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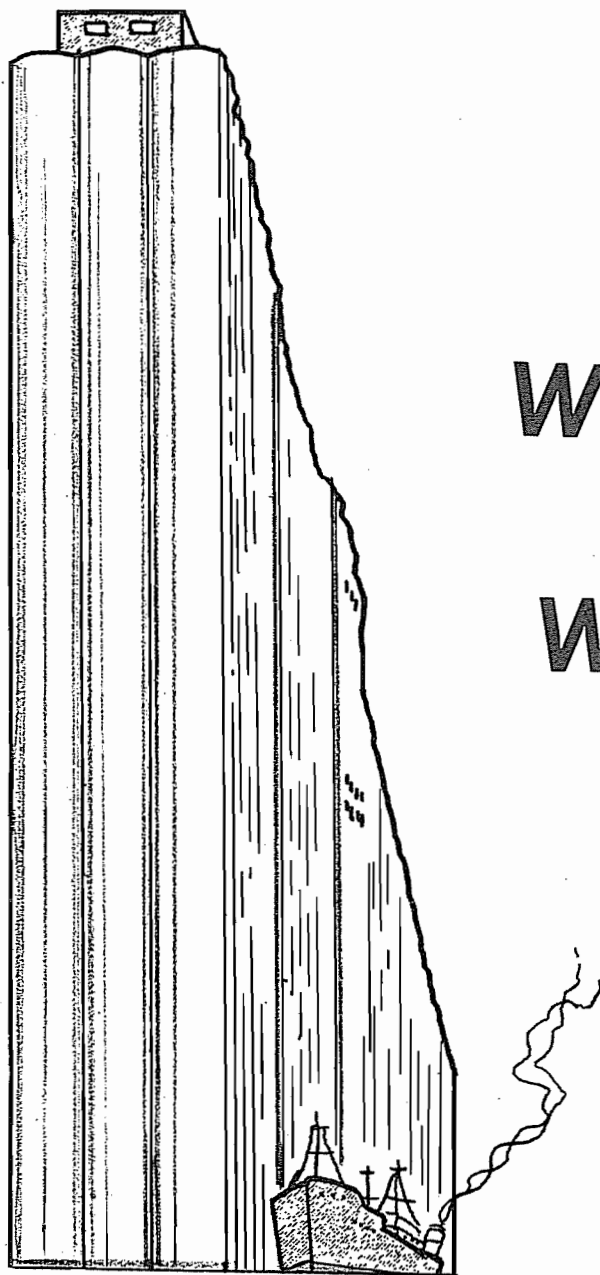
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TRENDS IN
THE FLOW OF
Wheat Exports
IN THE
World Market

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SUMMARY

The American wheat producer is becoming increasingly dependent on the world wheat market as a place to sell the product of his labors. In the four-year period from July 1962 through June 1966, the United States wheat farmer found that about six out of every 10 bushels he produced went into export outlets. The transition from a domestically dominated to an export dominated market has been a long and difficult road to travel. It has meant considerable adjustment in our wheat marketing system and has required the cooperative effort of producer groups, the grain trade, and government organizations. Continued effort by these three groups is a necessity to assure the needed expansion in export market outlets to accommodate the productive capacity of American agriculture.

The flow of wheat in international trade has more than doubled from 1955 through 1966. This phenomenal growth was primarily due to expanded concessional sales by the United States to the developing nations of the world and a substantial increase in wheat imports by Communist Bloc countries. The flow of wheat into the Free World commercial markets has remained relatively stable during this period.

Spring wheats, durum and hard red spring, have demonstrated an "on and off" cycle during the past decade with export levels fluctuating considerably from year to year. Our efforts to develop a stable foreign market outlet for spring wheats have experienced considerable difficulty, but have shown considerable promise in recent years. Recent expansion of Pacific Coast shipments to Asian markets has given this market a new dimension, and has clearly demonstrated the fruits of market promotion and competitive pricing policies as a prerequisite to entry into new markets.

The principal flows of hard red spring wheat into export channels during the July 1962 through June 1966 period were through Lake ports (31 per cent), Pacific ports (25 per cent), and Gulf ports (21 per cent). It should be noted that Pacific ports steadily increased in importance throughout this period, and accounted for 43 per cent of the total hard red spring wheat export movement in the 1965-1966 marketing year.

European importers purchased over 40 per cent of United States commercial hard red spring wheat exports during the July 1962 through June 1966 period, while over 50 per cent of the concessional sales went to Asia, with India being the major recipient.

The Netherlands, the Philippines, Venezuela, Belgium, and Japan were the five most important importing countries of commercial sales of hard red spring wheat from the United States. These five countries accounted for more than 70 per cent of the total dollar purchases of hard red spring wheat from the United States from July 1962 through June 1966.

The flow pattern for durum wheat export shipments has been principally from Atlantic ports (49 per cent) and Lake ports (24 per cent). The principal importing area of the world was Europe, which accounted for about 55 per cent

of the commercial United States durum shipments. Concessional sales of durum during the July 1962 through June 1966 period were small compared to commercial sales, with nearly all going to Asia. India and Lebanon accounted for over 96 per cent of the total concessional durum shipments. During the four-year period of the 1962 through the 1965 marketing years, Russia, France, the Netherlands, Italy, and Algeria accounted for over 80 per cent of the total United States commercial durum exports.

During the 1962 through 1966 period studied, 31.4 per cent of United States commercial wheat exports were sold for dollars. Sales under various Food for Peace and similar programs were the remaining 68.6 per cent of the total export movement. Of the total export flow from the United States, about two-thirds was hard red winter wheat, while the other four major classes played relatively minor roles in the total export movement.

TRENDS IN THE FLOW OF WHEAT EXPORTS IN THE WORLD MARKET^a

-By-

Donald E. Anderson and Clair W. Cudworth

INTRODUCTION

North Dakota is the nation's leading producer of hard red spring and durum wheat. These two classes of wheat accounted for nearly 50 per cent of North Dakota's cash farm income from the sale of all crops in 1965.¹ An important outlet for these wheats is in the export market. In recent years exports of hard red spring and durum wheat have surpassed any previous period in history.

Exports in the cash market account for the largest portion of hard red spring and durum wheat movement in international trade. Under this particular method of export, domestic pricing arrangements, as well as governmental controls influence the price at which the cargoes of these classes are to be sold. Since commercial spring wheat exports play such an important role in North Dakota's agricultural economy, we need to know more about the effects that these pricing and governmental controls have had on the volume of commercially exported hard red spring and durum wheat.

There are only two suppliers of hard red spring in the world wheat trade--Canada and the United States. However, six countries other than the United States supply durum wheat--Canada, Argentina, Morocco, Turkey, Spain, and Libya.²

Large increases of exports of these two classes of wheat have many effects on all parts of the grain marketing system. Increasing exports affect the flow pattern of grain. Research is needed to evaluate past performance of the system and to contribute to export maximization.

The direction international trade takes in the future will have important effects on the structure of the grain marketing system. Research is needed to contribute to a more concise and complete understanding of past changes and thus indicate the direction and nature of further changes.

^aThis report was made possible by a research grant provided by the North Dakota State Wheat Commission.

¹United States Department of Agriculture and North Dakota State University, Crop and Livestock Statistics, North Dakota, Agricultural Statistics No. 15, Fargo, North Dakota, May, 1966, p. 45.

²Keaton, Clyde R., Competition in the Grain Market of Western Europe, United States Department of Agriculture, Foreign Agricultural Service, Washington, D. C., May, 1962, p. 3.

Maximization of commercial exports of hard red spring and durum wheat is extremely important to the North Dakota farmer. Because of improvements in technology, the farmer is increasing his capacity to produce in abundance in the United States. An over-abundant supply that grows at a faster rate than demand will cause a downward pressure on prices and incomes received from sale of wheat. The possibility of increased demand at the domestic level is limited by population increases and advances of technology that may find new uses for wheat. Both of these possibilities have been very insignificant in increasing demand at the domestic level. Total wheat domestically consumed in 1962 was 488 million bushels, only slightly larger than the 475 million bushels consumed in 1909. Per capita consumption was 3.15 pounds in 1909 and 1.60 pounds in 1962.³ Population growth in the United States during this period was over 90 million.

³United States Department of Agriculture, Economic Research Service, United States Food Consumption, Statistical Bulletin No. 364, Washington, D. C., June, 1965, p. 146.

FLOW OF WHEAT EXPORTS

The World Flow

During the 1930's, the three dominant wheat exporting regions of the world were North America, Latin America, and Eastern Europe (including the Soviet Union). Latin America was the leading exporter during this period.

Since this period, the pattern of world wheat trade has changed considerably⁴ (Table 1). The basic factors that underlie the changing positions of the trading countries appear to be the following:

1. The agricultural revolution in North America that greatly increased the productive capacity of this area.
2. Fast growing populations in the developing countries.
3. The failure of Communist (Bloc) countries to be self-sustaining in the production of food grains.

TABLE 1. NET WORLD GRAIN TRADE, BY MAJOR REGIONS, 1934-1966

Region	Average 1934-1938	1960	1966*
- million bushels -			
North America	+ 184	+ 1,433	+ 2,204
Latin America	+ 330	0	+ 73
Western Europe	- 882	- 918	- 845
Eastern Europe (including the USSR)	+ 184	0	- 514
Africa	+ 37	- 73	- 110
Oceania (Australia)	+ 110	+ 220	+ 293
Asia	+ 73	- 588	- 1,102

*Estimated.

Note: Plus = net exports; minus = net imports.

In 1966, the three dominant exporting regions were North America, Latin America, and Oceania (Australia). Canada and the United States are responsible for the large volume of net wheat exports from North America.

⁴United States Department of Agriculture, Foreign Agricultural Service, "World Wheat Picture-Background and Perspective," Foreign Agriculture, Washington, D. C., July 25, 1966, pp. 6-7.

World wheat trade may be broken down into three major categories: (1) the Free World commercial market, (2) the "Bloc" commercial market, and (3) the concessional wheat market (Figure 1). The Free World commercial market includes the more usual cash importers, such as the United Kingdom; the Bloc commercial market includes the Communist Bloc importers; and the concessional market includes importers that do not exchange the exporter's currency for their wheat imports.

The commercial Free World market has remained quite stable over the last 10 years. The largest increases of export volume have been in the concessional market and the Bloc commercial market.⁵

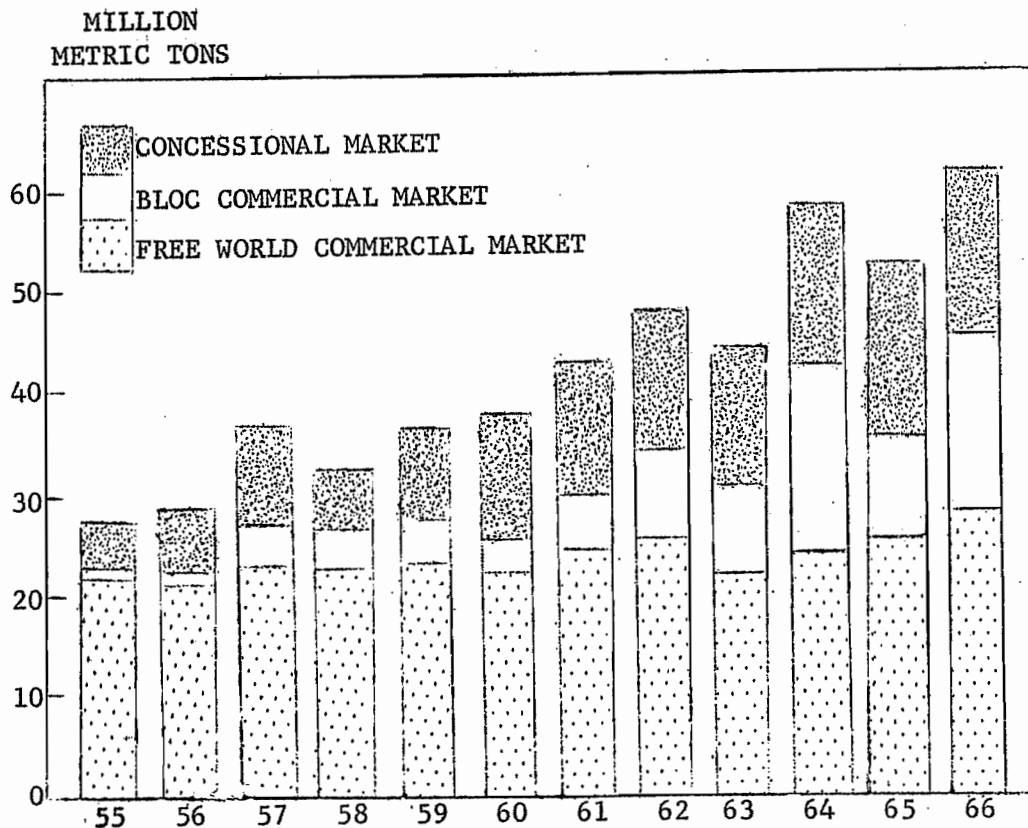


Figure 1. Sources of Growth in World Wheat Trade

Source: United States Department of Agriculture, Foreign Agricultural Service, "World Wheat Picture-Background and Perspective," Foreign Agriculture, Washington, D. C., July 25, 1966, p. 6.

⁵ Ibid., p. 6.

Flow of the United States Wheat Exports

The United States exports wheat by two major methods--commercial and concessional. Commercial exports are those sold for cash or dollars (United States currency). Concessional exports are those exports that do not fit the definition of commercial exports and usually are associated with such arrangements as barter, gifts, long-term credit, and sales for foreign currency.

In 1925-1944 United States wheat exports were predominantly commercial. There were no exports that could be classified as concessional except during the year 1930-1931. Commercial exports of wheat were small in volume during the mid-thirties. From 1945-1946 to the present, United States wheat exports have expanded considerably; however, much of the growth has been made through concessional export sales.⁶

The first United States subsidized commercial exports began in 1938-1939, when a general subsidy was used to lower the world export price. Until 1938-1939 there was no general export subsidy, and export sales were made at a world market price responding to changes in the international demand-supply situation. However, in the period 1945-1949 there was a large amount of "true" commercial exports tied directly to the Chicago wheat market.⁷ During the first four post World War II years, large government grants of United States wheat were made available for civilian relief in war-devastated areas. During 1947-1948, additional amounts were purchased with Marshall Plan funds. Commercial exports reached a peak during the Korean War period, but by this time, the world market structure had become more complex.

Prior to 1938-1939 there was little need to distinguish commercial exports from concessional exports because all exports were primarily true commercial exports.

Flow of Hard Red Spring Wheat Exports

Data for wheat exports by class are very limited. All data for years prior to 1962-1963 are based on estimates because export data by class were not collected prior to the 1962-1963 crop year. Figure 2 indicates the volume of hard red spring wheat (HRS) that has been exported during the last nine years.

During the period 1957-1962, the volume of commercial exports remained quite constant. The volume of concessional exports fluctuated over the entire period. However, there were significant increases in the 1963-1964 and 1965-1966 marketing years.

During the last two marketing years, 1964-1965 and 1965-1966, the volume of both commercial and concessional exports reached maximums and minimums for the nine-year period. The lowest volume of both export programs occurred in 1964-1965, while the largest volume in both export programs occurred in 1965-1966.

⁶Farnsworth, Helen C., "American Wheat Exports, Policies, and Prospects", Food Research Studies, Stanford University, Stanford, California, Volume 1, 1960, pp. 221-281.

⁷Ibid., pp. 245-248.

MILLION BUSHELS

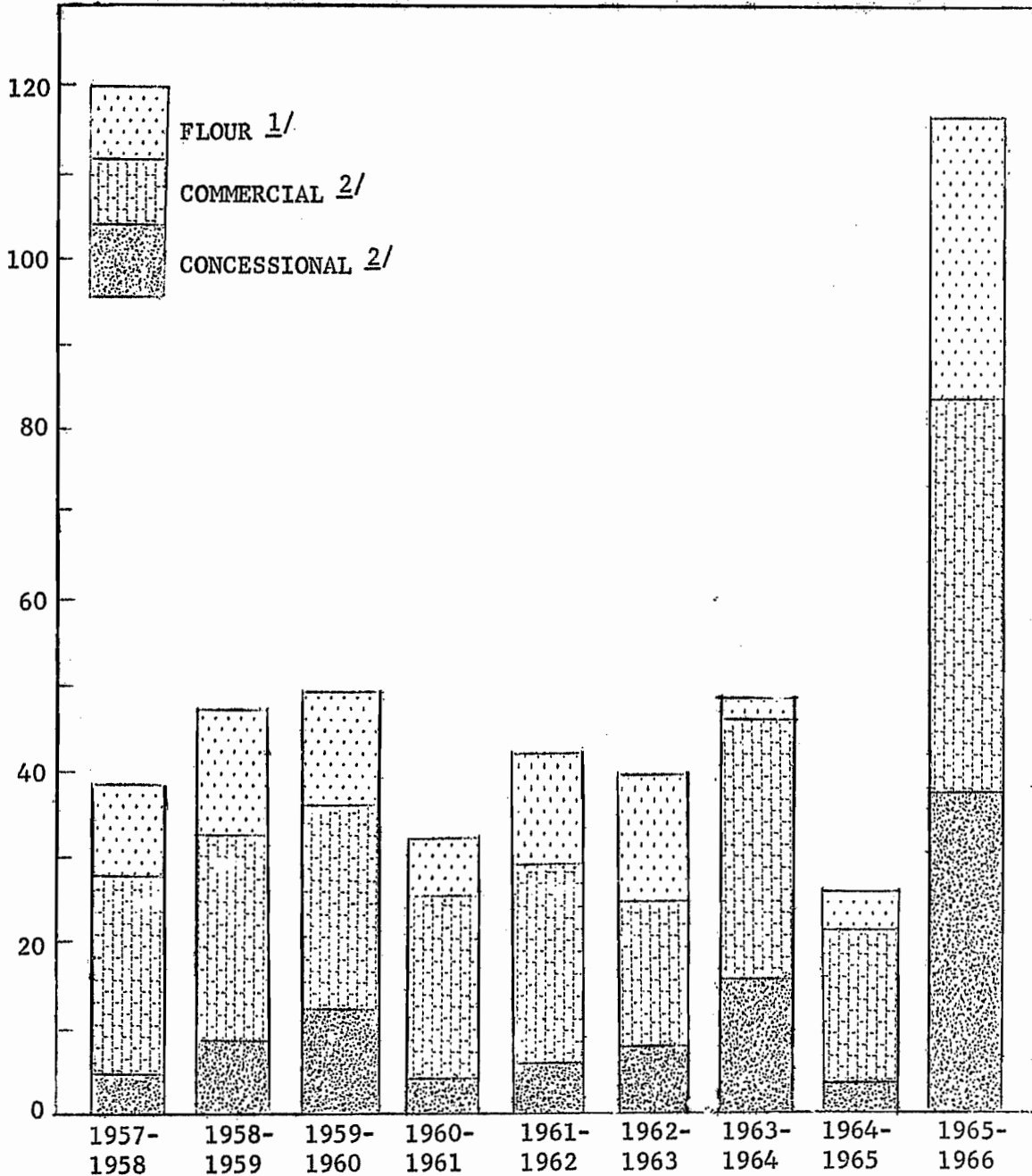


Figure 2. Volume of U. S. Hard Red Spring Exports, 1957-1966

¹Figures are only approximations. Includes flour and other products in terms of wheat.

²Approximations for years prior to 1962-1963.

Source: Data for the period 1957-1962 were obtained by correspondence with the United States Department of Agriculture, Economic Research Service. Data for years 1962-1966 were obtained from Grain Market News, Grain Division, Agricultural Marketing Service, United States Department of Agriculture.

Factors that may have influenced the minimum volume of both export programs in 1964-1965 may have been associated with the smaller carry-over and larger domestic disappearance that occurred in that year as compared to previous years, 1962-1963 and 1963-1964.

TABLE 2. U. S. HARD RED SPRING SUPPLY AND DISTRIBUTION, 1962-1966

	1962-1963	(year beginning in July)		1965-1966 ²
		1963-1964	1964-1965	
- million bushels -				
Carry-over, July 1	187	195	180	200
Production	175	161	181	211
Imports ¹	5	4	1	1
Supply	367	360	362	412
Domestic disappearance ³	133	132	137	140

¹Exclude imports for milling-in-bond and exported as flour.

²Preliminary.

³Wheat for food including military, food use at home and abroad, feed, seed, and industry. Also includes shipments to United States territories.

Source: United States Department of Agriculture, Economic Research Service, Wheat Situation, October, 1964; October, 1965; October, 1966.

Factors that may have contributed to the maximum volume exported in 1965-1966 were the large production and large carry-over that occurred in this year as compared to previous years, 1962-1963, 1963-1964, and 1964-1965 (Table 2).

Commercial exports as a percentage of carry-over and production in the years 1964-1965 and 1965-1966 also indicated sources of influence on volume exported in these two years. In 1964-1965 commercial exports as a percentage of carry-over on July and as a percentage of production were relatively low compared to the preceding and following year. In 1965-1966 commercial exports as a percentage of carry-over on July 1 and as a percentage of production were the highest in the four-year period (Table 3).

TABLE 3. U. S. HARD RED SPRING COMMERCIAL EXPORTS, AS A PERCENTAGE OF SUPPLY AND DISTRIBUTION, 1962-1966

	1962-1963	(year <u>beginning in July</u>)		
		1963-1964	1964-1965	1965-1966
		- per cent -		
Carry-over, July 1	9	16	10	22
Production	10	19	9	22
Supply	5	8	4	11
Total exports	68	65	68	53
Domestic disappearance	13	23	13	32

Most of the hard red spring wheat exported during the period of 1962-1966 was shipped commercially or sold for dollars. The second largest method of export was Title I of Public Law 480. This program increased considerably in the year 1965-1966. The third largest method of export was that of donations. Title I and donations were the major concessional outlets for hard red spring wheat (Table 4).

TABLE 4. HARD RED SPRING EXPORTS, BY TYPE, 1962-1966¹

		(year beginning in July)		
	1962-1963	1963-1964	1964-1965	1965-1966
		- million bushels -		
Commercial	17.3	30.3	17.2	45.7
Concessional				
CCC credit	.1	.4	0	.3
Title I	1.8	.7	1.7	28.4
Title IV	0	.5	.2	3.9
A.I.D.	.8	.4	0	--*
Barter	.5	1.5	.3	2.0
Donations	4.8	12.5	.9	3.1
TOTAL:	25.3	46.3	20.3	83.4

*Less than 50,000 bushels.

¹Data based on July 1 to June 30 marketing year.

Source: United States Department of Agriculture, Grain Market News, Grain Division, Agricultural Marketing Service, weekly issues, July, 1962 through June, 1966.

The Lake port area received the largest HRS wheat export volume during the period of analysis. Thirty-one per cent of the total commercial spring wheat exports were exported through Great Lakes area ports.

The Gulf and Pacific port areas have increased their volume in the last two years, with the Pacific port area having the largest percentage of total hard red spring wheat commercial exports in the 1965-1966 marketing year. The Atlantic and Lake port areas combined accounted for 44 per cent of total commercial exports (Table 5).

TABLE 5. COMMERCIAL EXPORTS OF HARD RED SPRING WHEAT, BY COASTAL AREAS, 1962-1966

	Canadian	Lake	Atlantic	Gulf	Pacific	Total
	- thousand bushels -					
1962-1963	1,748	6,224	2,807	5,684	830	17,293
% of total	10%	36%	16%	33%	5%	100%
1963-1964	5,549	12,224	4,356	5,008	3,171	30,308
% of total	18%	40%	14%	17%	11%	100%
1964-1965	725	6,608	2,164	3,895	3,768	17,160
% of total	4%	39%	13%	22%	22%	100%
1965-1966	3,129	9,345	4,917	8,564	19,699	45,654
% of total	7%	20%	11%	19%	43%	100%
Total	11,151	34,401	14,244	23,151	27,468	110,415
% of total	10%	31%	13%	21%	25%	100%

Source: United States Department of Agriculture, Grain Market News, Grain Division, Agricultural Marketing Service, weekly issues, July, 1962 through June, 1966.

Table 6 lists the leading importing nations of both commercial and concessional shipments of HRS from the United States for each geographic area. The leading geographic area for commercial imports of U. S. hard red spring wheat was Europe. Second in importance was Asia with a significant portion of commercial imports. Together they received over 67.2 per cent of the total commercial imports.

Asia and Africa, respectively, took the lead in the importation of concessional imports of U. S. hard red spring wheat during 1962-1966. The other areas considered imported very small amounts under concessional terms. Asia and Africa accounted for 66.9 per cent of the total concessional imports during the period.

TABLE 6. LEADING IMPORTING NATIONS OF U. S. HARD RED SPRING WHEAT, BY GEOGRAPHIC AREA, 1962-1966

Commercial sales	Quantity	Concessional sales	Quantity
	- thousand bushels -		- thousand bushels -
Europe:		Europe:	
Netherlands	33,327	Yugoslavia	5,434
Belgium	7,494	Finland	750
West Germany	2,732	Netherlands	214
United Kingdom	2,138	Belgium	214
Norway	370		
Total:	46,061	Total:	6,612
% of total: 41.7		% of total: 10.0	
Asia:		Asia:	
Philippines	19,798	India	25,908
Japan	6,481	Pakistan	3,253
Formosa	743	Korea	2,277
Singapore	707	Turkey	1,457
Hong Kong	438	Afghanistan	1,402
Total:	28,167	Total:	34,297
% of total: 25.5		% of total: 52.1	
Africa:		Africa:	
Nigeria	4,423	Algeria	6,100
Algeria	385	Morocco	4,405
British East Africa	354	South Africa	4,240
Portugese East Africa	244	Tunisia	2,354
West Africa	213	Sudan	1,357
Total:	5,619	Total:	18,456
% of total: 5.0		% of total: 28.0	
Central America:		North & Central America:	
Haiti	5,050	Dominican Republic	1,283
Guatemala	2,750	Haiti	369
Panama	2,296	Honduras	301
Dominican Republic	1,906	Guatemala	225
Honduras	536	Mexico	1
Total:	12,538	Total:	2,179
% of total: 11.4		% of total: 3.3	

- continued -

TABLE 6. LEADING IMPORTING NATIONS OF U. S. HARD RED SPRING WHEAT, BY GEOGRAPHIC AREA, 1962-1966 (continued)

Commercial sales	Quantity	Concessional sales	Quantity
	- thousand bushels -		- thousand bushels -
South America:		South America:	
Venezuela	13,171	Ecuador	1,081
Ecuador	818	Peru	568
Peru	674	Columbia	242
Columbia	104	Guatemala	38
		Chile	3
Total:	14,767	Total:	1,932
% of total: 13.4		% of total: 2.9	
Leading countries as % of total: 97.0		Leading countries as % of total: 96.3	

Source: United States Department of Agriculture, Grain Market News, Grain Division, Agricultural Marketing Service, weekly issues, July, 1962 through June, 1966.

The Netherlands, the Philippines, Venezuela, Belgium, and Japan were the major commercial importing nations (Table 7). They accounted for 72.6 per cent of the total commercial imports. The top 10 importing countries imported 88.3 per cent of the total commercial exports of United States HRS, while the top 12 imported 92.0 per cent. Even though the Netherlands is the leading importer of commercial HRS, it is assumed that some transshipment or transfer for further transport to other countries occurs from the Netherlands' port of Rotterdam.

A very small quantity of durum was exported commercially in 1957-1958, 1958-1959, and 1959-1960 (Figure 3). The years succeeding 1959-1960 show an "on and off" cycle of exports. Exports for the crop year 1965-1966 were the highest for all the years considered in the study.

Factors that may have influenced the level of commercial exports during the period of analysis are the amounts of carry-over on July 1 and the volume of production. For example, in 1962-1963 carry-over was very low, indicating little need for an aggressive export program. The resulting export movements in the 1962-1963 crop year were correspondingly low. In 1963-1964 carry-over had increased, leading to an increased supply, even though production diminished. In 1964-1965 carry-over on July 1, 1965 also decreased from the previous year, leading to a smaller quantity available for export. In 1965-1966 production and carry-over were the highest they had ever been in the period, which may have influenced the high level of exports for that year. Domestic disappearance increased every year during the period of analysis (Table 8).

TABLE 7. MAJOR COMMERCIAL IMPORTING COUNTRIES OF U. S. HARD RED SPRING WHEAT, 1962-1966

Country		Quantity
		- thousand bushels -
Top five:		
	Netherlands	33,327
	Philippines	19,798
	Venezuela	13,171
	Belgium	7,494
	Japan	6,481
% of total commercial exports: 72.6		
Top ten:		
	Haiti	5,050
	Nigeria	4,423
	Guatemala	2,750
	West Germany	2,732
	Panama	2,296
% of total commercial exports: 88.3		
Top twelve:		
	United Kingdom	2,138
	Dominican Republic	1,906
% of total commercial exports: 92.0		

Source: United States Department of Agriculture, Grain Market News, Grain Division, Agricultural Marketing Service, weekly issues, July, 1962 through June, 1966.

Commercial exports, as a percentage of carry-over and production during the period of analysis, also indicated sources of influences of the volume exported in these years. In the year of small volume of exports, 1962-1963, only 4 per cent of production and only 4 per cent of total supply were commercially exported. In 1963-1964, 54 per cent of production and 29 per cent of supply were commercially exported. In 1964-1965 commercial exports as a percentage of carry-over and production dropped significantly, as did the volume of commercial exports. The actual volumes of carry-over and production showed less change; however, in 1965-1966, carry-over and production combined were the largest of the study period as was the volume of commercial exports. Commercial exports were 46 per cent of carry-over and production (Table 9).

Only a very small portion of durum was exported by other than commercial arrangements in the four years studied. All exports were commercial in the years 1962-1963 and 1963-1964. The largest volume of exports under

MILLION BUSHELS

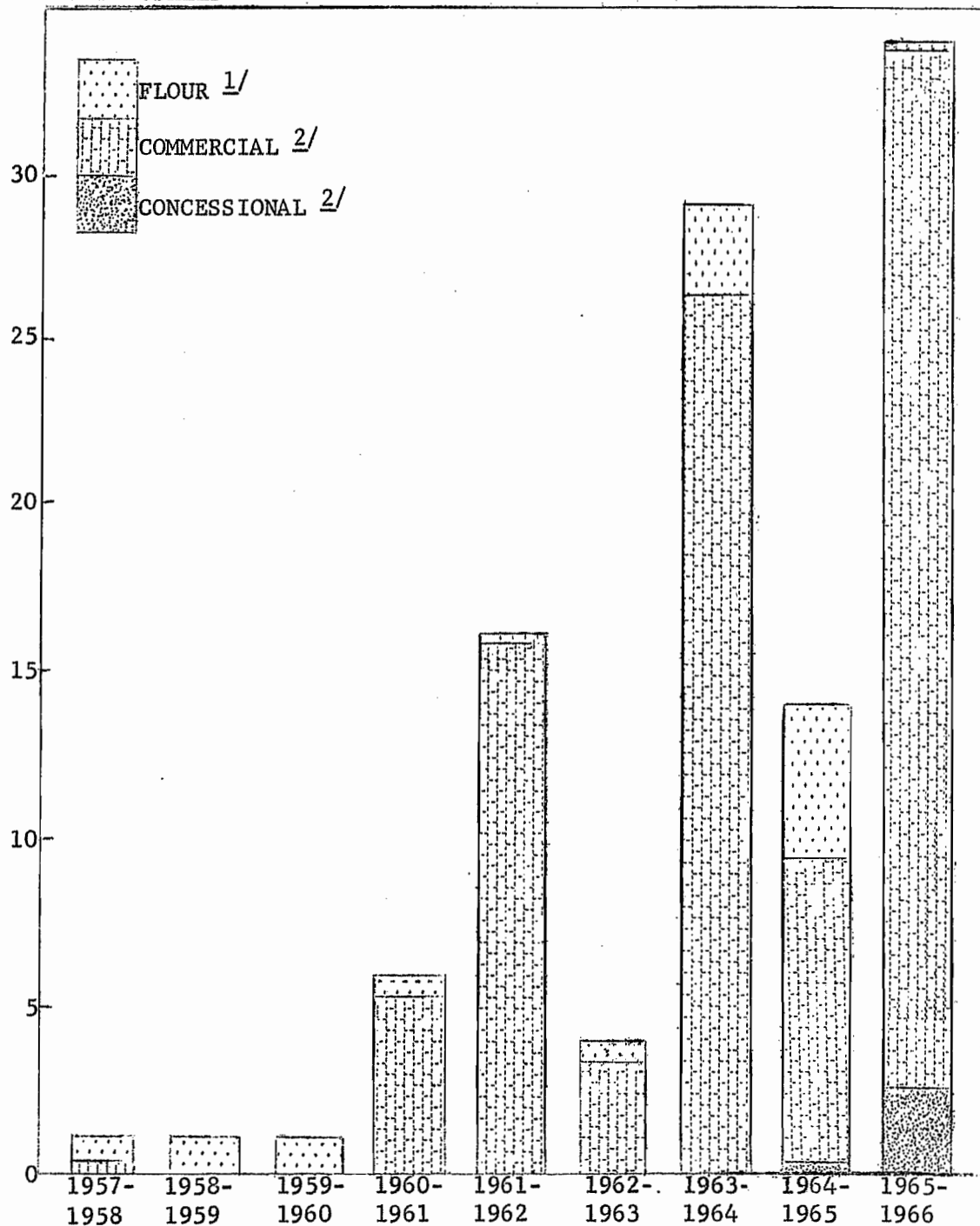


Figure 3. Volume of U. S. Durum Exports, 1957-1966

¹Figures are only approximations. Includes flour and other products in terms of wheat.

²Approximations for years prior to 1962-1963.

Source: Data for the period 1957-1962 were obtained by correspondence with the United States Department of Agriculture, Economic Research Service. Data for years 1962-1966 were obtained from Grain Market News, Grain Division, Agricultural Marketing Service, United States Department of Agriculture.

TABLE 8. U. S. DURUM SUPPLY AND DISTRIBUTION, 1962-1966

	1962-1963	(year beginning in July)		1965-1966 ¹
		1963-1964	1964-1965	
- million bushels -				
Carry-over, July 1	5	46	41	68
Production	70	51	67	69
Supply	75	97	108	137
Domestic disappearance ²	25	27	31	48

¹Preliminary.

²Wheat for food including military, food use at home and abroad, feed, seed, and industry. Also includes shipments to United States territories.

Source: United States Department of Agriculture, Wheat Situation, Economic Research Service, October, 1964; October, 1965; October, 1966.

TABLE 9. U. S. DURUM COMMERCIAL EXPORTS, AS A PERCENTAGE OF SUPPLY AND DISTRIBUTION, 1962-1966

		(year beginning in July)		
	1962-1963	1963-1964	1964-1965	1965-1966
		- per cent -		
Carry-over, July 1	66	60	22	46
Production	4	54	14	46
Supply	4	29	8	22
Total exports	100	100	98	92
Domestic disappearance	13	103	29	65

government programs was made under the Commodity Credit Corporation (CCC) credit program and the Title I program. These programs, however, accounted for a very small portion of total exports (Table 10).

The coastal area that exported the largest commercial durum wheat shipments during the period of analysis was the Atlantic port area. Approximately 49 per cent of the total commercial durum exports were exported through Atlantic coastal area ports (Table 11). This area also topped other areas in all individual years except 1962-1963, when a major percentage was exported through the Great Lakes area.

TABLE 10. U. S. DURUM EXPORTS, BY METHOD OF EXPORT, 1962-1966¹

	1962-1963	(year beginning in July)		1965-1966
		1963-1964	1964-1965	
- million bushels -				
Commercial	3.3	27.9	9.1	31.4
Government program				
CCC credit			.2	1.3
Title I				1.1
Title IV				.1
Total	3.3	27.9	9.3	33.9

¹Data do not include flour exports.

Source: United States Department of Agriculture, Grain Market News, Grain Division, Agricultural Marketing Service, weekly issues, 1962-1966.

TABLE 11. COMMERCIAL EXPORTS OF DURUM, BY COASTAL AREA, 1962-1966

	Canadian	Lake	(year beginning in July)		Pacific	Total
			Atlantic	Gulf		
	- thousand bushels -					
1962-1963	1,495	1,572	0	33	214	3,314
% of total	45%	48%	0%	1%	6%	100%
1963-1964	2,888	5,004	19,073	906	0	27,871
% of total	11%	18%	68%	3%	0%	100%
1964-1965	3,027	1,847	3,182	1,020	28	9,104
% of total	33%	20%	35%	11%	1%	100%
1965-1966	2,222	8,815	12,789	7,427	158	31,411
% of total	7%	28%	41%	23%	1%	100%
Total	9,632	17,338	35,044	9,386	400	71,700
% of total	14%	24%	49%	12%	1%	100%

Source: United States Department of Agriculture, Grain Market News, Grain Division, Agricultural Marketing Service, weekly issues, July, 1962 through June, 1966.

The second largest coastal area for volume of commercial exports for the entire period was the Great Lakes area. The Atlantic and Great Lakes areas combined accounted for 73 per cent of the total export volume of durum shipped during the 1962-1966 period. The third largest port area was the Canadian, which showed an up-and-down trend in the four years analyzed and accounted for 14 per cent of the total volume of United States durum commercial exports.

The leading importing nations, by continental region, of both commercial and concessional shipments are indicated in Table 12. The leading geographic area for commercial imports of United States durum was the same as for hard red spring wheat--Europe. The second and third in importance were Africa, which accounted for 4.5 per cent, and Asia, which accounted for 3.9 per cent of total commercial exports. Europe, Africa, and Asia accounted for 63.0 per cent of total commercial exports of durum from the United States.

Asia and Central America imported all of the concessional exports of durum wheat during the period studied. Asia accounted for 96.2 per cent of the total, while Central America accounted for only 3.8 per cent.

The top five importing nations imported 82.8 per cent of the total commercial durum exports, the top 10 imported 95.2 per cent, and the top 12 imported 95.5 per cent of total commercial exports (Table 13).

Comparisons of Wheat Exports by Class and by Method of Export

Data were assembled on all United States wheat exports by class of wheat and by method of export for the period of July, 1962 through June, 1966. These data were used to make comparisons between the various classes of wheat and the methods of export.

The largest export program for this period was Title I of P. L. 480, or sales for foreign currency. Hard red winter wheat was exported in the greatest volume under the Title I program (Table 14). The Title I program accounted for over half of the total export volume in the 1962-1966 period (Table 15). More than three-fourths of the wheat exports under the Title I program were of the hard red winter class (Table 16).

The second largest export program by volume was commercial exports. Title I and the commercial exports accounted for over 87 per cent of the total exports for this period; commercial exports made up over 30 per cent. Approximately 40 per cent of the commercial exports were hard red winter, the largest contributor of all classes to this method of export.

Title IV, sales for long-term credit, was the third largest United States wheat export program in volume, but only 5.2 per cent of total exports were of this type. Hard red winter was the class that predominated under Title IV, accounting for 72.4 per cent of the total exported under this program.

TABLE 12. LEADING IMPORTING NATIONS OF U. S. DURUM, BY GEOGRAPHIC AREA, 1962-1966

Commercial	Quantity	Concessional	Quantity
	- thousand bushels -		- thousand bushels -
Europe:		Europe:	None
France	18,284		
Netherlands	12,191		
Italy	3,938		
Belgium	2,875		
United Kingdom	1,877		
Total:	39,165		
% of total:	54.6		
Asia:		Asia:	
Lebanon	2,154	Lebanon	1,483
Turkey	458	India	1,054
Japan	206		
Total:	2,818	Total:	2,537
% of total:	3.9	% of total:	96.2
Africa:		Africa:	None
Algeria	3,191		
Mozambique	26		
Total:	3,217		
% of total:	4.5		
Central America:		North & Central America:	
Dominican Republic	40	Dominican Republic	100
Guatemala	3		
Total:	43		
% of total:	.1	% of total:	3.8
South America:		South America:	None
Venezuela	1,502		
Argentina	2		
Total:	1,504		
% of total:	2.1		
USSR:	21,762		
% of total:	30.4		
Leading countries as		Leading countries as	
% of total:	95.6	% of total:	100.0

Source: United States Department of Agriculture, Grain Market News, Grain Division, Agricultural Marketing Service, weekly issues, July, 1962 through June, 1966.

TABLE 13. MAJOR COMMERCIAL IMPORTING COUNTRIES OF U. S. DURUM, 1962-1966

Country	Quantity
	- thousand bushels -
Top five:	
USSR	21,762
France	18,284
Netherlands	12,191
Italy	3,938
Algeria	3,191
Total:	59,366
% of total commercial exports: 82.8	
Top ten:	
Belgium	2,875
Lebanon	2,154
United Kingdom	1,877
Venezuela	1,502
Turkey	458
Total:	68,232
% of total commercial exports: 95.2	
Top twelve:	
Dominican Republic	206
Mozambique	40
Total:	68,478
% of total commercial exports: 95.5	

Source: United States Department of Agriculture, Grain Market News, Grain Division, Agricultural Marketing Service, weekly issues, July, 1962 through June, 1966.

Title I, commercial exports, and Title IV, together, accounted for over 92.1 per cent of the wheat exported during the period of July, 1962 through June, 1966. All other methods of export accounted for less than 3 per cent of total exports individually, and accounted for less than 8 per cent as a whole.

Hard red spring and durum wheat (with the exception of mixed) made up the smallest proportion of the three largest export programs: Title I, commercial, and Title IV, as well as being relatively small in total wheat exports during the period studied. Hard red winter wheat was the class with the largest proportion of the three largest export programs, and accounted for about 65 per cent of total United States wheat exports during the 1962-1966 period.

TABLE 14. U. S. EXPORTS OF WHEAT, BY CLASS AND BY METHOD OF EXPORT, 1962-1966

	HRS	HRW	SRW	White	Durum	Mixed	Total
- thousand bushels -							
Commercial	110,415	343,906	149,284	176,489	71,700	5,294	857,088
Title I	32,464	1,171,855	35,337	264,648	1,054	12,470	1,517,828
Title II	14,385	47,481	3,481	3,948	0	0	65,814
Title III	6,407	1,906	134	813	0	0	26,460
Title IV	4,592	101,471	29,309	4,369	100	41	139,882
Barter	4,327	76,242	1,029	1,109	0	129	82,836
CCC	933	17,678	4,947	2,596	1,483	0	27,637
Donations	1,962	7,628	0	0	0	0	9,590
A.I.D.	1,251	1,599	0	0	0	0	2,850
Total	176,736	1,786,966	223,988	450,024	74,337	17,934	2,729,985

TABLE 15. PERCENTAGE OF TOTAL WHEAT EXPORTS, BY CLASS AND BY METHOD OF EXPORT, 1962-1966

	HRS	HRW	SRW	White	Durum	Mixed	Total
- per cent -							
Commercial	62.5	19.5	66.6	39.2	96.4	29.5	31.4
Title I	18.4	65.5	15.8	58.8	1.5	69.5	55.6
Title II	8.2	2.6	1.7	0	0	0	2.4
Title III	3.6	1.1	.1	.2	0	0	1.0
Title IV	2.6	5.7	13.1	1.0	.1	.3	5.2
Barter	2.4	4.2	.5	.2	0	.7	2.9
CCC	.5	1.0	2.2	.6	2.0	0	1.0
Donations	1.1	.3	0	0	0	0	.4
A.I.D.	.7	.1	0	0	0	0	.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

The commercial export program accounted for the largest share in volume of hard red spring, soft, red winter, and durum wheat exports. The Title I export program accounted for the largest share in volume of hard red winter, white, and mixed wheat exports.

TABLE 16. PERCENTAGE OF TOTAL WHEAT EXPORTS, BY CLASS AND METHOD OF EXPORT, 1962-1966.

	HRS	HRW	SRW	White	Durum	Mixed	Total
	- per cent -						
Commercial	12.9	40.1	17.4	20.6	8.4	.6	100.0
Title I	2.1	77.3	2.3	17.4	.1	.8	100.0
Title II	21.9	72.1	6.0	0	0	0	100.0
Title III	24.2	72.2	.5	3.1	0	0	100.0
Title IV	3.3	72.4	21.0	3.1	.1	.1	100.0
Barter	5.2	92.0	1.3	1.4	0	.1	100.0
CCC	3.4	64.0	17.8	9.4	5.4	0	100.0
Donations	20.5	79.5	0	0	0	0	100.0
A.I.D.	43.9	56.1	0	0	0	0	100.0
Total	6.5	65.4	8.2	16.5	2.7	.7	100.0

Source: United States Department of Agriculture, Grain Market News, Grain Division, Agricultural Marketing Service, weekly issues, July, 1962 through June, 1966.

Flour Exports

Data on flour shipments by method of export and by destination are not broken down by class of wheat from which flour was milled.

The largest flour export method was the donations program. The second largest was under Title I of P. L. 480 (Table 17). Together, they accounted for 77.1 per cent of the total flour exports during the period July, 1962 through June, 1966. Commercial flour exports was the third largest export program, accounting for 19.4 per cent of total flour shipments during the period.

TABLE 17. FLOUR (WHEAT EQUIVALENT) REGISTRATION OF EXPORT SALES,¹ 1962-1966

	1962-1963	(year beginning in July)		1965-1966	Total
		1963-1964	1964-1965		
		- million bushels -			
Commercial	18.8	19.6	17.5	15.6	71.5
Government program					
CCC credit	--	--	--	2.0	2.0
Title I	42.7	37.7	28.1	24.8	133.3
Title IV	.3	1.2	.3	8.0	9.8
A.I.D.	.1 ₂	.3	.4	.1	.9
Barter		--	.2	.2	.4
Donations	39.0	39.2	37.4	36.0	151.6
Total	100.9	98.0	83.9	86.7	369.5

¹Registrations of sales under the Cash Payment Flour Export Program (GR-346).

²Less than 50,000 bushels.

Source: United States Department of Agriculture, Grain Market News, Grain Division, Agricultural Marketing Service, weekly issues, July, 1962 through June, 1966.