	2,767	.	557
1984/85	1,628	2,453	.	450

Country = MOROCCO

Year	EC	US Total	US HRW	US SRW
1969/70	.	258	190	.
1970/71	.	599	538	18
1971/72	50	521	257	209
1972/73	52	335	226	35
1973/74	285	599	455	4
1974/75	373	456	96	298
1975/76	874	439	185	88
1976/77	105	370	339	42
1977/78	3	939	242	607
1978/79	897	224	85	121
1979/80	1,015	476	60	309

1980/81	1,363	695	.	140
1981/82	1,167	1,109	9	1,084
1982/83	312	1,067	.	982
1983/84	430	1,889	.	1,509
1984/85	910	1,798	8	1,619

Country = POLAND

		US		
Year	EC	Total	HRW	SRW
1969/70	60	10	135	95
1970/71	.	1	711	274
1971/72	378	.	253	10
1972/73	48	610	155	.
1973/74	34	509	48	3
1974/75	.	52	95	4
1975/76	138	717	54	5
1976/77	167	526	.	.
1977/78	.	775	167	7
1978/79	528	596	139	.
1979/80	1,143	870	88	.
1980/81	1,563	235	23	.
1981/82	1,659	136	.	.
1982/83	1,683	89	.	.
1983/84	898	97	.	.
1984/85	999	106	.	.

Country = SYRIAN ARAB

		US		
Year	EC	Total	HRW	SRW
1969/70	40	.	.	.
1970/71	96	90	90	.
1971/72	153	232	.	42
1972/73	141	.	.	.
1973/74	128	.	.	.
1974/75	123	91	8	95
1975/76	131	67	76	.
1976/77	292	26	.	26
1977/78	175	.	.	.
1978/79	335	9	.	.
1979/80	455	48	26	23
1980/81	276	28	.	.
1981/82	167	.	.	.
1982/83	379	51	51	.
1983/84	263	2	.	.
1984/85	621	127	101	.

Country = USSR

		US		
Year	EC	Total	HRW	SRW
1969/70	.	.	.	.
1970/71	.	.	.	.
1971/72	18	.	.	.
1972/73	704	9,468	8,441	.
1973/74	1	2,725	2,722	66
1974/75	.	978	980	.
1975/76	.	3,966	3,859	.
1976/77	.	2,869	2,639	.

1977/78	.	3,274	3,387	26
1978/79	5	2,967	2,559	.
1979/80	685	3,920	4,094	.
1980/81	717	3,000	2,881	.
1981/82	1,727	6,876	6,285	.
1982/83	3,396	3,036	3,295	.
1983/84	4,274	4,357	4,048	.
1984/85	6,078	6,123	6,298	.

Source: World Wheat Statistics, various years, London, IWC and Grain Market News and Wheat Situtation.

Table 2.21. Market Share of Wheat to Major EC Destinations with Comparison to US HRW and SRW (000 MT)

Country = ALGERIA

Year	EC	US Total	US HRW	US SRW
1969/70	4.5	68.6	11.8	.
1970/71	0.9	47.8	19.8	.
1971/72	.	53.7	19.5	.
1972/73	2.4	62.3	14.0	.
1973/74	5.7	65.4	28.4	.
1974/75	18.9	37.3	8.2	0.9
1975/76	33.3	53.3	.	.
1976/77	6.4	28.3	1.0	.
1977/78	10.2	42.3	4.6	7.3
1978/79	13.3	48.4	.	2.8
1979/80	28.4	34.2	4.8	4.7
1980/81	18.0	27.6	8.6	2.4
1981/82	31.6	35.6	2.4	3.1
1982/83	33.8	30.4	.	.
1983/84	44.7	17.7	.	.
1984/85	52.2	24.9	.	1.3

Country = EGYPT

Year	EC	US Total	US HRW	US SRW
1969/70	71.5	0.6	.	.
1970/71	28.4	0.5	.	.
1971/72	22.2	0.2	.	.
1972/73	53.9	9.3	9.3	.
1973/74	38.6	25.0	21.4	.
1974/75	47.2	22.1	4.0	16.8
1975/76	39.4	32.6	.	27.2
1976/77	16.7	50.1	0.6	37.0
1977/78	16.3	41.0	2.9	28.8
1978/79	27.3	35.5	15.3	10.1
1979/80	31.4	35.1	7.3	12.9
1980/81	35.0	37.5	0.6	5.0
1981/82	17.5	50.2	0.1	.
1982/83	17.2	50.4	.	6.6
1983/84	29.8	37.7	.	7.6
1984/85	23.9	36.0	.	6.6

Country = MOROCCO

Year	EC	US Total	US HRW	US SRW
1969/70	.	91.5	67.4	.
1970/71	.	96.6	86.7	2.8
1971/72	8.3	86.8	42.8	34.9
1972/73	9.7	62.3	42.0	6.5
1973/74	32.1	67.5	51.2	0.4
1974/75	37.8	46.2	9.7	30.2
1975/76	63.1	31.7	13.3	6.3
1976/77	11.4	40.0	36.6	4.5
1977/78	0.2	52.9	13.6	34.2
1978/79	63.1	15.8	6.0	8.5
1979/80	59.5	27.9	3.5	18.1

1980/81	65.7	33.5	.	6.8
1981/82	50.5	48.0	0.4	46.9
1982/83	22.5	76.9	.	70.8
1983/84	18.5	81.1	.	64.7
1984/85	33.5	66.2	0.3	59.6

Country = POLAND

		US		
Year	EC	Total	HRW	SRW
1969/70	5.0	0.8	11.3	7.9
1970/71	.	0.1	36.0	13.9
1971/72	24.3	.	16.3	0.6
1972/73	5.5	69.3	17.7	.
1973/74	1.9	29.0	2.8	0.2
1974/75	.	4.0	7.4	0.3
1975/76	7.3	37.9	2.9	0.3
1976/77	5.8	18.2	.	.
1977/78	.	31.4	6.8	0.3
1978/79	22.6	25.6	6.0	.
1979/80	29.9	22.7	2.3	.
1980/81	40.3	6.1	0.6	.
1981/82	43.5	3.6	.	.
1982/83	58.1	3.1	.	.
1983/84	44.3	4.8	.	.
1984/85	48.6	5.2	.	.

Country = SYRIAN ARAB

		US		
Year	EC	Total	HRW	SRW
1969/70	27.6	.	.	.
1970/71	16.8	15.8	15.8	.
1971/72	24.2	36.7	.	6.7
1972/73	63.5	.	.	.
1973/74	61.0	.	.	.
1974/75	36.8	27.2	2.5	28.5
1975/76	66.2	33.8	38.3	.
1976/77	85.4	7.6	.	7.7
1977/78	31.1	.	.	.
1978/79	91.3	2.5	.	.
1979/80	86.0	9.1	4.8	4.4
1980/81	71.0	7.2	.	.
1981/82	28.3	.	.	.
1982/83	58.6	7.9	7.9	.
1983/84	46.2	0.4	.	.
1984/85	46.4	9.5	7.6	.

Country = USSR

		US		
Year	EC	Total	HRW	SRW
1969/70	.	.	.	.
1970/71	.	.	.	.
1971/72	0.5	.	.	.
1972/73	4.4	59.6	53.1	.
1973/74	0.0	62.1	62.0	1.5
1974/75	.	34.6	34.7	.
1975/76	.	39.1	38.0	.
1976/77	.	62.9	57.9	.

1977/78	.	51.6	53.4	0.4
1978/79	0.1	59.1	50.9	.
1979/80	5.9	33.5	35.0	.
1980/81	4.8	20.1	19.3	.
1981/82	8.8	35.0	32.0	.
1982/83	16.9	15.1	16.4	.
1983/84	20.8	21.2	19.7	.
1984/85	21.6	21.7	22.4	.

Source: World Wheat Statistics, Various Years, London, IWC and Grain Market News and Wheat Situtation.

Table 2.22. Flour Exports as a Percent of Total Wheat and Flour Exports

Year	EC*	France	Canada	US
1963/64	37.1	18.1	9.9	11.1
1964/65	27.7	14.3	7.6	11.1
1965/66	26.0	15.2	6.7	8.6
1966/67	47.5	22.9	6.1	9.3
1967/68	30.8	14.7	7.1	6.9
1968/69	33.0	12.4	7.4	11.2
1969/70	24.3	13.6	8.6	10.7
1970/71	64.7	31.7	5.9	7.1
1971/72	52.2	17.9	5.0	7.3
1972/73	41.7	15.1	4.1	3.7
1973/74	47.0	14.9	4.2	3.1
1974/75	34.5	18.5	4.7	2.8
1975/76	37.6	15.7	4.7	2.5
1976/77	61.3	18.6	6.0	6.2
1977/78	69.1	20.9	4.8	4.9
1978/79	44.7	32.8	5.1	4.5
1979/80	40.2	27.2	4.6	4.1
1980/81	34.1	16.6	3.7	4.1
1981/82	31.3	15.1	3.0	2.7
1982/83	21.8	9.3	1.9	4.6
1983/84	26.1	13.4	3.4	5.7
1984/85	22.4	10.5	2.2	3.2

*Six original member states to 1967/68, nine member states to 1980/81, thereafter ten member states.

Source: World Wheat Statistics, various years, London.

Table 2.23. Wheat Flour Exports by Destination and Total (000 MT)

Year	Country	North Africa	Sub Sahara Africa	Middle East	Latin America	USSR	Total
1973/74	EC10	684.2	362.1	400.3	132.5	0.0	2600.4
	US	90.9	40.2	187.9	153.8	0.0	934.1
	CANADA	1.4	52.0	10.5	51.8	301.0	471.0
	WORLD	776.5	476.2	613.0	363.4	301.0	4195.8
1974/75	EC10	1121.6	279.2	479.0	75.3	0.0	2465.2
	US	84.5	57.1	289.1	112.6	0.0	906.8
	CANADA	0.4	44.4	14.6	45.4	385.5	541.7
	WORLD	1206.5	408.9	734.0	257.3	385.5	4171.6
1975/76	EC10	1422.7	315.7	590.7	105.3	0.0	2926.2
	US	304.5	31.9	298.6	111.8	0.0	938.2
	CANADA	8.8	10.4	21.8	29.4	429.0	926.7
	WORLD	1736.0	381.1	911.3	269.7	429.0	5034.0
1976/77	EC10	915.2	377.0	684.6	102.8	0.0	2474.9
	US	613.7	35.1	285.6	102.1	0.0	1773.4
	CANADA	53.0	12.8	9.2	30.4	0.0	324.0
	WORLD	1581.9	455.3	979.7	258.8	95.0	4825.0
1977/78	EC10	961.3	649.7	678.8	93.4	0.0	3127.5
	US	474.7	81.2	305.3	126.6	0.0	1646.6
	CANADA	59.0	26.3	7.6	503.3	0.0	802.8
	WORLD	1495.0	789.6	980.5	746.6	0.0	5679.5
1978/79	EC10	1112.6	681.8	800.0	174.2	0.0	3352.4
	US	579.7	77.3	195.4	118.5	0.0	1491.7
	CANADA	65.3	16.2	28.5	560.4	0.0	837.4
	WORLD	1757.6	797.6	1026.8	879.4	0.0	5806.0
1979/80	EC10	1000.6	678.7	1361.7	107.4	123.3	4173.7
	US	601.3	111.8	287.4	93.8	0.0	1511.8
	CANADA	51.1	5.5	17.4	548.3	0.0	694.6
	WORLD	1653.1	816.0	1638.4	763.5	123.3	6447.6
1980/81	EC10	1895.0	760.4	617.1	115.1	702.7	4377.8
	US	734.8	255.1	218.0	99.0	0.0	1718.0
	CANADA	29.5	15.2	15.4	187.5	243.6	552.8
	WORLD	2659.4	1089.6	823.2	413.1	946.2	6756.6
1981/82	EC10	1388.6	1086.2	734.3	128.2	738.1	4433.6
	US	682.9	154.0	91.8	99.1	0.0	1367.3
	CANADA	40.7	50.0	19.5	371.0	30.2	550.6
	WORLD	2112.1	1352.0	664.2	610.6	768.3	6297.7
1982/83	EC10	1013.1	666.7	705.3	142.3	282.6	3064.1
	US	1190.6	151.1	111.7	89.0	0.0	1819.0
	CANADA	1.2	41.5	12.9	107.9	77.0	293.1
	WORLD	2204.8	888.4	624.7	350.7	359.6	5058.1
1983/84	EC10	1396.9	786.0	650.2	127.1	260.2	3402.6
	US	1457.0	159.1	166.2	139.6	0.0	2150.0
	CANADA	0.0	31.7	5.7	323.2	27.4	515.2
	WORLD	2853.9	997.0	559.2	599.9	287.6	5879.5

1984/85	EC10	1777.0	864.1	523.2	110.1	7.1	3330.8
	US	244.2	514.6	72.7	97.7	0.0	1133.6
	CANADA	21.7	97.3	10.9	190.0	21.5	420.8
	WORLD	2042.9	1509.0	611.5	410.8	28.6	4965.7
1985/86	EC10	1677.5	846.8	431.0	206.6	0.0	3273.8
	US	651.7	460.0	65.8	93.6	0.0	1501.0
	CANADA	11.8	69.0	27.4	110.9	0.0	322.0
	WORLD	2341.0	1389.2	524.4	420.6	0.0	5146.4

Source: Grains, World Grain Situation and Outlook, FAS, December, 1986

Table 2.24. Market Share of World Wheat Flour Exports By Destination

Region = Latin America

YEAR	EC	US	CANADA
1973/74	36.5	42.3	14.3
1974/75	29.3	43.8	17.6
1975/76	39.0	41.5	10.9
1976/77	39.7	39.5	11.7
1977/78	12.5	17.0	67.4
1978/79	19.8	13.5	63.7
1979/80	14.1	12.3	71.8
1980/81	27.9	24.0	45.4
1981/82	21.0	16.2	60.8
1982/83	40.6	25.4	30.8
1983/84	21.2	23.3	53.9
1984/85	26.8	23.8	46.3
1985/86	49.1	22.3	26.4

Region = Middle East

YEAR	EC	US	CANADA
1973/74	65.3	30.7	1.7
1974/75	65.3	39.4	2.0
1975/76	64.8	32.8	2.4
1976/77	69.9	29.2	0.9
1977/78	69.2	31.1	0.8
1978/79	77.9	19.0	2.8
1979/80	83.1	17.5	1.1
1980/81	75.0	26.5	1.9
1981/82	86.8	10.9	2.3
1982/83	85.0	13.5	1.6
1983/84	79.1	20.2	0.7
1984/85	85.6	11.9	1.8
1985/86	82.2	12.5	5.2

1981/82 through 1983/84 was adjusted so Market Share did not exceed 100%

Region = North Africa

YEAR	EC	US	CANADA
1973/74	88.1	11.7	0.2
1974/75	93.0	7.0	0.0
1975/76	82.0	17.5	0.5
1976/77	57.9	38.8	3.4
1977/78	64.3	31.8	3.9
1978/79	63.3	33.0	3.7
1979/80	60.5	36.4	3.1
1980/81	71.3	27.6	1.1
1981/82	65.7	32.3	1.9
1982/83	45.9	54.0	0.1
1983/84	48.9	51.1	0.0
1984/85	87.0	12.0	1.1
1985/86	71.7	27.8	0.5

Region = Sub Saraha Africa

YEAR	EC	US	CANADA
1973/74	76.0	8.4	10.9
1974/75	68.3	14.0	10.9
1975/76	82.8	8.4	2.7

1976/77	82.8	7.7	2.8
1977/78	82.3	10.3	3.3
1978/79	85.5	9.7	2.0
1979/80	83.2	13.7	0.7
1980/81	69.8	23.4	1.4
1981/82	80.3	11.4	3.7
1982/83	75.0	17.0	4.7
1983/84	78.8	16.0	3.2
1984/85	57.3	34.1	6.4
1985/86	61.0	33.1	5.0

Region = USSR

YEAR	EC	US	CANADA
1973/74	0.0	0.0	100.0
1974/75	0.0	0.0	100.0
1975/76	0.0	0.0	100.0
1976/77	0.0	0.0	0.0
1977/78	.	.	.
1978/79	.	.	.
1979/80	100.0	0.0	0.0
1980/81	74.3	0.0	25.7
1981/82	96.1	0.0	3.9
1982/83	78.6	0.0	21.4
1983/84	90.5	0.0	9.5
1984/85	24.8	0.0	75.2
1985/86	.	.	.

Region = World

YEAR	EC	US	CANADA
1973/74	62.0	22.3	11.2
1974/75	59.1	21.7	13.0
1975/76	58.1	18.6	18.4
1976/77	51.3	36.8	6.7
1977/78	55.1	29.0	14.1
1978/79	57.7	25.7	14.4
1979/80	64.7	23.4	10.8
1980/81	64.8	25.4	8.2
1981/82	70.4	21.7	8.7
1982/83	60.6	36.0	5.8
1983/84	57.9	36.6	8.8
1984/85	67.1	22.8	8.5
1985/86	63.6	29.2	6.3

Source: Grains, World Grain Situation and Outlook, FAS, December, 1986

TABLE 2.25 WEIGHTED AVERAGE WHEAT CROP QUALITY IN FRANCE

	Protein	Zaleny	Hegberg	Ash	Alveograph	Farinograph Absorption
	----------Superior Wheat----------					
1976	13.2	34	331	1.68	198	63
1977	12.1	34	233	1.81	154	61
1978	10.9	29	262	1.73	123	63
1979	11.5	31	284	1.76	151	60
1980	11.1	33	266	1.70	155	61
1981	11.9	34	250	1.80	176	61
1982	12.0	33	277	1.69	162	62
1983	11.0	28	364	1.75	148	62
1984	11.9	31	284	1.67	155	65
1985	11.7	33	273	1.71	201	54
1986	13.4	40	231	1.69	217	55
Average	11.9	32.7	278	1.73	167	61
	----------Standard Wheat----------					
1976	13.6	27.4	345	1.69	165	
1977	12.8	27.7	243	1.87	131	
1978	11.3	23.3	271	1.77	104	
1979	12.0	21.5	297	1.78	124	
1980	11.4	23.4	271	--	--	
1981	12.1	22.4	257	--	128	
1982	12.1	19.6	302	--	124	
1983	11.4	16.1	354	--	117	
1984	11.8	19.4	286	--	114	
1985	11.8	20.6	320	1.66	155	
1986	13.5	28.5	303	1.66	190	
Average	12.2	22.7	295	1.75	135	
U.S. Comparisons[2]						
HRW[3]	11.9	50	388			62
SRW[4]	10.4	13	317			57.1

SOURCE: ITCF Annual Reports, 1976-86.

[1]Weighted by area planted across regions.
[2]U.S. wheat, 1986 Crop Report Quality.
[3]As in moisture basis.
[4]1986 only.

TABLE 2.26 CORRELATION BETWEEN WHEAT CROP QUALITY CHARACTERISTICS AND TREND

	Protein	Zeleny	Hagberg	Ash	Alveograph	Farinograph	Trend
	----------Superior Wheat----------						
Protein	1.0	.83*	-.19	-.33	.80*	-.28	.11
Zeleny	--	1.0	-.58*	-.13	.80*	-.58*	.22
Hagberg	--	--	1.0	-.20	-.14	.36	-.08
Ash	--	--	--	1.0	-.34	.07	-.37
Alveograph	--	--	--	--	1.0	-.67*	.41
Farinograph	--	--	--	--	--	1.0	-.57*
Trend	--	--	--	--	--	--	--
	----------Standard Wheat----------						
Protein	1.0	.77*	.13	-.24	.81*	--	-.13
Zeleny	--	1.0	-.32	.08	.63*	--	-.38
Hagberg	--	--	1.0	-.82*	.31	--	.25
Ash	--	--	--	1.0	-.73*	--	.68
Alveograph	--	--	--	--	1.0	--	.27
Trend	--	--	--	--	--	--	1.0

*Indicates significant figures at the 10 percent level.

TABLE 2.27 TRENDS* IN WEIGHT AVERAGE CROP QUALITY, 1976-1986

Quality Factor	Int.	Trend Coeff.[1]	R^2	F^2
		Superior Wheat		
Protein	11.7 (21.3)*	0.03 (.33)	.01	.10
Zeleny	31.4 (14.9)	0.21 (.68)	.05	.45
Hagberg	283.5 (10.5)*	- .96 (.24)	.01	.06
Ash	1.76 (58.7)*	- .005 (1.18)	.13	1.4
Alveograph	146.4 (8.4)*	3.49 (1.37)	.17	1.88
Farin Abs.	64.1 (34.0)*	- .58 (2.08)*	.32	4.3*
		Standard Wheat		
Protein	12.3 (23.0)*	- .03 (.41)	.02	.17
Zeleny	25.4 (10.4)*	- .45 (1.2)	.14	1.5.
Alveograph	122.5 (6.7)*	2.08 (.80)	.07	.63
Ash	1.81 (40.6)*	- .01 (1.89)	.47	3.57
Alveograph	279.8 (12.1)*	2.61 (.77)	.06	.59

*Estimated from $X = \alpha + \beta$ trend where trend = 1, 2 . . . 11

[1]Value in ( ) is t-ratio and * indicates significantly different from 0 at the 10 percent level.
[2]F-test for overall significance, and * indicates significance at the 10 percent level.

TABLE 2.28. ANALYTICAL RESULTS OF FRENCH WHEAT AND CORN SAMPLES WITH COMPARISON TO U.S. FACTORS

	U.S. Grade and Factors							French Factors			
Site	Grade	Dockage	FM	DKT	Shrunken & Kernels	Defects	Moisture	TW	Misc. Impurities	Total Impurities	Sprout	Broken
		%	%	%	%	%	%		%	%	%	%
Sica, Rouen	1 SRW	.4	.1	1.0	.5	1.6	14.1		.3	1.1	.5	1.9
Sica, LaRochelle	1 SRW	.1	.0	.5	.2	.7	14.1		.1	.2	.5	3.4
Sica, LaRochelle	1 SRW	.1	.0	.0	.2	.2	14.1		.05	.15	.0	2.2
LaFrarcide, Blois	3 SRW	.2	.2	4.5	.3	5.0	11.6	61.5	.2	.6	4.5	1.9
Barett Farms, Authieux	1 SRW	.61	.11	1.4	.6	2.1	12.3	59.2	.3	.8	1.4	4.6
Coop Drecx, Loons[1]	2 SRW	.26	.1	3.5	.4	4.0	13.9		.1	.4	3.5	4.1
Benoist Orgerus	4 SRW	.0	.0	7.9	.0	7.9	13.35	60.4	.1	.1	7.9	.2
Average		.24	.07	6.9	1.2	3.07			.2	.5	2.6	2.6

[1]Composite of 13 farms
[2]Test weight was as 2 samples because of insufficient sample size.

APPENDIX B

FRENCH WHEAT QUALITY EVALUATION

United States Department of Agriculture
Agricultural Research Service
North Central Region
Soft Wheat Quality Laboratory
Ohio Agricultural Research & Development Center
The Ohio State University
Wooster, Ohio

November 19, 1987

Dr. Michael J. Phillips, Senior Associate
O.T.A.
Food and Renewable Resources Division
Congress of the United States
Washington, D.C. 20510

Dear Michael:

Enclosed for your review are the results of the milling and baking quality evaluation of the seven French wheats from Mr. Roger Zertman.

As I indicated to you in conversation in Fargo, French wheats are historically neither extremely hard or extremely soft, as areU.S. hard and soft wheats, respectively. That historical assessment appears to be valid even on these samples. Note that we are initially comparing the 7 French wheats to our "standard"for this year, Caldwell, a reasonably soft and good milling U.S. eastern soft red winter wheat cultivar. In addition we are using Caldwell as our"benchmark" which is the standard which we use to compare between nurseries iresepective of where they are grown. In addition we included a hard red winter wheat cultivar, Bounty 203, for comparative purposes.

Note that the baking quality scores for the 7 French wheats vary from 6.9 to 55, all far below the 100 points for the standard Caldwell. That information indicates that the French wheats range from totally unacceptable to totally unacceptable to about the 3rd power! (I'm really not intending to be facetious: the French wheats are simply very coarse or hard compared to the extraordinary eastern U.S. soft wheats. Note also that lab numbers 810 and 811 have the lowest soft wheat baking scores, even much lower that the Bounty 203 (the U.S. hard red winter cultivar). The other 5 French wheats have soft wheat quality baking scores which fall between the hard- and soft-standards, ranging from 48.6 to 55 points. Probably the French wheats are indeed intermediate quality somewhere between our good hard and good soft standards. However, using soft wheattests it is not possible to say with 100% assurance anything about how good the French wheats would be for <u>hard wheat flour quality</u>. We can only say with near absolute confidence that none of thw French wheats are even near acceptable as what we look for in our <u>soft wheat flours</u>.

I would be pleased to discuss some of the more specific implications of these tests and to discuss their limitations at any time. Please give me a call if I can be of help in any way.

Certainly we are happy to have the opportunity to be of assistance; in fact we welcome the opportunity to continue to be knowledgable about the changing (or non changing) quality of international wheats. As you collect others do not hesitate to call on us for further evaluations.

With best regards,

Patrick Finney

Patrick L. Finney, Research leader,
in charge

ADVANCED NURSERY EVALUATION

FOR SOFT WHEAT MILLING AND BAKING QUALITY

ROGER ZARTMAN

FRENCH WHEATS

STANDARD = CALDWELL BENCHMARK

LAB NO.		ENTRY	MILLING QUALITY SCORE		BAKING QUALITY SCORE		COMB. QUALITY SCORE		MICRO TEST WT. KG.HL	SOFTNESS EQUIV.	FLOUR YIELD	ASH	FLOUR PROTEIN	MICRO AWRC	COOKIE DIAMETER	TOP GRAIN
****		STANDARD	100	A	100	A	100	A	78.6	61.4	73.6	.35	7.9	52.9	18.2	7
****		BENCHMARK	100	A	100	A	100	A	78.6	61.4	73.6	.35	7.9	52.9	18.2	7
809	0551	1562	87.3	D	48.6	F	48.6	F	77 *	48.9*	72.7*	.37	9.3 *	58.3*	17.0*	7
810	0552	1557	83.3	E	14.5	F	14.5	F	79.3	44.8*	72.7*	.42*	9.3 *	65.3*	15.9*	7*
811	0553	1556	91.5	C	6.9	F	6.9	F	79.1	39.7*	74.9	.36	11.1*	70.3*	15.9*	7*
812	0554	1563	93.2	C	50.5	F	50.5	F	77.4*	49.2*	73.9	.35	9.3 *	59.7*	17.3*	7
813	0555	1553	88.3	D	50	F	50	F	77.5	49.4*	72.3*	.33	9.39*	59.4*	17.2*	7
814	0557	1561	87.2	D	52.5	F	52.5	F	76.9*	48.2*	72.4*	.34	9.5 *	57.8*	17.2*	7
815	0558	1555	93.5	C	55	F	55	F	79.1	49.5*	73.6	.34	8.89*	58.2*	17.2*	7
816	85402	BOUNTY 203 (HRW)	88.8	D	35.5	F	35.5	F	77.5	42.1*	75.3	.43*	10.5*	57.7*	16.7*	7*

DATA RANKED ACCORDING TO COMBINED QUALITY SCORE

ROGER ZARTMAN

FRENCH WHEATS

LAB NO.		ENTRY	MILLING QUALITY SCORE		BAKING QUALITY SCORE		COMB. QUALITY SCORE		MICRO TEST WT. KG/HL	SOFTNESS EQUIV.	FLOUR YIELD	ASH	FLOUR PROTEIN	MICRO AWRC	COOKIE DIAMETER	TOP GRAIN
****		BENCHMARK	100	A	100	A	100	A	78.6	61.4	73.6	.35	7.9	52.9	18.2	7
****		STANDARD	100	A	100	A	100	A	78.6	61.4	73.6	.35	7.9	52.9	18.2	7
815	0558	1555	93.5	C	55	F	55	F	79.1	49.5*	73.6	.34	8.89*	58.2*	17.2*	7
814	0557	1561	87.2	D	52.5	F	52.5	F	76.9*	48.2*	72.4*	.34	9.5 *	57.8*	17.2*	7
812	0554	1563	93.2	C	50.5	F	50.5	F	77.4*	49.2*	73.9	.35	9.3 *	59.7*	17.3*	7
813	0555	1553	88.3	D	50	F	50	F	77.5	49.4*	72.3*	.33	9.39*	59.4*	17.2*	7
809	0551	1562	87.3	D	48.6	F	48.6	F	77 *	48.9*	72.7*	.37	9.3 *	58.3*	17.0*	7
816	85402	BOUNTY 203 (HRW)	88.8	D	35.5	F	35.5	F	77.5	42.1*	75.3	.43*	10.5*	57.7*	16.7*	7*
810	0552	1557	83.3	E	14.5	F	14.5	F	79.3	44.8*	72.7*	.42*	9.3 *	65.3*	15.9*	7*
811	0553	1556	91.5	C	6.9	F	6.9	F	79.1	39.7*	74.9	.36	11.1*	70.3*	15.9*	7*

EVALUATION SUMMARY

SUMMARY IS FOR ENTRIES 809 TO 816

	AVERAGED DATA	LSD	NOTATION BEGINS *	Q
MILLING QUALITY	89.1	----	----	----
BAKING QUALITY	39.2	----	----	----
COMBINED QUALITY	39.2	----	----	----
MICRO TEST WEIGHT	78.0	1.18	77.4	76.2
SOFTNESS EQUIVALENT	46.5	3.3	58.1	54.8
FLOUR YIELD	73.5	0.8	72.8	72.0
FLOUR ASH	.370	.040	.390	.430
FLOUR PROTEIN	9.7	0.64	8.5	9.2
MICRO A.W.R.C.	60.8	1.45	54.4	55.8
COOKIE DIAMETER	16.8	0.24	18.0	17.7
TOP GRAIN	5.	2.40	4.6	2.2

ALLIS EQUIVALENTS

BREAK FLOUR YIELD	23.2	2.00	33.8	31.8
EXTRACTION	75.6	0.89	74.8	73.92
E.S.I.	11.7	0.98	12.5	13.47

COMBINED SCORES

A = 0 ENTRIES
B = 0 ENTRIES
C = 0 ENTRIES
D = 0 ENTRIES
E = 0 ENTRIES
F = 8 ENTRIES
8 TOTAL ENTRIES

APPENDIX C

COMMERCIAL CONTRACTS
PARIS CONTRACTS
INTRA EC DNV NO. 7
ALGERIA TENDER

SYNDICAT DE PARIS DU COMMERCE ET DES INDUSTRIES DES GRAINS
PRODUITS DU SOL & DERIVES
61, Bourse de Commerce - 75040 PARIS CEDEX 01

==========

ADDENDUM TECHNIQUE N° II
POUR LA VENTE DES SEIGLES Rye
ET DES BLES TENDRES DE MEUNERIE
s.à-wht

==========

PREAMBULE

Sauf conventions contraires pour les formules de Paris 13, 15, 18, 19, 20, 21, 22 et 23, ainsi que pour les RUFRA ; sur convention expresse pour les formules de Paris 12, 14, 16 la formule n° 1 du SYNACOMEX ou pour tout autre contrat-type de référence, les dispositions suivantes font partie intégrante des conditions de vente des seigles et des blés tendres de meunerie.

I - NORMES CONTRACTUELLES

Les normes techniques contractuelles de conditionnement physique et/ou de qualité technologique sont spécifiées par les parties sur convention privée.

1) Masses à l'hectolitre ou "Poids spécifique - P.S."

Il sera déterminé à la trémie conique ; toutefois, dans le cas où la constatation du poids spécifique ne pourrait être faite dans les conditions susvisées, des échantillons d'au moins un kilogramme seront prélevés contradictoirement et remis à la Chambre Arbitrale pour détermination du poids spécifique au Getreideprober 1938, 1 litre.

Lorsque le poids spécifique est garanti entre deux limites, aucune réfaction ne sera allouée s'il est constaté entre ces deux limites. S'il est constaté en-dessous de la limite inférieure, le calcul de la réfaction sera établi par rapport à la moyenne des deux limites.

La moins-value pour infériorité de poids spécifique sera supportée par le vendeur sur la quantité livrée en tenant compte proportionnellement des fractions, à raison de 1 % du prix facturé hors taxes par Kg/Hl manquant, à calculer à partir, et ce jusqu'à 2 Kgs de manquant. Au-delà, la marchandise est refusable.

Toutefois, si le manquant ne dépasse pas 500 grammes, la réfaction est ramenée à 1/2 % du prix, toujours au prorata.

2) Teneur en eau ou "humidité"

La teneur en eau est déterminée au moyen d'un humidimètre approuvé et poinçonné par la S.I.M. pour la commercialisation. En cas de contestation, la teneur en eau est mesurée au

.../...

Laboratoire par la méthode de référence pratique selon la norme française homologuée N F V 03. 707, dans son édition la plus récente.

- Si l'humidité de la marchandise dépasse la base convenue par contrat, la réfaction s'établira à raison de :
  - 1 % du prix du contrat pour le premier point (1 %) excédentaire et au prorata par dixième.

Si le contrat prévoit une humidité basée sur deux limites, la réfaction en cas de dépassement de la limite supérieure sera calculée à partir de la moyenne de ces deux limites.

Si le dépassement de l'humidité est supérieur à un pour cent, la marchandise est refusable.

3) Grains cassés/brisés Brokens

Dans le cas où le pourcentage des grains cassés/brisés dépasse celui garanti par le contrat, il sera alloué une réfaction de 1/4 % par point excédentaire jusqu'à 3 % fractionné proportionnellement. Au-delà de cette limite de 3 %, la réfaction sera fixée par arbitrage.

4) Grains germés Sprouted

Dans le cas où le pourcentage des grains germés dépasse celui garanti par le contrat, il sera alloué une réfaction de 1/2 % par point excédentaire jusqu'à 3 %, fraction au prorata. Au-delà de cette limite de 3 %, la marchandise est refusable.

5) Impuretés

Les impuretés sont constituées par :

a) Les impuretés grains comprenant :
   - les grains d'autres céréales et de plantes cultivées
   - les grains attaqués par les déprédateurs
   - les petits grains au-dessous de la grille de 2 mm pour blé
   - le blé ou de 1 mm 8 pour le seigle
   - les grains colorés Rye

b) Les impuretés diverses comprenant :
   - les graines étrangères sauvages
   - les grains chauffés et/ou moisis dans l'amande, les grains cariés, les grains fusariés roses au-dessus de la grille de 2 mm
   - les débris au-dessous de la grille de 1 mm et toutes les matières inertes ou nuisibles, notamment l'ergot.

Les définitions des impuretés sont celles décrites dans les méthodes d'examen des céréales établies par le B.I.P.E.A. et publiées sous le code C R 46 M dans son édition la plus récente.

.../...

Pour le calcul des réfactions, le pourcentage des impuretés sera établi en comptant pour moitié de leur poids celles de la catégorie a) et pour leur intégralité celles de la catégorie b).

Le pourcentage, une fois déterminé, la réfaction s'établit à raison de 1 % par point jusqu'à un dépassement de 2 % au-delà de la tolérance prévue au contrat et 2 % par point pour les 3 et 4° pour cent excédentaires, fractions au prorata. Au-delà, la marchandise est refusable.

6) Temps de chute de Hagberg

En cas de vente comportant une garantie de temps de chute de Hagberg, la tolérance d'insuffisance éventuelle est fixée à 30" dont 15" en franchise et une réfaction d'un pour mille par seconde sur le prix net facturé au-delà de 15" et jusque 30". Au-dessous, la marchandise est refusable.

La garantie en temps de chute de Hagberg ne peut cumuler avec une garantie de grains germés laquelle, dans ce cas, devient nulle et non avenue.

7) Protéine

Le dosage de l'azote est effectué suivant méthode B.I.P.E.A. en utilisant un coefficient de 5,7.

En cas de vente comportant une garantie de protéine, l'insuffisance sera pénalisée à raison de 2 % du prix de facturation hors taxes et au prorata pour 0,5 % de manquant. Au-delà, la marchandise est refusable.

Toutefois, il y a franchise si le manquant ne dépasse pas 0,20 %

En conséquence, le barême est le suivant :

- insuffisance 0,10 % : pas de réfaction
- " 0,20 % : pas de réfaction
- " 0,30 % : réfaction de 1,20 % du prix
- " 0,40 % : réfaction de 1,60 % du prix
- " 0,50 % : réfaction de 2,00 % du prix

8) Test de Zélény

Le test de Zélény est effectué en appliquant la norme ISO 5529 dans son édition la plus récente. L'indice de sédimentation est exprimé à l'unité près.

En cas de vente comportant une garantie d'indice de sédimentation, l'insuffisance sera pénalisée selon le barême suivant, les réfactions s'appliquant au prix de facturation hors taxe :

.../...

Insuffisance 1 unité : pas de réfaction
2 unités : pas de réfaction
3 unités : réfaction de 1.20 %
4 unités : réfaction de 1.60 %
5 unités : réfaction de 2.00 %
6 unités et plus : lot refusable

II - BLES TENDRES VENDUS AVEC GARANTIE DE VARIETES

En cas de besoin ou à la simple demande de l'acheteur, les analyses de contrôle seront effectuées par le/s laboratoire/s désigné/s par les parties, choisi/s parmi ceux dont l'équipement, le personnel et le fonctionnement assurent régulièrement des résultats satisfaisants aux contrôles du B.I.P.E.A. Elles seront effectuées suivant la méthode de l'électrophorèse des gliadines et réalisées sur 50 grains, prélevés dans l'échantillon de laboratoire selon la méthode arrêtée par le B.I.P.E.A.

a) Variétés composantes nettement définies

Le pourcentage reconnu de grains appartenant à la variété ou aux variétés désignées doit correspondre au pourcentage garanti par le contrat.

Une insuffisance jusque 5 grains sur 50 est tolérée, gratuite pour les deux premiers et pénalisée de 1/2 du prix facturé, hors taxes, par grain pour les trois autres. Au-delà, la marchandise peut être refusée. Exemple : Une vente faite avec garantie de 80 % d'une ou plusieurs variétés doit, à l'analyse révéler 40 grains sur 50 de la ou des variétés contractuelles. Au-dessous, la livraison sera tolérée comme étant contractuelle avec 39 et 38 grains sans réfaction ; 37 grains avec réfaction de 1/2 % ; 36 grains avec réfaction de 1 % ; 35 grains avec réfaction de 1,50 %. En-deçà, la marchandise est refusable.

b) Variétés exclues

En cas de vente comportant des variétés exclues, la présence de trois grains sur 50 desdites variétés sera tolérée, dont deux grains en franchise ; le troisième grain étant pénalisé par une réfaction de 1/2 % du prix facturé, hors taxes. Au-delà, la marchandise est refusable.

En cas de vente comportant des variétés exclues avec néanmoins un pourcentage contractuel de tolérance, la marchandise pourra être refusée si le pourcentage contractuel est dépassé.

SUR L'ENSEMBLE DE TOUTES CES DISPOSITIONS (chapitres I, II) SI L'ACHETEUR PREND LIVRAISON D'UNE MARCHANDISE REFUSABLE, LA REFACTION FINALE SERA FIXEE PAR ARBITRAGE, FAUTE D'ACCORD AMIABLE.

.../...

III - DISPOSITIONS GENERALES

a) Echantillons

L'échantillon global, issu des prélèvements élémentaires, dont le nombre et les conditions d'exécution sont établies par le contrat de base, est soigneusement homogénéisé, puis divisé obligatoirement à l'aide d'un diviseur pour obtenir des jeux de chacun 3 échantillons de laboratoire représentatifs d'au moins 1 Kilo. Les échantillons seront cachetés.

b) Bulletin d'analyse variétale

Le bulletin d'analyse variétale portera le nombre de grains de chaque variété identifiée et le nombre de grains non identifiés, sur cinquante grains.

En annexe de chaque bulletin figureront des tableaux, pour des effectifs de 50, 100 ou 150 grains, donnant les intervalles de confiance des nombres de grains identifiés pour une probabilité de 95 %.

c) Analyses

Toutes analyses et contre-analyses nécessaires seront effectuées par les laboratoires désignés sur contrat privé par les parties contractantes et choisis sur une liste établie sur proposition du B.I.P.E.A. (Bureau Interprofessionnel d'Etudes Analytiques).

Si aucune désignation de laboratoire n'a été faite par les parties, toutes analyses et contre-analyse seront demandées à la Chambre Arbitrale de Paris.

Les frais d'analyse sont à la charge des acheteurs si les livraisons se révèlent conformes aux normes de base. En cas de livraisons sujettes à réclamations, les frais d'analyses seront à la charge des vendeurs.

Si l'acheteur a pris livraison d'une marchandise refusable, la réfaction sera fixée par arbitrage, faute d'arrangement amiable. Cette réfaction ne pourra être inférieure au maximum prévu par le barême pour le ou les motifs en cause, d'où la faculté pour l'acheteur de facturer ce minimum/maximum en règlement financier et final, sans arbitrage.

IV - LISTE DES LABORATOIRES AGREES A COMPTER DU 1ER AOUT 1986

A) Laboratoires reconnus aptes à déterminer la qualité Panifiable

I.A.N.E.S.C.O.
11 Rue Alcide d'Orbigny
17000 LA ROCHELLE

CREPIN ANALYSES ET CONTROLES
3 Rue de Buffon
76007 ROUEN

.../...

1975. German-Dutch Contract No. 7

for grain shipments on inland-waterway and sea-going vessels within Europe,
c.i.f. border passage, or arriving / delivery

prepared by
Verein der Getreidehändler der Hamburger Börse e. V.,
Koninklijke Vereniging Het Comité van Graanhandelaren, Rotterdam,
Vereniging Amsterdamse Graanhandel,
Synacomex, Paris.

(Legally binding shall be the original German text, but not this translation.)

Issued October 1, 1975

..... 19.....

Seller: .....

Buyer: .....

Intermediary: .....

I (We) bought / sold today on the following conditions:

Quantity: ..... in words: .....
tons of 1000 kilogrammes, in full shipments / part shipments, in bulk

Merchandise: .....

Quality: a) fair average quality of shipments at the time and place of shipment,

b) about as per sample, marked .....

sealed ..... in the possession of .....

.....

c) .....

with a natural weight of ..... kilos/hl, ... % admixture, ... % moisture, ... % sprouted grains

border passage / arriving / delivery: ..... (period)
to be shipped sound, merchantable from the country of origin

at the price of: ..... in words: .....

in ..... tons kilos delivered, in bulk, incl. freight and insurance to .....

.....

Payment: net cash against documents, which must be in order, (see § 11) in .....

Arbitration: Verein der Getreidehändler der Hamburger Börse e. V., Börse, Kontor 24,
2000 Hamburg 11, Telephone: 36 21 62, Telex 02 13867 NEUE TELEFO..-NR.: 36 20 85

Remarks: .....

The parties submit to the conditions pertaining to this contract and to the relevant sub-conditions and arbitration rules. All disputes relating to this contract and any further agreements connected with it are to be settled by the court of arbitration of the association agreed, and not only disputes between buyer and seller but also between the parties to the contract and intermediaries.

..... Buyer ..... Intermediary ..... Seller

§ 1 Written Confirmations / Supplementary Agreements

(1) If contracts or letters of confirmation are being exchanged or given by a broker or agent, all previous agreements are cancelled if they have not been included in the contract or written confirmation. Contracts and written confirmations against which no immediate protest has been raised in writing, by telegram, or telex, are deemed approved.
(2) If later verbal agreements are made, they are valid only if at least one party confirms them immediately in writing or by telex. If no immediate protest is made against such communications in writing, by telegram, or telex, they are deemed approved.
(3) If letters of confirmation and contract(s) or several letters of confirmation are being given, the seller's letter of confirmation is to apply if it remains uncontested.

§ 2 Business Days, Periods

(1) Business days in the sense of this contract are all calendar days with the exception of Saturdays, Sundays, legal and recognized holidays, and the 24th and 31st December (non-business days).
(2) If the parties stipulate "first half of the month" or "second half of the month" as period of fulfilment of the contract, the 16th day of any month with an odd number of days is deemed to belong to either the first or the second half.

§ 3 Quantity Margins

(1) The seller has the right to ship 5 % more or less on an inland watercraft and 10 % more or less on a sea-going vessel. 2 % thereof are to be invoiced at the contract price, the remainder at the market price. The date to apply to the market price is the last day of discharge in the port of destination of the quantity concerned.
(2) In a border passage transaction, the bill of lading date applies to the market price.

(3) If the contract is being fulfilled in part shipments during the agreed period of fulfilment, the seller's right to ship 5 resp. 10 % more or less applies only to the last part shipment within this period of fulfilment.
(4) If at discharge, the quantity margin exceeds 6 resp. 11 %, the buyer has the option to demand the goods to be invoiced at the contract price or at the market price on the last day of discharge in the port of destination of the quantity concerned, and this option to either case to apply to the entire quantity margin including the permitted 6 resp. 11 %.
(5) The taking-up of documents must not be delayed because of disputes regarding the market price. The calculation appears in the final invoice.

§ 4 Shipment

(1) Shipment is to be on first-class seaworthy ships or motor sailing vessels, resp. in the case of transport on inland waterways, on good and waterway craft, towed or push barges, direct or indirect.
(2) Each part shipment stands as a separate contract. If the quantity sold is 50 tons or less, the parcel must be loaded in one ship; if it exceeds 50 tons, the seller has the right to load the goods in one or more ships, but the quantities must not be less than 47,500 kilos each.
(3) If the goods are being sold as "afloat", the ship must have been cleared. If "loaded goods" are sold, they must be on board at the time of purchase. If the sale is of "goods being loaded", they must be in the process of being loaded at the time of purchase. A "ship being loaded" must have commenced loading.

§ 5 Destination

(1) If the port of destination has not been stipulated by the parties, the buyer has to declare the destination by telegram or telex reaching the seller at the latest on the first business day of the month preceding the month of fulfilment. If the period of fulfilment is other than one calendar month, the afore-mentioned arrangement is to apply accordingly.
(2) If the declaration naming the destination has not reached the seller within the stipulated time, the seller may, after having given the buyer notice by telex or telegram, ship the goods to a destination within the range agreed in the contract.

§ 6 Period of Fulfilment

(1) In a "border passage" transaction, the seller has fulfilled the contract after completion of the customs formalities incumbent on him.
(2) If the goods have been sold "arriving" or "delivery", the seller has fulfilled the contract with the shipper's giving notice of readiness to discharge.
(3) If notice of readiness to discharge is being given before the period of fulfilment, the declaration is deemed to have been given for the first business day of the period of fulfilment. The seller has to bear any extra cost incurred through the premature declaration.
(4) The period of fulfilment ends with its last calendar day. If the period ends on a non-business day, preventing fulfilment, the last preceding business day is deemed the last day of fulfilment.

§ 7 Transhipment

(1) The seller has the right to have sea-borne goods transhipped if this is done by the vessel's owners on a through-bill of lading.
(2) In the case of inland water transport, transhipment with or without a through-bill of lading is permitted if the seller has informed the buyer of that intention latest with the appropriation, naming the transhipment port, and if the following conditions are adhered to: –
a) completion of transhipment within 5 business days after the arrival of the tendered vessel in the transhipment port;
b) supervision of the transhipment by an independent recognized organization (viz. warehouse, superintendence or transhipment company) and certification of the identity of the goods;
c) advice of dispatch on the connecting transfer ship after completion of transhipment by the seller in accordance with § 10;
d) invoicing on the basis of the weight loaded into the connecting vessel and presentation of documents for that ship if transhipment is not on a through-bill of lading;
e) seller bears the full transport risk for the goods to the transhipment port relating to any damage to the goods, average, and other cases of *force majeure*. He must inform the buyer of such an event immediately after it becomes known to him.
(3) Damaged or averaged goods may not be transhipped unless the buyer gives the seller express permission to do so. The contract is cancelled as far as the quantity is concerned which has not been transhipped because of damage, average, or force majeure without the parties having any claim against each other.

§ 8 Stowage Bags

If the goods are transported by sea, the seller has the right to load up to 15% in stowage bags in which case he will have to see to the cutting, emptying, and handling of the bags at discharge and bear the cost therefor. The bags remain the property of the seller.

§ 9 Combined Shipments

The seller has the right to load together goods of the same kind and quality, sold on the same quality terms on the basis of a German-Dutch Contract, even if they are destined to several ports, but the buyer must not be put to any disadvantage on account of this action.

§ 10 Appropriation

(1) Notice of completion of loading, stating the ship's name, the port of loading, the bill of lading date, and the approximate loaded weight must be given to the buyer by telegram or telex, within 2 business days after the bill of lading date if the goods are transported on inland waterways and within 1 business day after the bill of lading date in cases of shipment by sea.
(2) Sellers must forward the appropriation immediately by telegram or telex. Held equal to the appropriation by telegram or telex to the buyer shall be if that information is given by telegram or telex to the seller's agent and passed on by him immediately the same as by telegram or telex if received during the usual business hours.
(3) An appropriation cannot be withdrawn. The seller is not responsible for any mutilation of telegrams or telexes. The seller has the right to correct inaccuracies in appropriations except for the ship's name. The correction must have been made latest by the time the documents are being paid for.
(4) The seller does not have the right to give an appropriation for a ship which has become unseaworthy by average if he has knowledge of its unseaworthiness or if he could or should have obtained that knowledge.

§ 11 Documents / Payment

(1) The bill of lading or the loading note shall state if freight has been paid or is considered paid. The invoice amount is to be paid in exchange against documents, the freight to be deducted unless prepaid, the freight amount to be reduced by the customary advance payments, if any.
(2) The documents consists
aa) as, in the case of sea ships, of a complete set of clean "on-board" bills of lading, at least in duplicate, or delivery order(s) for such bills of lading made out by a reliable third party in rightful possession of the bills of lading;
bb) in the case of inland waterway craft, of clean river bills of lading (i.e. connaissement fluvial) or ship's loading notes but not delivery orders;
b) insurance policy (policies) or certificate(s);
c) provisional invoices for the quantity loaded;
d) other documents if and as agreed.
(3) A copy of the charterparty is to be attached to the documents or a transcript of the charterparty conditions relevant to the buyer if reference to a charterparty is made in the bill of lading. In such a case, the buyer may, moreover, demand to see the charterparty.
(4) If bill-of-lading or charterparty conditions vary from those of the contract, the seller has to provide a suitable banker's or other adequate guarantee approved by the buyer. The same applies if an incomplete set of bills of lading is presented.
(5) On buyer's demand, the seller has to produce such other documents as are necessary for customs clearance and which can, in the circumstances, only be provided by the seller (certificate of origin etc.). Failure by the seller to provide such documents in time does not relieve the buyer of his obligation to pay as per (1).
(6) If the documents contain inaccuracies, the buyer is not entitled to refuse to accept them if a guarantee is provided by a first-class bank domiciled in the same country as the buyer.

... documents have to be presented to the buyer at his place of business on a business day by 12 noon and, if in order, they have to be paid by 12 noon on the following business day. Payment for the documents is deemed made subject to fulfilment within the agreed period. Should the buyer refuse to accept the documents, he must state the reasons therefor immediately to the person presenting the documents.

... is in arrears with payment, the contract conditions for default apply, but the seller, after declaring which of his rights he intends to exercise, must wait one business day before doing so. Within this time limit, the buyer may still pay but has to bear the cost incurred through the delay.

(9) The buyer has to receive the goods also if at arrival of the the ship the documents are not at hand. In such a case he has to give the guarantee demanded by the ship [illegible] owners; but the seller has to bear all extra costs incurred through the delayed presentation.

(10) By receiving the goods and gi[illegible] such guarantee, the buyer does not lose any of his rights against the seller, ensuing from the documents.

§ 12 Insurance

(1) The seller has to insure the goods in the currency of the contract price at the customary F.P.A. conditions for sea voyages including war, mine, and torpedo risks, with recognized good insurance companies, for the solvency of which the seller is, however, not responsible, at 3 % over the contract price. Any excess amount to be for seller's account in the case of total loss. Any insurance premium covering the risks of war, mines, and torpedoes exceeding one half per cent to be for account of the buyer.

(2) The insurance policy resp. certificate must state that the premium has been paid or is deemed to have been paid resp. that the insurer will pay compensation for damages also if the premium is unpaid. The insurance policies resp. certificates must also state that the insured amount incl. the imaginary profit will be paid in full in case of total loss.

§ 13 Average

Average is for seller's account (also if it concerns condition — § 19). In case of average, the buyer, for account of the seller, must take the necessary steps to claim against the insurer and/or those responsible for transport. He must, against payment of the inferior value laid down by arbitration and the advance payment, if any, towards general average, furnish the seller with the customary documents required by the average adjusters to prepare the average adjustment and/or with all documents which enable the seller to take recourse against the ship owners. He must return to the seller also the policy (policies) or insurance certificates which he has taken out to increase the insured amount. If the policies or certificates cannot be produced, the buyer has to pay that part of the average amount which the seller cannot recover because of the absence of these documents, but after the average adjustment, the seller must refund the buyer the portion allotted in the average adjustment to the policies or insurance certificates which the buyer has taken out to increase he insured amount.

§ 14 Export/Import Permits

The seller is responsible for the furnishing in time and for the validity of any required export licences and the buyer for the furnishing in time and for the validity of any required import licences and foreign exchange permits. Should such permits, after being given to the parties, be withdrawn, the party responsible for obtaining them remains also responsible therefor, unless the withdrawal is due to a general export resp. import prohibition.

§ 15 Force Majeure

(1) Should the fulfilment be rendered impossible by prohibition of exports or imports, blockade, hostilities, or other cases of force majeure, this contract or any unfulfilled portion thereof will be cancelled. Should the seller have recourse to such an obstruction to loading, he has to inform the buyer by telex or telegram immediately after the event has come to pass.

(2) If fulfilment is rendered impossible for a time by riot, strike, lockout, or other temporary circumstances beyond the seller's responsibility, the period of fulfilment is extended by the duration of the obstruction. The same applies in the case of unusual water conditions or ice obstruction on the waterways and in the port of destination. Should the obstruction last longer than 28 consecutive days, the contract will be cancelled without mutual allowances. If the seller claims a case of impediment to fulfilment, he has to inform the buyer at the latest two business days after the period of fulfilment has expired.

... the contract states several periods of fulfilment, the afore-going stipulations apply only to the period directly affected by the impediment or obstruction.

... On buyer's demand, the seller has to prove the existence of the impediment or obstruction to fulfilment.

§ 16 Extension

If the contract is not fulfilled within the agreed period, that period shall be extended by up to 8 consecutive days without any special notice being required from the seller. The seller has to pay the buyer an allowance of ¾ % if the fulfilment period is exceeded by up to 4 days and an allowance of 1¼ % if the fulfilment period is exceeded by 5 or 8 days. In the invoice, the allowance must be deducted from the contract price resp. it must be stated at the latest in the final invoice. In case of non-fulfilment, the calculation of the price difference has to be based on he contract price less 1¼ %.

§ 17 Discharge

... The goods have to be discharged during the working hours customary in the port of arrival and in accordance with the custom of the port. If the documents contain contrary stipulations, the seller will be responsible for all extra expenses incurred thereby (see also § [illegible] Payment). The cost of discharge is for buyer's account, in the case of sea traffic ex the ship's rail and in the case of inland navigation ex the ship's holds.

(2) The buyer has to see to the goods being properly weighed at discharge and to obtaining free of cost an official certificate or the certificate of a sworn weigher unless the weights have been mutually ascertained.

(3) Lighterage and demurrage resulting from the vessel being prevented to reach the port of destination are at the expense of the seller and, in the event, are to be allowed for in the final invoice. In inland navigation, the seller decides about lightering.

§ 18 Pro Rata

(1) Collected residue, damaged goods, sweepings, and the excess or deficiency delivered by the ship over or below the invoiced quantity are to be shared by and apportioned pro rata between the various receivers in the port of discharge named in the contract, namely collected residue, damaged goods, and sweepings in kind, the quantity excess or deficiency by settlement. If a receiver receives more or less than his pro-rata share or pro-rata apportioning, he has to settle in cash with the other receiver or receivers at the current price ruling on the last day of discharge of the ship in the port of destination of the quantity concerned. The current price is, if necessary, to be fixed by arbitration. All sellers and buyers, who have shipped or have to receive a part of a larger quantity according to a contract containing this clause, submit to the afore-mentioned procedure and undertake to have settled by the court of arbitration named in this contract any disputes arising amongst them from such pro-rata apportionings and to give the necessary assistance in ascertaining the pro rata. The sellers are responsible for the settlement of the pro rata by their buyers within a reasonable time.

(2) The apportioning and pro-rata settlement in Amsterdam and Rotterdam, moreover, conform with the "Reglement Verdelingen van de Vereniging voor de Beslechting van Geschillen bij de Graanexpeditie", Rotterdam.

(3) Any allowances for condition, quality, natural weight, analysis variation are to be paid on the quantity actually received and not on the pro-rata weight.

§ 19 Condition

(1) The goods are to be delivered in sound condition.

(2) The buyer has to accept any damaged or unsound goods with an allowance to be fixed, if necessary, by arbitration.

(3) A normal, natural, characteristic smell and slight dry warmth, which has not injured the goods, is not to be objected to.

§ 20 Quality

(1) Unless otherwise agreed, the delivery has to be of fair average quality of the shipments at the time and place of loading. The place of loading under this contract is to be the country of origin as agreed resp. the region adopted by the standards commission of the competent court of arbitration in making the respective standard. Any variations from fair average quality claimed by the buyer

are to be determined by the competent court of arbitration on the basis of and in comparison with the official standard sample for the place and time of shipment as established by the competent court of arbitration.
(2) Separate standards are to be made for maize discharged by suction elevator and for maize discharged by grabs or other means.
(3) If a standard sample has not been made, the court of arbitration has to decide by its own expertise whether or not the delivered goods are of fair average quality.

§ 21 Sampling

Sampling at discharge is according to the Sampling Rules published in connection with the German-Dutch Contract No. 4.

§ 22 Natural Weight Ascertainment

The natural weight is established by the authority competent and accepted by the trade in the port of destination on a gauged ... within 5 business days after receipt of the samples by that authority.
... the scale does not exist at the port of destination, the samples are to be weighed on the gauged one-litre scale of the competent authority accepted by the trade for ascertaining natural weights.
... weighings have taken place, the average natural weight is to be ascertained under consideration of the quantities. The ... to goods of the same kind and quality which have been shipped in one vessel on several bills of lading and delivered ... the buyer.
... parties have the right to be represented when the natural weight is being ascertained.
... the goods used to ascertain the natural weight belong to the authority entrusted with that procedure.
The natural weight is being calculated on the basis of the weights ascertained on the 20-litre or 1-litre scale in accordance with the regulations valid or customary in the particular port. Each party bears 50 % of the cost of ascertaining the natural weight.

§ 23 Allowances for Natural Weight Deficiencies

... of 1 % at delivery is permitted for shrinkage during transport if the sale has been of goods with a stated natural ... agreed natural weight is within two limits (i.e. 77/78 kilos), the mean of the two is taken as the basis.
... natural weight properly ascertained on the appropriate 20-litre resp. 1-litre scale is final. Allowances for lower natural weight of ... e, barley, and oats delivered sound are as follows:
... off the contract price for the first and second kilo/hl deficiency each and
... off the contract price for the third kilo/hl deficiency.
... delivery of feed barley has been expressly agreed between the parties, the allowances on the goods delivered sound are ... off the contract price for each the first, second, and third kilo/hl deficiency.
(.) Fractions are to be allowed for in proportion.
(.) The court of arbitration has to decide the inferior value if the deficiency is greater.
(.) If the court of arbitration has to decide the inferior value of the goods according to § 19, is must, on application of one party, declare at the same time whether an allowance for natural weight deficiency is contained therein or whether it has to be paid separately.

§ 24 Analysis

(1) The application to analyse for admixture and/or moisture and/or sprouted grains and/or other contractually agreed quality characteristics, which are customarily ascertained by analysis, has to be despatched by the buyer to the analyst within 10 business days after the discharge of the ship in the port of destination of the quantity concerned. Unless something different has been agreed by the parties, the analysis is to be carried out by the recognized analysts domiciled at the same place as the court of arbitration.
(2) For goods of the same kind and quality, which the seller has shipped in the same ship from the same port of loading to one buyer, an average of the analysis results will be ascertained taking into account the quantities represented, also if the goods are shipped on several bills of lading.
(3) Half the cost of the analysis shall be borne by each party. In other respects, the sampling and analysis rules pertaining to this contract apply.

§ 25 Second Analysis

(1) A second analysis for moisture and sprouted grains is inadmissible.
(2) If a second analysis is demanded for admixture or other contractually agreed content values customarily ascertained by analysis, notice to the other party and the application for a second analysis to the respective analyst have to be despatched within 5 business days from the receipt of the analysis certificate. Resellers must forward the notice without delay. The time allowed is being extended accordingly.
(3) If the contract does not state the analyst to carry out the second analysis and if the parties do not agree another analyst, the second analysis is to be carried out by the same analyst as the first one.
(4) The result of the first analysis remains valid if the second analysis result does not vary from it by more than ½ %. If the variation exceeds ½ %, the mean of the two analysis results applies no matter which party applied for the second analysis.
(5) The cost of the second analysis is to be borne by the applicant unless both parties have applied for the second analysis. In such a case, each party has to bear 50 % of the cost.

§ 26 Admixture

(1) If foreign substances (admixture not including other grains) exceed the contractual basis when the sale has been of wheat or milling rye, the allowance off the contract price shall be 1 % each for the first and second per cent excess admixture and 2 % each for the third and fourth per cent excess admixture.
(2) If foreign substances exceed the contractual basis when the sale has been of feed wheat, feed rye, barley, oats, maize, or sorghum, the allowance off the contract price is 1 % each for the first, second, and third per cent excess admixture and 2 % each for the fourth and fifth per cent excess admixture.
(3) If the rye admixture exceeds the contractual basis when the sale has been of wheat, the allowance off the contract price is ½ % each for the first, second, and third per cent excess admixture. Grain admixture other than rye when wheat has been sold, will be allowed for at the same rate as foreign substances.
(4) Unless otherwise agreed between the parties, a wheat admixture of up to 5 % is admissible without allowance if milling rye has been sold. Grain admixture other than wheat will in such a case be allowed for at the same rate as foreign substances.
(5) ... with the higher value (other grain). Fractions are to be taken into account.
(6) If the admixture exceeds the above-mentioned allowance scales, the court of arbitration has to decide over the claims for inferior value.

§ 27 Moisture

(1) Exceeding the contractual moisture content by up to ¼ per cent is permitted without any allowance. The allowance for a higher moisture content is to be based on the contractual maximum.
(2) If a moisture content margin (i.e. 16–17 %) has been agreed, the seller, with the preceding paragraph set aside, has fulfilled the contract if he has delivered goods with the agreed maximum content. If the maximum limit has been exceeded, the mean of the two figures is to form the basis for any settlement.
(3) If the moisture content of the goods exceeds the contractual basis, the allowance is to be 1 % off the contract price for the first per cent excess moisture and 1.5 % off the contract price for the second per cent excess moisture.
(4) Fractions are to be allowed for in proportion.
(5) If the moisture content exceeds the contractual basis by more than 2 %, the court of arbitration has to decide over any claims for inferior value.

§ 28 Claims and Procedure for Claiming Arbitration
[illegible] The buyer has to notify the seller in writing, by telex or telegraph within seven business days after completion of discharge of the ship in the port of destination of the quantity concerned of any claim for inferior condition and/or quality of the goods naming [illegible] arbitrator and stating the reasons. Resellers are to forward the notice without delay. The seller has the right to reject buyer's claim for inferior value if and inasmuch as the claim is made out of time.
[illegible] an award is to be made to the court of arbitration;
[illegible] fair average quality, within 14 business days after the publication that the standard has been or will not be made;
[illegible] from the sales sample, within 14 business days after completion of discharge of the ship in the port of destination of [illegible] concerned;
[illegible] from other quality stipulations than under a) and b), within 14 business days after completion of discharge of the ship [illegible] of destination of the quantity concerned;
d) for divergent condition of the goods, within 7 business days after completion of discharge of the ship in the port of destination of the quantity concerned.
[illegible] Claims for inferior value because of lower natural weight and divergent analysis results are not affected by the above time limits [illegible] and applications for an award, even if the allowances are to be fixed by the court of arbitration because of their extent. [illegible] been of goods of fair average quality and if the difference between the delivery on the one side and the standard [illegible] weight allowance on the other is less than ½ % of the contract price, no quality allowance is to be paid. Otherwise [illegible] a claim of being paid the full difference in value.
[illegible] condition of the goods does not give the buyer the right to refuse to accept them. Inferior quality of the goods does not give the buyer the right to refuse to accept them unless the court of arbitration has declared such refusal justified because of the deviation from fair average quality respectively from the sales sample plus natural weight and analysis allowances being 10 % or more of the contract price.
5. A [illegible] condition for the acknowledgement of the right to return the goods is that they are still in an unchanged condition in the port of discharge. If the court of arbitration acknowledges the right to return them, the seller has to refund the invoice amount plus interest, freight, and costs against a delivery note. In that case, the buyer has, moreover, a claim for damages because of non-fulfilment [illegible] price difference on the last day of discharge of the ship in the port of destination of the quantity concerned.

§ 29 Final Invoice
Final [illegible] are to be paid within 14 consecutive days after their receipt.

§ 30 Default
[illegible] case of default, the non-defaulter has the right
[illegible] draw from the contract;
[illegible] goods or the documents within 3 business days privately or publicly for account of the defaulter respectively to buy a [illegible] quantity [illegible] to demand from the defaulter immediate payment of the price difference resulting [illegible] the debit of the de[illegible]
[illegible] VEREIN DER GETREIDEHÄNDLER DER HAMBURGER BÖRSE E.V. has been agreed, the covering purchase [illegible] accordance with the "Directives of the Council of the VEREIN DER GETREIDEHÄNDLER DER HAMBURGER [illegible] Regarding Covering Transactions and Price-Fixing Within the Jurisdiction of the Verein";
[illegible] value of the goods ascertained by the court of arbitration and to demand from the defaulter immediate payment of the [illegible] resulting to the debit of the defaulter.
[illegible] The non-defaulter has to inform the defaulting party without delay which right he intends to exercise. Failing this or if he has [illegible] to make a covering purchase or sale but has not done so or has not been able to do so, he [illegible] The same applies if the covering transaction has not been carried out in the proper manner [illegible] has led [illegible] result [illegible] opinion of the court of arbitration, does not conform to market conditions.

§ 31 Circle Clause
[illegible] a seller has rebought from his buyer or from a subsequent buyer the same goods or a portion thereof [illegible] have been [illegible] settlement has to be on the appropriated quantity by the buyer paying the seller the [illegible] price [illegible] the contract concerned and the lowest invoice amount in the circle. Circle invo[illegible] business [illegible]
[illegible] rules apply accordingly when no appropriation has been made. Every seller [illegible] establishing the circle. A circle having been established and being obliged [illegible] buyer [illegible] particular amount resulting from the circle settlement.
[illegible] settlement does not take place if delivery is rendered impossible as per § 15 and if the [illegible]
[illegible] the circle suspends payments or if facts exist which ar regarded equal to a suspens[illegible] payments instead of [illegible] settlement on the lowest invoice amount, it has to be based on the current price ruling on the [illegible] business day after the [illegible] payments or of facts regarded equal to a suspension of payments have become known [illegible] price is, if necessary, ascertained by an expert to be nominated by the chairman of the agreed court of arbitration [illegible] of his representatives. [illegible] differences are to be mutually settled by the parties to the contract concerned.

[illegible] of Payments
[illegible] payments or if facts exist which are regarded equal to a suspension [illegible]
[illegible] a suspension of payments or other facts regarded equal to a suspension [illegible] cause the transactions to be wound up by purchase respectively [illegible] failing which both parties have the right to have the value of the goods [illegible] the court of arbitration agreed or by one of his representatives. Settling day for the price [illegible] of facts regarded equal to a suspension of payments has become known.
[illegible] difference to be settled between the parties. The costs are to [illegible] the contract is inadmissible in the case of suspension of payments.

[illegible] on a business day after 1600 hours, are deemed to have been [illegible] communications without delay.

§ 34 Commission
The seller has to pay the intermediary the agreed commission, no matter whether this con[illegible] or cancelled unless the intermediary can be proved to be responsible for the non-fulfilment or cancellation of the contract.

§ 35 Arbitration
[illegible] has been agreed, all claims arising out of this contract [illegible] referred to arbitration [illegible] year after the end of the period of fulfilment.
[illegible] arbitration has been agreed, the plaintiff party has the right [illegible]
3. [illegible] the arbitration rules of the competent court of arbitration [illegible] that purpose.

§ 36 Non-Compliance with an Award
[illegible] association is entitled to publish, by posting on the notice board of the exchange or otherwise and [illegible] the name of a party which has not com[illegible] with a final award or has [illegible] a compromise agreed [illegible] of arbitration. Prior to taking such measure, the party concerned must be given opportunity to state its

ALGERIA CONTRACT

?.5. 77 KGS/HL MINIMUM GARANTI AU DEBARQUEMENT REFACTIONNABLE ENTRE 77 KGS/HL ET 75 KGS /HL/DE 1 POINT POUR 1 EN FAVEUR ACHETEUR.
AU DESSOUS DE 75 KGS /HL LA MARCHANDISE SERA DECLASSEE AUX RISQUES ET PERILS DU VENDEUR.

MATIERES ETRANGERES ET INERTES :1) MAXIMUM
HUMIDITE :14) MAXIMUM
GRAINS ENDOMMAGES (BOUTES):2) MAXIMUM
GRAINS PUNAISES : NEANT
VALEUR BOULANGERE:130 MINIMUM
GRAINS MAIGRES ET ECHAUDES :5) MAXIMUM
GRAINS CHAUFFES OU GERMES :NEANT
PRESENCE D ERGOT :1 POUR MILLE MAXIMUM
GRAINS MOUCHETES :5) MAXIMUM GARANTI AU DEBARQUEMENT
GRAINS NUISIBLES : NEANT
PROTEINE :11, 5) MINIMUM
INDICE ZELINY:A PRECISER SUR L OFFRE
CHUTE D'AGBERG :A PRECISER SUR L OFFRE

6)CADENCE AU DECHARGEMENT :1.000 TM/ JOUR
7)TIRANT D'EAU 28 PIEDS MAXIMUM A L'ARRIVEE AU 1ER PORT DE DEBARQUEMENT
8)POIDS , QUALITE , CONDITIONNEMENT : FINAUX A L'EMBARQUEMENT SAUF
----- POIDS SPECIFIQUE GARANTI AU DEBARQUEMENT

9)EXTRA FRET : 1,50 DOLLARS USA LA TONNE METRIQUE SUR LA TOTALITE DE LA CARGAISON

10)SURESTARIES /DESPATCH.
-------------------------/SELON CHARTE PARTY, MAIS MAXIMUM 4.000 DOLLARS DE SURESTARIES ET MOITIE DESPATCH.

11 CAUTION DE BONNE EXECUTION :10) DU MONTANT DU CONTRAT.
----
12)PAIEMENT : CONTRE REMISE DOCUMENTAIRE A 100) PAR AILLEURS VOUS DEMANDONS PREVOIR DANS VOTRE OFFRE FINANCEMENT (CREDIT FOURNISSEUR, CREDIT ACHETEUR , LIGNE DE CREDIT ETC...)

13)PENALITES DE RETARD :0,50 DOLLARS USA PAR TONNE ET PAR JOUR

RECEPTION DES OFFRES ..

LA DATE LIMITE DE RECEPTION DES OFFRES A L'OAIC EST FIXEE AU LUNDI 29 SEPTEMBRE 1986 A 17 HEURES ALGERIENNES STOP LES OFFRES DOIVENT ETRE TRANSMISES PAR TELEX OU ETRE DEPOSEES PAR UNE PERSONNE DE VOTRE ORGANISME DUMENT MANDATEE , AU SIEGE DE L'OAIC / BUREAU DES MARCHES)SIS AU 5 RUE FERHAT BOUSSAD ALGER (EX MEISSONNIER)SOUS DOUBLE ENVELOPPE CACHETEE STOP L'ENVELOPPE EXTERIEURE DEVRA
PORTER LA MENTION ''CONSULTATION NR 13/86 DU 21.9.1986 NE PAS OUVRIR '' STOP TOUTE OFFRE PARVENANT APRES CETTE DATE NE SERA PRISE EN CONSIDERATION STOP VOUS DEMANDONS DELEGUER REPRESENTANT DUMENT MANDATE POUR NEGOCIATION ET SIGNATURE
E EENNTTTTUUUUUUUUUUUUUUUUUUUUUUU

----UUUU
E ET [illegible] DU
CONTRAT MUNI DU CACHET DE VOTRE SOCIETE LE MARDI 30 SEPTEMBRE 1986 A 9H00 STOP PRESENCE OBLIGATOIRE STOP NEGOCIATIONS PAR TELEX ET TELEPHONE NE SONT PAS ADMISES STOP SALUTATIONS STOP ET FIN OAIC ALGER

SIGNE LE DIRECTEUR GENERAL OAIC ALGER

[illegible] AT++++++++++++++++++++++??
[illegible]

APPENDIX D

CATALOGUE OF SEED VARIETIES AND RELEASE CRITERIA

CATALOGUE OFFICIEL DES ESPÈCES ET VARIÉTÉS

TOME 1

Plantes de grande culture

Édition 1987

gnis
groupement national interprofessionnel des semences et plants

Etabli sur propositions
du Comité technique permanent de la sélection des plantes cultivées
et arrêté par le Ministère de l'Agriculture

Blé tendre

(Triticum aestivum L. emend. Fiori et Paol.)

LISTE A

Identification de la variété		Obtenteur et responsable	Inscription	Reinscription
Code GNIS	Nom			
032				
	• Type hiver			
0129	**Abo** •	Obt. : SCANEB *(F 8111)*	1977	1987
0181	**Aboukir** •	Obt. : Desprez Veuve et Fils *(F 8444)* SOV	1981	-
0145	**Adam** •	Co-Obt. : Coop de Pau - CACBA *(F 8071)* SOV	1980	-
		LBNR *(A 8255)*		
0152	**Aiglon** •	Obt. : UNISIGMA *(F 8174)* SOV	1980	radiée(8)
0149	**Albatros°** •	Obt. : Clovis Matton *(B 8417)* SOV	1980	-
		R.C. : SERASEM *(F 9295)*		
0107	**Alto** •	Obt. : RAGT *(F 8029)*	1975	1985
0300	**Alvina** •	Obt. : Coop de Pau - CACBA *(F 8071)* SOV	1983	-
0183	**Apexal** •	Co-Obt. : Coop de Pau - CACBA *(F 8071)* SOV	1982	-
		LBNR *(A 8255)*		
		R.M. : Coop de Pau - CACBA *(F 8071)*		
0150	**Aquila** •	Co-Obt. : Nickerson RPB *(GB 8202)* SOV	1981	-
		Nickerson IPB *(F 8511)*		
		R.M. : Nickerson RPB *(GB 8202)*		
0136	**Arcole** •	Obt. : Desprez Veuve et Fils *(F 8444)* SOV	1978	-
0365	**Aristide** •	Obt. : Semences de Provence *(F 8236)*	1984	-
0137	**Armada** •	Obt. : Nickerson RPB *(GB 8202)* SOV	1978	-
0127	**Arminda** •	Obt. : Van der Have *(NL 8018)* SOV	1977	1987
		R.M. : Claude Benoist *(F 8105)*		
0219	**Armur** •	Obt. : Lepeuple *(F 8121)* SOV	1984	-
0303	**Arsenal** •	Obt. : Semences de Provence *(F 8236)*	1983	-
0370	**Arval**	Co-Obt. : Mennesson *(F 8108)* SOV	1986	-
		RAGT *(F 8029)*		
		R.M. : RAGT *(F 8029)*		
0252	**Aubaine** •	Obt. : SCANEB *(F 8111)*	1982	-
0349	**Austerlitz**	Obt. : Desprez Veuve et Fils *(F 8444)* SOV	1985	-
0177	**Avalon** •	Co-Obt. : Plant Breeding Inst. *(GB 8237)* SOV	1981	-
		NSDO *(GB 8028)*		
		R.M. : Desprez Veuve et Fils *(F 8444)*		
0108	**Axel** •	Obt. : Belloy *(F 8130)*	1975	1985
0139	**Beauchamp** •	Obt. : Lafite *(F 8063)* SOV	1978	-
0270	**Berlioz** •	Obt. : France Canada Semences *(F 8164)* SOV	1984	-
		R.M. : Union Blois *(F 8527)*		
0113	**Bison**	Obt. : Pichot *(F 8107)* SOV	1976	radiée(7)
0369	**Boréal**	Obt. : INRA *(F 8235)*	1985	-
		R.M. : RAGT *(F 8029)*		
0321	**Bosco**	Obt. : Coop de Pau - CACBA *(F 8071)* SOV	1985	-
0348	**Brimstone** •	Co-Obt. : Plant Breeding Inst. *(GB 8237)* SOV	1985	-
		NSDO *(GB 8028)*		
		R.M. : Desprez Veuve et Fils *(F 8444)*		
0154	**Camp Rémy** •	Obt. : UNISIGMA *(F 8174)* SOV	1980	-
0019	**Capelle-Desprez°**	Obt. : Florimond Desprez *(F 8020)* SOV	1946	radiée(7)
0017	**Capitole-Vilmorin** •	A.D. : Verneuil Recherche *(F 8131)* SOV	1964	1984
0164	**Carat** •	Obt. : UNISIGMA *(F 8174)* SOV	1980	-
0373	**Cargidoc°** •	Obt. : Semences Cargill *(F 8102)*	1984	-
0167	**Cargimarec** •	Obt. : Semences Cargill *(F 8102)*	1983	-
0192	**Cargo** •	Obt. : Group. Agricole Essonnois *(F 8122)* SOV	1981	-
0193	**Carlos** •	Obt. : Sogroup *(F 8106)* SOV	1981	-
0114	**Castan** •	Obt. : Sogroup *(F 8106)* SOV	1976	1986
0124	**Caton°** •	Obt. : Verneuil Recherche *(F 8131)* SOV	1977	1987
0341	**Centurion**	Obt. : SERASEM *(F 9295)* SOV	1986	-
0350	**Champion**	Obt. : Desprez Veuve et Fils *(F 8444)* SOV	1985	-

Blé tendre

LISTE A (suite)

Identification de la variété		Obtenteur et responsable	Inscription	Reinscription
Code GNIS	Nom			
032				
0420	Champtal	Obt. : Claude Benoist (F 8105) SOV	1986	-
0191	Choisel *	Obt. : Group. Agricole Essonnois (F 8122) SOV	1981	-
0271	Chopin *	Obt. : France Canada Semences (F 8164) SOV	1984	-
		R.M. : Union Blois (F 8527)		
0399	Cobra	Obt. : Coop de Pau - CACBA (F 8071) SOV	1986	-
0122	Cocagne *	Obt. : UNCAC (F 8017) SOV	1977	1987
		R.M. : SERASEM (F 9295)		
0126	Copain*	Obt. : Claude Benoist (F 8105) SOV	1977	radiée(7)
0402	Corot	Obt. : Verneuil Recherche (F 8131) SOV	1985	-
0587	Corsodor	Obt. : SERASEM (F 9295) SOV	1987	-
0260	Courtel (1)	Co-Obt. : INRA (F 8235) SOV	1985	-
		Pichot (F 8107)		
		Rohm and Haas Seeds (US 9513)		
		R.M. : INRA (F 8235)		
		Pichot (F 8107)		
0104	Courtôt *	Obt. : INRA (F 8235)	1974	1984
0469	Créneau	Obt. : SE.CO.CE Dromigny (F 8041) SOV	1986	-
0101	Darius *	Obt. : Verneuil Recherche (F 8131) SOV	1974	1984
0338	Davidoc *	Co-Obt. : Mennesson (F 8108) SOV	1986	-
		Lemaire-Deffontaines (F 8128)		
		R.M. : Lemaire-Deffontaines (F 8128)		
0331	Décibel	Co-Obt. : Nickerson RPB (GB 8202) SOV	1985	-
		Nickerson S.A. (F 8662)		
0363	Déclic	Obt. : Pichot (F 8107) SOV	1985	-
0291	Divio *	Obt. : INRA (F 8235)	1984	-
0311	Duck	Co-Obt. : UNISIGMA (F 8174) SOV	1985	-
		LBNR (A 8255)		
		R.M. : UNISIGMA (F 8174)		
0307	Ecrin	Obt. : Rustica (F 9601) SOV	1985	-
0265	Epiroux *	Obt. : SERASEM (F 9295) SOV	1984	-
		R.M. : Ringot (F 8126)		
0031	Etoile de Choisy* *	Obt. : INRA (F 8235)	1950	1986
0186	Faust *	Obt. : Verneuil Recherche (F 8131) SOV	1981	-
0140	Favori *	Obt. : Semences Cargill (F 8102)	1978	radiée(8)
		R.M. : Semences Cargill (F 8102)		
1014	Festival* *	Obt. : Claude Benoist (F 8105) SOV	1981	-
0203	Feuvert *	Obt. : Mennesson (F 8108) SOV	1984	-
0134	Fidel* *	Obt. : Pichot (F 8107) SOV	1978	-
0173	Fleuron *	Obt. : Occitane des Semences (F 8392)	1982	-
		R.M. : Rustica (F 9601)		
0115	Fleurus	Obt. : Sogroup (F 8106)	1976	radiée(7)
0171	Floréal *	Obt. : Dr Hege (D 8219) SOV	1984	-
		R.M. : Rustica (F 9601)		
0352	Florin	Obt. : Lepeuple (F 8121) SOV	1985	-
0212	Flute *	Obt. : Blondeau (F 8030) SOV	1982	-
0264	Foison	Obt. : Rustica (F 9601) SOV	1985	-
0159	Fortin	Obt. : Sogroup (F 8106) SOV	1980	radiée(7)
0323	Fortuna *	Obt. : Coop de Pau - CACBA (F 8071) SOV	1984	-
0151	Frandoc *	Obt. : INRA (F 8235)	1980	-
0249	Friedland *	Obt. : Desprez Veuve et Fils (F 8444) SOV	1983	radiée(8)
		R.M. : Coop. Mathieu (F 9701)		
0142	Gala *	Obt. : Saint-Jeannet-Lasserre (F 8101)	1978	-
		R.M. : Rustica (F 9601)		
0324	Galaxie *	Obt. : Coop de Pau - CACBA (F 8071) SOV	1984	-
0188	Garant *	Obt. : Ringot (F 8126) SOV	1981	-
		R.M. : SERASEM (F 9295)		

Blé tendre

LISTE A (suite)

Identification de la variété			Obtenteur et responsable			Inscription	Reinscription
Code GNIS	Nom						
032							
0178	Gavroche	e	Obt.	Adrien Momont et Fils (F 8125)	SOV	1981	-
0403	Gerbier		Obt.	INRA (F 8235)		1986	-
0110	Glanor		Obt.	Mennesson (F 8108)	SOV	1976	radiée(7)
			R.M.	Claeys-Semences (F 8185)			
0379	Goelent		Obt.	INRA (F 8235)		1985	-
			R.M.	Caussade Semences (F 8197)			
0162	Hamilcar	e	Obt.	Verneuil Recherche (F 8131)	SOV	1980	-
0042	Hardi	e	Obt.	Adrien Momont et Fils (F 8125)	SOV	1969	1984
0044	Heurtebise*		Obt.	Blondeau (F 8030)	SOV	1954	radiée(7)
0125	Hobbit	e	Obt.	Plant Breeding Inst (GB 8237)	SOV	1977	radiée(8)
			R.M.	Florimond Desprez (F 8020)			
0176	Horace	e	Obt.	Verneuil Recherche (F 8131)	SOV	1981	-
0157	Iéna	e	Obt.	Desprez Veuve et Fils (F 8444)	SOV	1980	-
0505	Jade (1)		Co-Obt.	INRA (F 8235)	SOV	1986	-
				UNISIGMA (F 8174)			
				Rohm and Haas Seeds (US 9513)			
0143	Jano	e	Obt.	Blondeau (F 8030)	SOV	1978	radiée(8)
0046	Joss*		Obt.	Cambier (F 8127)	SOV	1966	radiée(7)
0182	Lodi	e	Obt.	Desprez Veuve et Fils (F 8444)	SOV	1981	-
0098	Lutin	e	Obt.	Ringot (F 8126)	SOV	1974	1984
			R.M.	SERASEM (F 9295)			
0050	Magali-Blondeau	e	Obt.	Blondeau (F 8030)	SOV	1962	radiée(8)
0146	Marignan	e	Obt.	Coop. de Froissy (F 8617)		1980	-
0362	Martial		Obt.	Pichot (F 8107)	SOV	1986	-
0195	Match	e	Co-Obt.	Northrup King Semences (F 8021)	SOV	1981	-
				Claude Benoist (F 8105)			
			R.M.	Northrup King Semences (F 8021)			
0158	Mérit	e	Obt.	Ringot (F 8126)	SOV	1980	radiée(9)
			R.M.	SERASEM (F 9295)			
0210	Messidor	e	Obt.	UNCAC (F 8017)		1982	radiée(8)
0407	Milpain		Obt.	Adrien Momont et Fils (F 8125)	SOV	1986	-
			R.M.	Momont Hennette et Fils (F 9084)			
0302	Mission	e	Co-Obt.	Nickerson RPB (GB 8202)	SOV	1983	-
				Nickerson S.A. (F 8662)			
			R.M.	Nickerson RPB (GB 8202)			
0517	Monitor		Co-Obt.	Nickerson RPB (GB 8202)	SOV	1986	-
				Nickerson S.A. (F 8662)			
			R.M.	Nickerson RPB (GB 8202)			
0470	Monza (1)		Co-Obt.	Nickerson RPB (GB 8202)	SOV	1986	-
				Nickerson S.A. (F 8662)			
			R.M.	Nickerson RPB (GB 8202)			
0296	Moulin	e	Co-Obt.	Plant Breeding Inst. (GB 8237)	SOV	1984	-
				NSDO (GB 8028)			
			R.M.	Desprez Veuve et Fils (F 8444)			
0184	Nabuco	e	Obt.	Jorion et Fils (B 8079)	SOV	1982	-
			R.M.	Cambier (F 8127)			
0199	Nectar		Obt.	Rustica (F 9601)	SOV	1985	-
0330	Nougat		Co-Obt.	Nickerson RPB (GB 8202)	SOV	1985	-
				Nickerson S.A. (F 8662)			
0117	Orépi		Obt.	Mennesson (F 8108)	SOV	1976	radiée(7)
0490	Pactole		Obt.	Tourneur grandes cultures (F 8027)	SOV	1986	-
			R.M.	Belloy (F 8130)			
0200	Pernel	e	Obt.	INRA (F 8235)		1983	-
0180	Petrel	e	Obt.	Blondeau (F 8030)	SOV	1981	-

Blé tendre

LISTE A (suite)

Identification de la variete							
Code GNIS 032	Nom		Obtenteur et responsable			Inscription	Réinscription
0279	Priam ●	Obt.	Verneuil Recherche *(F 8131)*	sov		1984	-
0109	Protinal ●	Obt.	RAGT *(F 8029)*			1975	radiée(8)
0174	Pursang ●	Obt.	Occitane des Semences *(F 8392)*			1982	-
		R.M.	Rustica *(F 9601)*				
0160	Radja ●	Obt.	Occitane des Semences *(F 8392)*			1980	-
		R.M.	Rustica *(F 9601)*				
0185	Ramses ●	Obt.	Cambier *(F 8127)*	sov		1981	-
0268	Real	Obt.	Mennesson *(F 8108)*	sov		1985	-
		R.M.	RAGT *(F 8029)*				
0356	Récital ●	Obt.	Claude Benoist *(F 8105)*	sov		1986	-
0257	Rempart ●	Obt.	SE.CO.CE Dromigny *(F 8041)*	sov		1982	-
0223	Rescler ●	Obt.	INRA *(F 8235)*			1983	-
0156	Riol ●	Obt.	Cambier *(F 8127)*	sov		1980	-
0118	Rivoli ●	Obt.	Desprez Veuve et Fils *(F 8444)*	sov		1976	1986
0119	Roazon	Obt.	INRA *(F 8235)*			1976	radiée(7)
0111	Rudi	Obt.	Adrien Momont et Fils *(F 8125)*	sov		1976	radiée(7)
0487	Rurik	Obt.	Weibull *(S 8059)*	sov		1986	-
		R.M.	Graines Franco-Suédoises *(F 8159)*				
			Momont Hennette et Fils *(F 9084)*				
0239	Sabre ●	Co-Obt.	Nickerson RPB *(GB 8202)*	sov		1982	-
			Nickerson IPB *(F 8511)*				
		R.M.	Nickerson RPB *(GB 8202)*				
0187	Scipion ●	Obt.	Verneuil Recherche *(F 8131)*	sov		1981	-
0334	Score	Obt.	Verneuil Recherche *(F 8131)*	sov		1985	-
0327	Sensor ●	Co-Obt.	Schweiger OHG *(D 8271)*			1984	-
			Caussade Semences *(F 8197)*				
		R.M.	Caussade Semences *(F 8197)*				
0347	Storch	Co-Obt.	Lochow-Petkus *(D 8279)*	sov		1985	radiée(8)
			Desprez Veuve et Fils *(F 8444)*				
0095	Talent* ●	Obt.	Claude Benoist *(F 8105)*	sov		1973	1983
0163	Tango ●	Obt.	Claude Benoist *(F 8105)*	sov		1980	-
0194	Tarasque ●	Obt.	INRA *(F 8235)*			1981	-
1013	Ténor* ●	Obt.	Claude Benoist *(F 8105)*	sov		1981	-
0280	Thésée ●	Obt.	Verneuil Recherche *(F 8131)*	sov		1983	-
0388	Titien	Obt.	Verneuil Recherche *(F 8131)*	sov		1985	-
0081	Top ●	Obt.	Tourneur Frères *(F 9791)*	sov		1970	1985
		R.M.	(S.O.C.) *(F 8557)*				
0242	Ulm ●	Obt.	Desprez Veuve et Fils *(F 8444)*	sov		1983	radiée(8)
0406	Unic	Obt.	UNISIGMA *(F 8174)*	sov		1986	-
0189	Vaillant ●	Obt.	Rihgot *(F 8126)*	sov		1982	radiée(8)
		R.M.	SERASEM *(F 9295)*				
0413	Viking	Obt.	Desprez Veuve et Fils *(F 8444)*	sov		1986	-
0198	Vizir ●	Obt.	Occitane des Semences *(F 8392)*	sov		1983	-
		R.M.	Rustica *(F 9601)*				
0096	Wattines* ●	Obt.	Florimond Desprez *(F 8020)*	sov		1974	radiée(8)

Blé tendre

LISTE A (suite)

Identification de la variété		Obtenteur et responsable			Inscription	Reinscription
Code GNIS	Nom					
333						
	• Type printemps					
0033	**Arkas** •	Obt.	Walter Engelen *(D 8270)*	SOV	1978	-
0045	**Axona** •	Obt.	Van der Have *(NL 8018)*	SOV	1983	-
		R.M.	Sem Diffusion *(F 8710)*			
0028	**Bastion** •	Obt.	Zelder *(NL 8023)*	SOV	1976	1986
		R.M.	SERASEM *(F 9295)*			
0030	**Bayard** •	Obt.	Claude Benoist *(F 8105)*	SOV	1977	radiée(8)
0047	**Briscard** •	Obt.	INRA *(F 8235)*		1984	-
0044	**Cornette** •	Co-Obt.	Weibull *(S 8059)*	SOV	1983	radiée(8)
			Desprez Veuve et Fils *(F 8444)*			
		R.M.	Desprez Veuve et Fils *(F 8444)*			
0038	**Flambard** •	Obt.	Adrien Momont et Fils *(F 8125)*	SOV	1979	-
0010	**Florence Aurore**[6] •	R.M.	Caussade Semences *(F 8197)*		1963	1986
			Semences de Provence *(F 8236)*			
0037	**Hermès** •	Obt.	Dr Hege *(D 8219)*	SOV	1979	-
		R.M.	Lemaire-Deffontaines *(F 8128)*			
0174	**Jérico** •	Co-Obt.	Ringot *(F 8126)*	SOV	1981	-
			Zelder *(NL 8023)*			
		R.M.	SERASEM *(F 9295)*			
0021	**Kolibri** •	Co-Obt.	Lochow-Petkus *(D 8279)*	SOV	1972	radiée(7)
			Florimond Desprez *(F 8020)*			
0041	**Lobo** •	Obt.	Lafite *(F 8063)*	SOV	1982	-
0043	**Minaret** •	Obt.	Zelder *(NL 8023)*	SOV	1982	-
		R.M.	SERASEM *(F 9295)*			
0032	**Prinqual** •	Co-Obt.	Northrup King USA *(US 8641)*	SOV	1978	-
			Claude Benoist *(F 8105)*			
0027	**Pronto**	Obt.	Ringot *(F 8126)*		1976	radiée(7)
0018	**Rex-Vilmorin** •	A.D.	Verneuil Recherche *(F 8131)*	SOV	1962	1987
0039	**Rock** •	Obt.	Dr Hege *(D 8219)*	SOV	1980	-
		R.M.	Lemaire-Deffontaines *(F 8128)*			
0022	**Sirius** •	Obt.	Von Rümker *(D 8220)*	SOV	1972	radiée(8)
		R.M.	Lafite *(F 8063)*			
0051	**Venture**	Obt.	Lafite *(F 8063)*	SOV	1985	-
0036	**Wim** •	Co-Obt.	Verenigde Kweekbedrij. *(NL 8315)*	SOV	1979	-
			UNCAC *(F 8017)*			
		R.M.	SERASEM *(F 9295)*			

NOTES

(1) ***Variété hybride chimique :*** Courtel, Jade et Monza

• ***Déclarations de synonymies relevées :***

Albatros	Azor (Espagne)
Cappelle Desprez	Cappelle (Irlande)
Cargidoc	Cargifaro (Espagne)
Caton	Alcotan (Espagne)
Copain	Oroel (Espagne)
Etoile de Choisy	Estrella (Espagne)
Festival	Manero (Espagne)
Fidel	Fiel (Espagne)
Florence Aurore	Florence Aurora (Espagne)
Heurtebise	Stormguard (Gde-Bretagne)
Joss	Joss Cambier (Gde-Bretagne)
Talent	Talento (Espagne)
Ténor	Golo (Espagne)
Wattines	Flanders (Grande-Bretagne)

Blé tendre

(Triticum aestivum L. emend. Fiori et Paol.)

Variétés non panifiables

LISTE A

Identification de la variété		Obtenteur et responsable		Inscription	Reinscription
Code GNIS	Nom				
332					
	• Type hiver				
0438	**Apollo** ..... •	Obt.	Breun *(D 8359)* ..... SOV	1986	-
		R.M.	UNISIGMA *(F 8174)*		
0202	**Arcane** ..... •	Obt.	Semences de Provence *(F 8236)*	1983	-
0179	**Belaviso** ..... •	Obt.	Pichot *(F 8107)* ..... SOV	1981	-
0112	**Corin** ..... •	Obt.	Nickerson RPB *(GB 8202)* ..... SOV	1976	1986*
		R.M.	Verneuil Recherche *(F 8131)*		
0263	**Cosmos** ..... •	Obt.	Rustica *(F 9601)* ..... SOV	1984	-
0354	**Damier**	Obt.	Sogroup *(F 8106)* ..... SOV	1986	-
0131	**Disponent** ..... •	Obt.	Bayernische Pflanz. *(D 8360)* ..... SOV	1980	-
		R.M.	France Canada Semences *(F 8164)*		
0170	**Festin** ..... •	Obt.	Occitane des Semences *(F 8392)*	1982	-
		R.M.	Rustica *(F 9601)*		
0240	**Galahad** ..... •	Co-Obt.	Plant Breeding Inst. *(GB 8237)* ..... SOV	1984	-
			NSDO *(GB 8028)*		
		R.M.	Desprez Veuve et Fils *(F 8444)*		
0147	**Magister** ..... •	Obt.	Cebeco *(NL 8033)* ..... SOV	1980	-
0093	**Maris Huntsman*** ..... •	Obt.	Plant Breeding Inst. *(GB 8237)* ..... SOV	1973	1983
		R.M.	Florimond Desprez *(F 8020)*		
0201	**Master** ..... •	Obt.	Miln Marsters Group *(GB 8387)* ..... SOV	1983	-
		R.M.	SERASEM *(F 9295)*		
0221	**Promentin** ..... •	Obt.	SERASEM *(F 9295)* ..... SOV	1983	-
0161	**Rotonde** ..... •	Obt.	Zelder *(NL 8023)* ..... SOV	1980	-
		R.M.	SERASEM *(F 9295)*		
0389	**Tarquin**	Obt.	Verneuil Recherche *(F 8131)* ..... SOV	1985	-
0328	**Tracy** ..... •	Obt.	Coop de Pau - CACBA *(F 8071)* ..... SOV	1984	-
0256	**Vasco** ..... •	Obt.	Cebeco *(NL 8033)* ..... SOV	1982	radiée(8)
0436	**Voyage**	Co-Obt.	Nickerson RPB *(GB 8202)* ..... SOV	1985	-
			Nickerson S.A. *(F 8662)*		
		R.M.	Nickerson RPB *(GB 8202)*		

* ***Declaration de synonymie relevee:***
Maris Huntsman ..... Huntsman (Danemark)

Blé tendre

LISTE B

Identification de la variété		Obtenteur et responsable	Inscription	Reinscription
Code GNIS	Nom			
032				
	• Type hiver			
0444	Acor	Obt. : Coop de Pau - CACBA *(F 8071)* SOV	1985	-
0325	Alcan	Obt. : Coop de Pau - CACBA *(F 8071)* SOV	1984	-
0364	Ambassador •	Co-Obt. : Nickerson RPB *(GB 8202)* SOV	1984	-
		Nickerson S A *(F 8662)*		
		R.M. : Nickerson RPB *(GB 8202)*		
1015	Aranda •	Obt. : Semences de Provence *(F 8236)*	1981	-
0488	Armattan	Obt. : Semences de Provence *(F 8236)*	1986	-
0332	Belvédère	Obt. : Coop de Pau - CACBA *(F 8071)* SOV	1985	-
0304	Cargicap	Obt. : Semences Cargill *(F 8102)*	1985	-
0021	Champlein •	Obt. : Claude Benoist *(F 8105)* SOV	1955	1986
0351	Dartagnan	Obt. : Desprez Veuve et Fils *(F 8444)* SOV	1985	-
0367	Djinn	Obt. : Coop de Pau - CACBA *(F 8071)* SOV	1984	-
0322	Domi	Obt. : Coop de Pau - CACBA *(F 8071)* SOV	1984	-
0516	Evesio	Obt. : Coop de Pau - CACBA *(F 8071)* SOV	1986	-
0353	Flandrin	Obt. : Lepeuple *(F 8121)* SOV	1985	-
0394	Guépard	Obt. : Coop de Pau - CACBA *(F 8071)* SOV	1986	-
0375	Lulli	Obt. : Epi de France *(F 9294)*	1986	-
0339	Marathon	Obt. : Blondeau *(F 8030)*	1986	-
0116	Marius •	Obt. : Claude Benoist *(F 8105)* SOV	1976	1986
0429	Météor •	Co-Obt. : Nickerson RPB *(GB 8202)* SOV	1985	-
		Nickerson S.A. *(F 8662)*		
		R.M. : Nickerson RPB *(GB 8202)*		
0320	Moranval	Obt. : Coop de Pau - CACBA *(F 8071)* SOV	1984	-
1003	Palmarès-Cambier	Obt. : Cambier *(F 8127)* SOV	1964	1984
0468	Pégaze	Obt. : Coop de Pau - CACBA *(F 8071)* SOV	1986	-
0287	Pluton	Obt. : Cambier *(F 8127)* SOV	1985	-
0435	Soleil	Obt. : Lemaire-Deffontaines *(F 8128)*	1985	-
0329	Tagora	Co-Obt. : Nickerson RPB *(GB 8202)* SOV	1984	-
		Nickerson S.A. *(F 8662)*		
		R.M. : Nickerson RPB *(GB 8202)*		
0371	Tito	Co-Obt. : Mennesson *(F 8108)* SOV	1985	-
		RAGT *(F 8029)*		
		R.M. : RAGT *(F 8029)*		
0428	Trida	Obt. : INRA *(F 8235)*	1986	-

PRODUCTIVITE BLE TENDRE

APPECIATION DE LA VALEUR AGRONOMIQUE DU BLE TENDRE

en fonction
- du rendement par rapport au témoin
- de la valeur d'utilisation
- des caractéristiques de régularité du rendement

SEUIL DE RENDEMENT PAR RAPPORT AU TEMOIN THEORIQUE (%)
Blé tendre hiver zone I et II
Blé tendre printemps

CARACTERISTIQUES AGRONOMIQUES			VALEUR D'UTILISATION (Classes technologiques)				
FAVORABLES	DEFAVORABLES pouvant avoir des conséquences :						
	Très graves	Graves	A	B_1	B_2	C_1 D_1	C_2 D_2
1 obligatoire	0	0	A l'appréciation de la section	95	97	102	105
	0	0		98	100	105	108
*	0	1		104	106	111	114
La section appréciera l'incidence de chaque caractéristique si le rendement est:				> 110	> 112	> 117	> 120

* En fonction de l'intérêt des caractéristiques favorables, la section apprécie s'il y a lieu d'être plus tolérant sur le nombre de caractéristiques défavorables.

DEFINITION DES CATEGORIES DE QUALITE DU BLE TENDRE D'HIVER

W (1)	PANIFICATION CNERNA	TENEUR EN PROTEINES (2)	BLE PANIFIABLE Catégorie	BLE IMPANIFIABL Catégorie
190 % de CAPITOLE	PANIFICATION SPECIALE (3)		A	
	CAPITOLE		B 1	
			B 2	
90 % de CAPITOLE	TALENT		C 1	
			C 2	
Indéterminé	Non machinable	⩾ 110 %		D 1
		< 110 %		D 2

(1) Exprimée en valeur relative par rapport à CAPITOLE.

(2) Exprimée en valeur relative par rapport à CAPITOLE + TALENT/2

(3) Effet améliorant mesuré par incorporation de 10 et 20% de la variété à une farine faible nettement définie.

Remarque

Toute discordance entre les classements de W et de panification fera l'objet d'une interprétation particulière.

MARS 1982.

APPENDIX E

EXAMPLE OF FRENCH LOADING LOG

Recieved from SGS Rouen, France

Rapport final d'embarquement de céréales de M. FOSSE LEFRANÇOIS Giffes

M/V: "BUDOWLANY" Exportateur : FERRUZZI TRADING INTERNATIONA

Commencé le : 29 JUIN 1987 à 13h 30 Nature de la marchandise : BLÉ de MEUNERIE 2EX

Terminé le : 30 JUIN 1987 à 23h 15 Placé : SILO SIMAREX / SICA 2 Manutention : SCAC / SIMAREX

Destination : POLOGNE (POLAND) / ONE POLISH PORT ETA : Le 5 JUILLET 87 à 18h00 TE : MAXI. 8m 82

Dates	1	2	3	4	5	6	7	8	9	Total
29 JUIN	X	1.205 T	1.019 T	2.056 T	X					4.280 T 000
30 JUIN	1.793 T	2.643 T	602 T	1.830 T	2.720 T					9.588 T 000
Total	1.793 T	3.848 T	1.621 T	3.886 T	2.720 T					13.868 T 000
Pleine Vide/VD	Full PLEINE	Full PLEINE	Part, Full VIDANGE	Full PLEINE	Full PLEINE					

Qualité moyenne :

P.S. :	80.700	TW
H2o :	14.35	MO
I.G. :	1.15	1.50
I.D. :	0.35	
CASSÉS :	3.85	BKN
Germés :	0.45	SPROUT

Échantillonnage : 3 bacoux + 1 sac 1KG. cachetés, par lots de 2.500 T dont 1 sac au livreur et bacoux en réserve S.G.S. + 1 moyen 5KG. Par lots de 5.000 T, un moyen remis au Pabo CAEPIN pour Gluten, Proteines, Hagberg Par 5.000 T cachetage de 5 échantillons avec en sacs poly. 5KGS, dont 1 remis au Pabo CAEPIN pour Analyses A

Répartition :

SIMAREX : 4.280 T,000

SICA 2 : 9.588 T,000

13.868 T 000

Rapport Journalier d'embarquement de céréales de M. PRINGAULT / FOSSE LEFRANÇOIS Rapport n° : 2

M/V : BUDOWLANY Exportateur : FERRUZZI

Journée du : 30 JUIN 1987 de 07:30 à 13:30 et de 13:30 à 19:30 et de 19:30 à 01:30

Place : SILO SICA 2 Cap : AVAL Destination : POLOGNE

	SICA 2	SIMAREX		Ce Jour This day	Précédent Previous	A ce Jour To this day	Qualité		
1	1.793T,000			1.793T,000		1.793T,000	BLE de MEUNERIE		
2	2.643T,000			2.643T,000	1.205T,000	3.848T,000			
3	602T,000			602T,000	1.019T,000	1.621T,000	P.S.	80.450	
4	1.830T,000			1.830T,000	2.056T,000	3.886T,000	H2O	14.25	
5	2.720T,000			2.720T,000		2.720T,000	I.G.	1.20	1.55
6							I.D.	0.35	
7							PASSES	3.10	
8							Germés cecydo	0.40	
9									
ce jour	9.588T,000			9.588T,000					
précédent		4.280T,000			4.280T,000				
Total	9.588T,000	4.280T,000				13.868,000			

État de faits : Hold Portiques : 1 Portique en SEANCES 1, 2 et 3

. Mise en route : 7:30 . Fin du chargement à : 23H.15

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Rapport Journalier d'embarquement de céréales de M. WILCYN. Page 3 Rapport n° : 1

M/V : BUDOWLANY Exportateur : FERRUZZI

Journée du : 29.06.1987 de 13.30 à 19.30 et de à et de à

Placé : Silo SIMAREX Cap : AMONT Destination : POLOGNE

	SIMAREX			Ce Jour	Précédent	A ce Jour	Qualité		
1							BLE DE MEUNERIE		
2	12057 000			12057 000		12057 000			
3	1019T000			1019T000		1019T000	PS	81.2	
4	2056T000			2056T000		2056T000	H2O	14.50	
5							IG	1.10	
6							ID	0.30	
7							KC	5.30	
8							GER	0.30	
9							CECY	0.20	
ce jour	4280T000			4280T000					
précédent									
Total	4280T000					4280T000			

État de faits : 1. Portiques : DE 13.30 A 19.30

. MISE EN ROUTE 13.30

. FIN A SIMAREX. 19.15

M/V : BUDOWLANY Date : 29. 06. 87 Page -

Marchandise : BLé de MEUNERIE Agréeur : COUTURIER

SIMAREX L.D

Horaire / Tonnage	PS	Hle	Anomalies
250T	81 300	14 30	
500T	82 200	14 00	
750T	81 400	14 50	
1000T	81 600	14 30	
1250T	82 000	14 40	
1500T	82 700	14 30	
1750T	82 800	14 50	
2 000T	82 600	14 60	
2250T	82 200	14 50	
2500T	82 700	14 70	
	—	—	
MOYENNE	82 150	14.41	du 1er Lot de 2500T

Horaire / Tonnage	PS	Hle	Anomalies
2750T	81.900	14 60	
3000T	82.400	14 70	
3250T	82.800	14 70	
3500T	81.900	14 60	
3750T	81.600	14 60	
4000T	81.400	14 70	
4250T	81.500	14 70	
4500T			
4750T			
5000T			
	—	—	
MOYENNE	81.928	14 60	du 2e Lot de 2500T

81.200 14.51.

Anomalies : (Sur analyse visuelle à chaque prélèvement).

Flair autre que l'odeur normale de la céréale - Insectes vivants.

Autres céréales que la céréale de base - Coloration anormale, etc...

* BUDOWLANY Date : Le 30 JUIN 1987

Marchandise : BLE de MEUNERIE Agréeur : WALLYN

SICA 2/

Horaire / Tonnage	PS	H¹⁰	Anomalies
	Lectures	Insectes	
250T	82.100	14.20	
500T	82.100	14.20	
750T	82.200	14.30	
1.000T	82.200	14.50	
1.250T	82.300	14.20	
1.500T	82.300	14.50	
1.750T	82.400	14 40	
2.000T	82.000	14 50	
2.250T	81.200	14 30	
2500T	81 600	14 30	
moyenne	82.040	14 34	1er lot de 2.500T

Horaire / Tonnage	PS	H¹⁰	Anomalies
2750T	81.900	14 20	
3000T	81.600	14 20	
3250T	82.000	14 00	
3500T	82.400	14 10	
3750T	82.000	14 10	
4000T	81.700	14.00	
4250T	80 900	13 70	
4500T	81 100	13 90	
4750T	80 700	1H 40	
5000T	80 800	1H 60	
moyenne	81 510	1H R	2e lot de 2.500T

Anomalies : (Sur analyse visuelle à chaque prélèvement).

Flair autre que l'odeur normale de la céréale - Insectes vivants.

Autres céréales que la céréale de base - Coloration anormale, etc...

M/S : BUDOWLANY Date : le 30 JUIN 1987

Marchandise : Blé de Meunerie Agréeur : COUTURIER

SICAZ

Horaire / Tonnage	PS lectures Directes	Hre	Anomalies
5250T	81,200	14 30	
5500T	81 —	13 80	
5750T	80 300	13 50	
6000T	79 400	14 60	
6250T	80 100	14 40	
6500T	81 600	14 50	
6750T	81 400	14 70	
7000T	82 200	14 50	
7250T	81 400	14 20	
7500T	80 300	14 40	
	———	———	
Moyenne	81 026 —	14 33	3e lot de 250T

Horaire / Tonnage	PS	Hre	Anomalies
7750T	80.900	14 50	
8000T	81.200	14 30	
8250T	81.700	14 40	
8500T	81400	14 00	
8750T	81 200	14 10	
9000T	81400	14 00	
9250T	81 200	14 30	
9500T	81 200	14 20	
	———	———	
moyenne	81.257	14.22	4ème LOT de

Anomalies : (Sur analyse visuelle à chaque prélèvement).

Flair autre que l'odeur normale de la céréale - Insectes vivants.

Autres céréales que la céréale de base - Coloration anormale, etc...

APPENDIX F

EC REGULATIONS FOR FIXING STANDARD QUALITIES OF WHEAT

REGULATION (EEC) No 2731/75 OF THE COUNCIL Page 1

of 29 October 1975

fixing standard qualities for common wheat, rye, barley, maize and durum wheat

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 43 thereof;

Having regard to Council Regulation (EEC) No 2727/75 (1) of 29 October 1975 on the common organization of the market in cereals, and in particular Article 2 (4) thereof;

Having regard to the proposal from the Commission;

Having regard to the Opinion of the European Parliament (2);

Whereas the common prices for common wheat, rye, barley, maize and durum wheat must be fixed with reference to specific standard qualities; whereas these should correspond as far as possible to the average qualities of those cereals harvested within the Community;

Whereas the standard qualities were fixed by Council Regulation No 365/67/EEC (3) of 14 November 1967; whereas the definitions contained in that Regulation of matter other than basic cereals of unimpaired quality have been difficult to apply; whereas they should therefore be made more specific and, moreover, the methods of determining such matter and the moisture content should be supplemented and harmonized,

HAS ADOPTED THIS REGULATION:

Article 1

The standard quality for which the target price and the intervention prices for common wheat are fixed is defined as follows:

(a) common wheat of a sound and fair marketa quality, free from abnormal smell and live pe of a colour proper to this cereal and of a qual corresponding to the average quality of comm wheat harvested under normal conditions in t Community;

(b) moisture content: 16%;

(c) total percentage of matter other than basic cere of unimpaired quality: 5%, of which:

— percentage of broken grains: 2%,

— percentage of grain impurities: 1·5% ('gra impurities' means shriveled grains, grains other cereals, grains damaged by pests ar grains showing discoloration of the germ),

— percentage of sprouted grains: 1%,

— percentage of miscellaneous impurities: 0·5 ('miscellaneous impurities' consist of wee seeds, damaged grains, extraneous matte husks, ergot, decayed grains, dead insects an fragments of insects);

d) specific weight: 75 kilogrammes per hectolitre.

Article 2

The standard quality for which the target price and the intervention price for rye are fixed is defined a follows:

(a) rye of a sound and fair marketable quality, free from abnormal smell and live pests, of a colour proper to this cereal and of a quality corresponding to the average quality of rye harvested under normal conditions in the Community;

(b) moisture content: 16%;

(c) total percentage of matter other than basic cereals of unimpaired quality: 5%, of which:

— percentage of broken grains: 2%,

— percentage of grain impurities: 1·5% ('grain impurities' means shriveled grains, grains of other cereals and grains damaged by pests),

(1) See page 1 of this Official Journal.
(2) Opinion delivered on 16 October 1975 (not yet published in the Official Journal).
(3) OJ No 179, 18. 11. 1967, p. 2.

— percentage of sprouted grains: 1%,

— percentage of miscellaneous impurities: 0·5% ('miscellaneous impurities' consist of weed seeds, damaged grains, extraneous matter, husks, ergot, dead insects and fragments of insects);

(d) specific weight: 71 kilogrammes per hectolitre.

Article 3

The standard quality for which the target price and the intervention price for barley are fixed is defined as follows:

(a) barley of a sound and fair marketable quality, free from abnormal smell and live pests, of a colour proper to this cereal and of a quality corresponding to the average quality of barley harvested under normal conditions in the Community;

(b) moisture content: 15%;

(c) total percentage of matter other than basic cereals of unimpaired quality: 4%, of which:

— percentage of grain impurities: 2% ('grain impurities' means shrivelled grains, grains of other cereals and grains damaged by pests),

— percentage of sprouted grains: 1%,

— percentage of miscellaneous impurities: 1% ('miscellaneous impurities' consist of weed seeds, damaged grains, extraneous matter, husks, dead insects and fragments of insects);

(d) specific weight: 57 kilogrammes per hectolitre.

Article 4

The standard quality for which the target price and the intervention price for maize are fixed is defined as follows:

(a) maize of a sound and fair marketable quality, free from abnormal smell and live pests;

(b) moisture content: 15%;

(c) total percentage of matter other than basic cereals of unimpaired quality: 8%, of which:

— percentage of broken grains: 2% ('broken grains' means pieces of grain or grains which pass through a sieve with a circular mesh 4·5 millimetres in diameter),

— percentage of grain impurities: 4% ('grain impurities' means grains of other cereals, grains damaged by pests and grains of abnormal coloration, the latter being grains which have acquired through heating a darkish brown colour on a fairly substantial part of the tegument and of the kernel and are not damaged grains),

— percentage of sprouted grains: 1%,

— percentage of miscellaneous impurities: 1% ('miscellaneous impurities' consist of weed seeds, damaged grains, extraneous matter, husks, dead insects and fragments of insects).

Article 5

The standard quality for which the target price, the intervention price and the guaranteed minimum price for durum wheat are fixed is defined as follows:

(a) durum wheat of a sound and fair marketable quality, free from abnormal smell and live pests, dry, amber yellow to brown in colour, with a vitreous section of translucent, horny appearance and of a quality corresponding to the average quality of durum wheat harvested under normal conditions in the Community;

(b) total percentage of matter other than durum wheat grains of unimpaired quality: 24·5%, of which:

— percentage of durum wheat grains which have wholly or partly lost their vitreous aspect (mitadine) and common wheat grains: 20%, of which not more than 4% of common wheat grains,

— percentage of broken grains: 2%,

— percentage of grain impurities: 1·5% ('grain impurities' means shrivelled grains, grains of cereals other than durum wheat and common wheat, grains damaged by pests, grain in which the germ is discoloured or moulded grains),

— percentage of sprouted grains: 0·5%,

— percentage of miscellaneous impurities: 0·5% ('miscellaneous impurities' consist of weed seeds, damaged grains, extraneous matter, husks, ergot, decayed grains, dead insects and fragments of insects);

(c) specific weight: 78 kilogrammes per hectolitre.

Article 6

For the purpose applying this Regulation:

(a) the matter other than basic cereals of unimpaired quality is defined in Annex I A, save as otherwise

defined in this Regulation, and is determined according to the method laid down in Annex I B;

(b) moisture content shall be determined by reference to the method shown in Annex II;

(c) the method for determined 'mitadiné' durum wheat grains shall be determined according to the procedure laid down in Article 26 of Regulation (EEC) No 2727/75.

Article 7

1. Council Regulation (EEC) No 766/69 (1) of 22 April 1969 fixing standard qualities for common wheat, rye, barley, maize and durum wheat, is hereby repealed.

2. References to the Regulation repealed by virtue of paragraph 1 shall be construed as references to this Regulation.

Article 8

This Regulation shall enter into force on 1 November 1975.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Luxembourg, 29 October 1975.

For the Council

The President

G. MARCORA

(1) OJ No L 100, 28. 4. 1969, p. 8.

APPENDIX G

SGS EXPORT CERTIFICATE

S G S France s.a.

16, rue du Louvre
Boîte postale 275
75024 Paris Cedex 01
Tél. 260 39 25
Télégramme : Supervise
[illegible]

Certificat N° 0601/ 51491-8

CERTIFICATE OF WEIGHT. СВИДЕТЕЛЬСТВО ВЕСА

We undersigned, S.G.S FRANCE S.A.	Мы, нижеподписавшиеся
hereby certify that,	свидетельствуем настоящим что,
by order of :	по заказу
SOCIETE COMMERCIALE IPITRADE INTERAGRA INTERNATIONAL 152, Avenue de Malakoff 75116 PARIS	SOCIETE COMMERCIALE IPITRADE INTERAGRA INTERNATIONAL 152, Avenue de Malakoff 75116 PARIS
we supervised, at time of loading, the Weight of a lot of FRENCH MILLING WHEAT as specified hereunder :	мы контролировали во время погрузки вес партии французской мелемой пшеницы определяемый ниже :
- in bulk ... 5.350.000 K° nett	- навалом 5.350.000 K° nett
Loaded on board : "VORKUTA"	- название судна : "VORKUTA"
from : ROUEN	- порт погрузки : ROUEN
to : ONE SOVIET PORT	- назначение : ONE SOVIET PORT
Weighing ex.storage warehouse, as well as loading, of the whole parcel on board the above mentioned vessel were performed under our control.	Мы контролировали взвешивание и погрузку целиком пшеницы, на вышеуказанное судно.

CONTRACT EXPORTKHLEB :01/61 201-134

ROUEN, 14th MAY 1987

S.G.S. QUALITEST

Membre du Groupe Société Générale de Surveillance

INSPECTION EFFECTUEE EN AME ET CONSCIENCE MAIS SANS RESPONSABILITE DE NOTRE PART. LE PRESENT CERTIFICAT NE LIBERE PAS LE VENDEUR DE SES RESPONSABILITES CONTRACTUELLES, PARTICULIEREMENT EN CAS DE VICE CACHE DE LA MARCHANDISE, NON DECELE AU MOMENT DE L'INSPECTION

S G S France s.a.

16, rue du Louvre
Boite postale 275
75024 Paris Cedex 01
Tel. 260 39.25
Telegramme : Supervise
Telex 210009

51491

Certificat N° 0601/ СВИДЕТЕЛЬСТВО КАЧЕСТВА И СОСТОЯНИЯ

CERTIFICATE OF QUALITY AND CONDITION.

We undersigned, S.G.S. FRANCE S.A.

hereby certify that,

by order of :

SOCIETE COMMERCIALE IPITRADE
INTERAGRA INTERNATIONAL
152, Avenue de Malakoff
75116 PARIS

we supervised, at time of loading, the Quality and Condition, of a lot of FRENCH MILLING WHEAT as specified hereunder :

- In bulk .... 5.350.000 K° nett

Loaded on board : "VORKUTA"

From : ROUEN

To : ONE SOVIET PORT

<u>OUR FINDINGS</u> : FRENCH MILLING WHEAT
CROP YEAR 1986/1987
ARTIFICIALLY AND/OR NATURALLY DRIED.

SOUND, LOYAL & MERCHANTABLE, FREE FROM ANY FOREIGN ODOUR INCLUDING SOUR AND SWEETISH SMELL AND ANY LIVE INSECTS, QUARANTINE AND SANITARY OBJECTS, FUMIGATED AND SUITABLE FOR HUMAN CONSUMPTION.

- Natural weight : 79,700 KG/HL
- Moisture : 14,40 PCT
- Foreign matters : 1,80 PCT
- Protein (on dry basis) : 12,35 PCT
  N X 5,70
- Bug damaged kernels : 0,05 PCT
- Raw gluten : 24,15 PCT
  (as determined by methods, approved in the USSR)
- Cargo in good condition at time of loading.

Мы, нижеподписавшиеся,

свидетельствуем настоящим что,

по заказу :

SOCIETE COMMERCIALE IPITRADE
INTERAGRA INTERNATIONAL
152, Avenue de Malakoff
75116 PARIS

мы контролировали во время погрузки качество партии французской мелемой пшеницы определяемое ниже :

навалом 5.350.000 K° nett

название судна : "VORKUTA"

порт погрузки : ROUEN

назначение : ONE SOVIET PORT

<u>Мы заключили</u> : французская мелемая пшеница

Год сборки урожая : 1986/1987

Высушенные искусственное и/или естественное.
Зерно здоровое и пригодное к продаже.
Оно не содержит посторонних запахов, включая кислый и сладковатый запах, не содержит живых вредителей, им карантинных и санитарных объектов и пригодно к человеческому питанию.

= естественный вес : 79,700 KG/HL
- влажность : 14,40 PCT
- другие материи : 1,80 PCT
- протеины -для сухой материи- : 12,35 PCT
- испорченные зерна клопами : 0,05 PCT
- сырая клейковина 24,15 PCT
  / как определено методами, одобренными в С.С.С.Р./.
- груз в хорошем состоянии при погрузке.

<u>CONTRACT EXPORTKHLEB :01/61 201-134</u>

ROUEN, 14th MAY 1987

S.G.S. QUALITEST

Membre du Groupe Société Générale de Surveillance

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