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Minnesota's Agricultural Exports

By Martin E. Abel and Henry Ito*

FOREIGN MARKETS are important and rapidly growing outlets for Minnesota farm products. In all likelihood, these markets will continue to grow. It is important that farmers, farm leaders, and the agribusiness community understand the nature of the state's agricultural exports and the forces which determine the level and composition of agricultural export trade. Agricultural exports have had and will continue to have significant implications for Minnesota's income and employment levels.

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This report describes the performance of exports during 1964-72¹ for most agricultural products produced in Minnesota. These include wheat and wheat products, feed grains and their products, soybeans and soybean products, meat and meat products, poultry products, dairy products, lard and tallow, hides and skins, and vegetables and vegetable preparations. The report helps identify specific export markets, particularly the rapidly growing ones, for Minnesota's agricultural products. This information should be useful to farmers, farm leaders, food processors, and exporters to Minnesota's agricultural economy.

¹A limited number of copies of the basic data are available. They can be obtained by writing directly to the senior author.

Exports of Minnesota agricultural products were not measured directly. Rather, they were derived from export data for the United States. On the assumption that markets for U.S. agricultural products are essentially competitive, Minnesota's exports of a particular commodity bear the same relationship to total U.S. export of that commodity as does Minnesota production to national production. Thus, if we know U.S. exports, U.S. production, and Minnesota's production, we can derive Minnesota's exports of a given commodity.

Value of agricultural exports

The value of Minnesota's agricultural exports increased by 46.5 percent—\$204.8 million in 1964 to an average value of \$300.1 million in 1971-72, (table 1). This increase represents an

Table 1. Total value of agricultural exports from Minnesota, fiscal years 1964-1972.

Destination	1964	1966	1968	1970	1971	1972
..... 1,000 dollars						
Canada	19,937	18,057	14,256	25,446	23,009	19,769
Mexico	2,538	2,494	2,569	7,473	6,886	4,117
Central America	1,067	1,054	1,208	2,761	3,108	1,911
Caribbean	2,207	2,441	3,511	5,392	5,863	4,682
South America	8,417	7,385	10,822	13,456	18,068	10,630
United Kingdom	13,728	12,111	9,392	10,884	13,838	11,554
European Community (6) ^a	55,691	64,069	60,408	63,267	87,713	83,022
Other W. Europe	14,497	20,532	16,564	19,998	23,274	22,856
Eastern Europe	9,697	7,003	4,936	7,446	14,762	9,817
U.S.S.R.	3,535	1,043	326	912	673	10,089
West Asia	8,322	7,329	6,651	8,709	12,167	11,948
South Asia	14,694	15,439	19,837	13,710	11,777	10,521
East Asia	10,123	9,356	12,941	22,275	26,096	18,423
Japan	28,533	34,315	37,191	50,472	57,706	47,938
Oceania (Australia, New Zealand, etc.)	292	1,286	450	440	473	294
North Africa	8,162	3,084	3,210	4,089	4,047	4,924
SubSahara Africa	2,001	1,164	800	2,899	3,715	1,950
East Africa	301	1,117	201	758	1,026	875
Republic of South Africa	1,031	896	151	322	234	110
Other	n.a.	n.a.	11,429	4,617	6,501	3,794
Total world	204,773	210,175	216,853	265,326	320,936	279,224

^aFrance, Germany, Italy, Netherlands, Belgium, and Luxembourg.

annual growth rate of 4.9 percent. (A sharp rise in Minnesota's 1973 agricultural exports can be expected because this is a record year for U.S. agricultural exports. U.S. agricultural exports reached an alltime record of

\$12.9 billion in fiscal year 1973. The previous record was \$8.1 billion in fiscal year 1972!) Furthermore, commercial sales grew faster than total exports because of a decline in exports under government programs, mainly the Food

for Peace (P.L. 480) program (figure 1). This trend in relative shares of commercial exports and exports under government programs is likely to continue. It means that Minnesota agricultural exports will be less dependent on direct U.S. government programs and more influenced by market forces.

Important markets

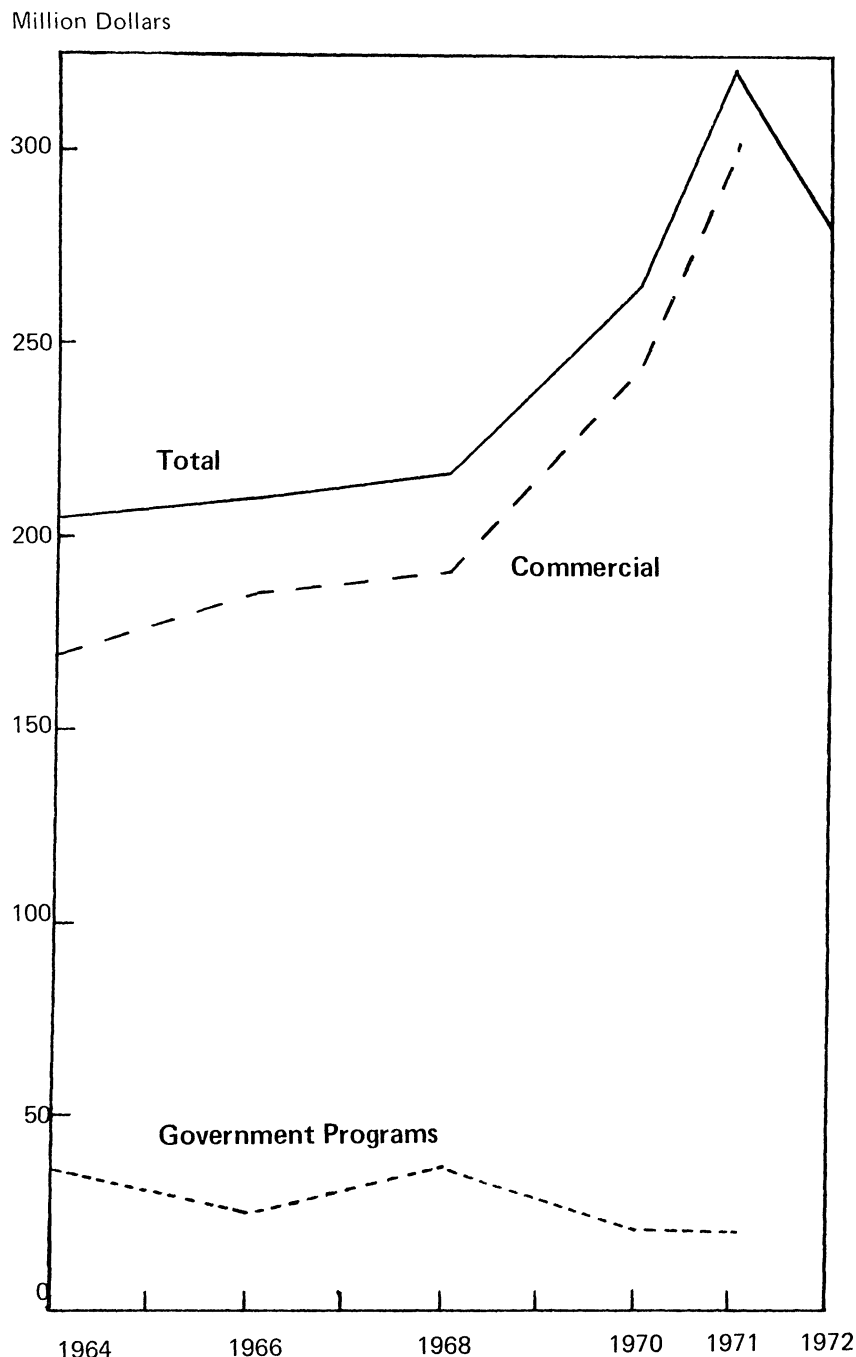
By far the two largest export regions (based on an average of the 1971-72 values of agricultural exports) are the European Economic Community (EEC)² and Japan. These two regions combined accounted for nearly half (46 percent) of the total value of all agricultural commodities exported from Minnesota. The value of agricultural exports to the European Economic Community countries alone amounted to over \$85 million or 28.4 percent of Minnesota's agricultural exports. Exports to Japan averaged nearly \$53 million. Other important export regions which accounted for over \$10 million of total export value include other western European countries, East Asia, Canada, South America, the United Kingdom, East Europe, West Asia, and South Asia (table 2).

The European Economic Community and Japan are also important markets in terms of export growth. Japan ranks sixth with an average annual growth rate for the 1964-72 period of 8 percent. The European Economic Community ranks ninth with an average growth rate of 5.5 percent.

But interestingly enough, the historically large markets for Minnesota farm products—the EEC and Japan—are not the most rapidly growing markets. The five most rapidly growing markets for Minnesota agricultural exports could be classified as less developed regions. These are East Africa, the Caribbean, Central America, East Asia, and Mexico. The annual average rates of growth in exports to these regions are 15.6, 11.5, 11.3, 10.4, and 10.2 percent, respectively. The rapid growth of these five market areas raised their share of Minnesota's agricultural exports from 7.9 percent in 1964 to an average of 12.2 percent in 1971 and 1972.

Exports to several countries or regions actually declined during the

Figure 1. Minnesota agricultural exports—total, commercial, and under government programs.



²The original six members—France, Germany, Italy, Netherlands, Belgium, and Luxembourg.

Table 2. Ranking of export markets by relative size and rates of growth.

Regions	1971-72 average total exports	Share of total exports	Rank in terms of total exports	Average annual rate of growth between 1964 and 1971-72	Rank in terms of growth rate
	(1,000 dollars)	percent		percent	
Canada	21,389	7.13	5	0.9	15
Mexico	5,502	1.83	11	10.2	5
Central America	2,510	.84	17	11.3	3
Caribbean	5,272	1.76	13	11.5	2
South America	14,349	4.78	6	6.9	7
United Kingdom	12,696	4.23	7	-0.9	16
EEC ^a	85,368	28.45	1	5.5	9
Other Europe	23,065	7.68	3	6.0	8
East Europe	12,290	4.09	8	3.0	14
U.S.S.R.	5,381	1.79	12	5.4	10
West Asia	12,058	4.02	9	4.7	11
South Asia	11,149	3.72	10	-2.7	17
East Asia	22,260	7.42	4	10.4	4
Japan	52,822	17.60	2	8.0	6
Oceania	384	.13	19	3.5	13
North Africa	4,486	1.49	15	-4.8	18
SubSahara Africa	2,832	.94	16	4.4	12
East Africa	950	.32	18	15.6	1
Republic of South Africa	172	.06	20	-7.9	19
Other	5,148	1.72	14	n.a.	
Total	300,080	100.00			

^aFrance, Germany, Italy, Netherlands, Belgium, and Luxembourg.

Table 3. Value of Minnesota agricultural exports, by commodity, 1964-72.

Commodity	1964	1966	1968	1970	1971	1972
 1,000 dollars					
Wheat and wheat products	41,681	27,787	32,263	22,159	26,110	32,988
Feed grains and products	60,449	71,306	60,846	67,051	82,480	86,598
Soybeans	43,075	50,650	53,302	72,693	92,291	78,050
Soybeans, cake and meal	5,524	10,193	15,199	22,517	29,310	23,306
Soybean oil	6,152	5,251	7,318	9,256	17,596	11,906
Meat and meat products	7,259	6,789	9,459	11,562	8,428	10,454
Poultry products	1,966	1,556	1,967	1,776	3,149	2,597
Dairy products	18,889	15,477	17,542	35,276	36,814	5,425
Lard and tallow	13,142	11,925	10,073	12,178	10,995	9,415
Hides and skins	3,834	5,865	5,889	8,194	10,839	15,000
Vegetables and preparations	2,802	3,376	2,995	2,664	2,874	3,495
Total	204,773	210,175	216,853	265,326	320,936	279,224

study period. These include the United Kingdom, South Asia, North Africa, and the Republic of South Africa, where the annual rates of decline in Minnesota's agricultural exports were 0.9, 2.7, 4.8, and 7.9 percent, respectively.

Importance of commodities

Soybeans and soybean products are by far the largest agricultural export commodity. They accounted for 43.1 percent of the total value of Minnesota's agricultural exports. (This

figure and the figures following are based on an average of the 1971-1972 value of agricultural exports from Minnesota.) Exports of soybeans alone accounted for 29.1 percent of the value of agricultural exports. The average value of exports of soybeans and products in the 1971-72 period was \$126.2 million.

Feed grains and feed grain products, the second largest agricultural commodity group, accounted for 26.4 percent of the agricultural export

value. The average value of exports in the 1971-72 period was \$84.5 million.

Soybeans, soybean products, and feed grains and their products were followed in descending order of importance by wheat and their products, dairy products, hides and skins, lard and tallow, meat and meat products, vegetables and their preparations, and poultry products (table 3).

Exports of soybeans and soybean products also grew at a rapid rate—11 percent a year—while feed grain ex-

ports grew by 4.3 percent a year. Other products whose exports increased are meat and meat products at 3.4 percent a year, poultry and poultry products at 4.9 percent a year, dairy products at 1.4 percent a year, hides and skins at the very rapid rate of 16.6 percent a year, and vegetables and their preparations by 1.6 percent a year. On the other hand, exports of wheat and wheat products declined by 4.2 percent a year. Lard and tallow exports declined by 3.1 percent a year.

Another way in which we can judge the importance of exports is to compare quantities produced in the state with quantities exported. We do this for the three most important commodity groups: soybeans; feed grains; and wheat.

Average production of soybeans in Minnesota in the 1971 and 1972 crop years was 2,008,680 metric tons (a metric ton is 2,204.6 pounds) per year while the average bean equivalent of exports of soybeans and soybean products was 1,081,842 metric tons. Thus, exports averaged 53.9 percent of production. In other words, production from over one-half of soybean acreage in Minnesota was sold abroad!

For feed grains (corn, oats, and barley), production averaged 14,175,248 metric tons. Of this, exports averaged 1,838,454 metric tons. Thus, 13 percent of production, or output from 1 acre in 7, was exported. Among the feed grains, exports of corn were much more important than exports of oats or barley. Twenty-two percent of corn production—output from 1 in 5 acres—was exported.

Minnesota wheat production averaged 1,086,586 metric tons during 1971 and 1972, while exports averaged 479,062 metric tons. In other words, 44 percent of Minnesota's wheat production—over 4 acres in 10—was exported.

Commodities and markets

It is also interesting to examine which commodities are important in different regions. Data on this are presented in table 4.

Japan and the EEC (6), the two largest markets, have significantly increased their imports of a variety of agricultural products from Minnesota. Japan's imports of feed grains and their products, soybeans and soybean products, and meat and meat products from Minnesota has more than doubled

between 1964 and the average value for 1971-72; imports of poultry products, hides and skins, and vegetable products from Minnesota more than tripled. Minnesota's rapidly growing exports to the EEC are feed grains and feed grain products, soybeans and their products, meat and meat products, and hides and skins.

The five most rapidly growing markets—East Africa, the Caribbean, Central America, East Asia, and Mexico—have increased their imports of a large number of Minnesota commodities. The export growth to these areas seems rather broad-based in terms of commodities.

In a number of other regions, growth in total Minnesota agricultural exports has been slow or even negative. However, individual products have done well in these areas. Examples are:

Canada: soybeans and products; poultry products; dairy products; and hides and skins.

South America: feed grains and feed grain products; soybeans and their products; poultry products; dairy products; and vegetables and preparations.

United Kingdom: wheat and wheat products; dairy products; and hides and skins.

Other Western Europe: feed grains and feed grain products; soybeans and soybean products; lard and tallow; and hides and skins.

Eastern Europe: feed grains and feed grain products; soybeans and their products; and hides and skins.

U.S.S.R.:³ feed grains; and hides and skins.

West Asia: wheat and wheat products; feed grains and feed grain products; soybeans and soybean products; dairy products; and hides and skins.

South Asia: soybeans and their products; dairy products; and lard and tallow.

North Africa: soybeans and soybean products.

SubSahara Africa: wheat and wheat products; feed grains and feed grain products; soybeans and soybean products; and dairy products.

East Africa: feed grains and feed grain products; soybeans and soybean products; and dairy products.

³These figures do not reflect the large jump in exports to the U.S.S.R. which occurred in the 1972-73 fiscal year.

In summary

In summary, exports represent a major market for Minnesota's agricultural production. Some individual export markets are growing rapidly in either a broad spectrum of commodities or in a few commodities.

Some implications

Minnesota agricultural interests should be concerned with policies and programs which affect the level of agricultural exports of Minnesota farm products. There are three broad groups of countries, and each group has its own special considerations.

In the developed importing countries, Minnesota must be concerned about protectionistic agricultural and trade policies which favor domestic production and discourage imports. Restrictive import policies of the EEC and Japan are especially important because of the large volume of agricultural trade involved. The variable levy system of the EEC and Japan's minimum import price schemes and quotas are examples of policies which restrict agricultural imports.

In the Communist countries, which have recently become a large factor in world trade of grains and soybeans, policies related to their domestic production and their willingness to import to expand food consumption are all important. It is probably too early to discern any new, long term trends. However, these markets should be studied carefully. Of particular importance is whether the Communist countries will be sporadic importers of agricultural products as they have been or whether they will become importers of some commodities on a sustained basis. This depends not only on production trends in these countries, but also on official policies governing the rate at which food consumption will be allowed to grow.

Finally, the developing countries represent large potential markets for Minnesota farm products. There is considerable evidence that rapid economic growth in developing countries generally results in significant expansion of agricultural imports.⁴ This is substantiated by the data contained in

⁴Arthur B. Mackie, Foreign Economic Growth and Market Potentials for U.S. Agricultural Products, FAER No. 24, Economic Research Service, U.S. Department of Agriculture, April 1965.

Table 4. Value of Minnesota agricultural exports, 1964 and 1971-72 average, by region and commodity group.

Destination	Wheat and products		Feed grains and products		Soybeans and products		Meat and products		Poultry products	
	1964	1971-72	1964	1971-72	1964	1971-72	1964	1971-72	1964	1971-72
..... 1,000 dollars										
Canada	1,733	1,024	7,042	5,510	7,317	9,646	1,706	1,602	160	436
Mexico	5	390	1,123	756	82	976	101	204	7	100
Central America	329	597	197	199	15	336	55	106		47
Caribbean	365	426	271	960	88	788	598	1,346	162	508
South America	3,770	3,809	816	2,066	793	2,285	247	126	19	215
United Kingdom	880	1,302	6,660	5,250	1,522	1,625	691	786	91	64
European Community										
(6)	2,348	1,778	20,356	27,048	19,701	48,940	2,432	2,947	1,020	480
Other W. Europe	1,194	774	5,703	4,148	5,434	15,525	253	298	158	276
Eastern Europe	2,885	584	2,841	3,988	1,912	5,875	111	32		4
U.S.S.R.	3,092			4,772						
West Asia	1,686	2,708	1,663	3,250	3,355	4,511	264	89	26	4
South Asia	12,200	3,986	545	109	1,074	4,784				
East Asia	2,600	5,262	1,296	3,366	1,998	6,162	92	383	108	258
Japan	3,561	3,885	9,553	20,678	10,482	21,388	474	1,163	104	342
Oceania					85	248	128	60	6	20
North Africa	4,074	1,794	1,825	274	833	1,384	8		29	
SubSahara Africa	455	816	540	624	60	94	23		70	
East Africa	227	123	18	438		80	8			
Republic of										
South Africa	277						68		6	
Other		289		1,102		816		298		120

Value of Minnesota agricultural exports, 1964 and 1971-72 average, by region and commodity group.

Destination	Dairy products		Lard and tallow		Hides and skins		Vegetable products	
	1964	1971-72	1964	1971-72	1964	1971-72	1964	1971-72
..... 1,000 dollars								
Canada	308	494	259	172	333	1,245	1,079	1,258
Mexico	839	1,439	86	302	222	1,222	73	114
Central America	192	781	234	294			45	54
Caribbean	390	982	171	189			162	170
South America	1,867	4,780	713	625	39	40	153	251
United Kingdom	48	1,192	3,243	1,246	233	954	360	278
European Community								
(6)	5,457	104	2,786	1,504	1,116	2,240	475	328
Other W. Europe	932	159	438	607	157	1,080	228	198
Eastern Europe	981	199	867	192	97	1,382	3	33
U.S.S.R.			247		196	609		
West Asia	650	956	563	372	87	102	28	16
South Asia	501	942	374	1,170				
East Asia	3,434	5,734	470	727	54	410	71	104
Japan	1,356	319	1,667	1,440	1,291	3,461	47	146
Oceania					9		39	55
North Africa	626	290	768	724			4	18
SubSahara Africa	667	1,146	165	146			21	6
East Africa	43	310	4					
Republic of								
South Africa	573	94	94	67			13	12
Other		1,139		274		198		145

Table 5. U.S. agricultural exports, by region and terms of sale, 1962 and 1971.

Region	Government Programs		Commercial	
	1962	1971	1962	1971
..... million dollars				
Latin America and the Caribbean	148.9	110.3	288.8	535.3
Asia (excluding Japan)	663.1	761.9	251.0	792.1
Africa	310.9	115.7	63.6	177.9
Total	1,512.8	1,057.1	3,518.6	6,637.8

Source: Foreign Agricultural Trade of the United States, ERS, USDA.

tables 1 and 2, particularly for such markets as East Africa, the Caribbean, Central America, East Asia, and Mexico. More generally, during the 1960's U.S. agricultural exports to the developing countries grew at a rapid rate. Exports under government programs (mainly P.L. 480) declined, while commercial exports rose rapidly (table 5). From 1962 to 1971, U.S. agricultural exports under government programs declined from \$1,512.8 million to \$1,057.1 million. On the other hand, total commercial exports increased from \$3,518.6 million to \$6,637.8 million, or by 7.3 percent a year. Asia was the only region where imports under government programs increased. In general, commercial exports to the developing countries increased at a faster rate than did commercial exports to the developed countries: by 7.1 percent a year for exports to Latin

America and the Caribbean; by 13.6 percent a year to Asia (excluding Japan); and by 12.1 percent a year to Africa. In fact, the less developed regions of the world accounted for 43 percent of the growth in U.S. commercial agricultural exports during the 1962-1971 period.⁵

It is to the benefit of Minnesota agricultural interests to support trade and development policies which stimulate and promote economic growth in the developing countries. At present, the United States does discriminate against imports of items important to the production and export of a num-

⁵Martin E. Abel, "The Developing Countries and United States Agriculture," Staff Paper P72-25, Department of Agricultural and Applied Economics, University of Minnesota, October 1972.

ber of less developed countries. These products range from sugar to textiles to a variety of manufactured products.⁶ This discrimination is carried on by most industrialized nations. Elimination or reduction of discrimination by developed countries against products from less developed countries would improve the export earnings and growth prospects for the latter groups. In turn, this would improve their capacity to buy farm and nonfarm products from the United States and from Minnesota. Also, the United States should not shirk from providing development assistance—money and technical assistance—to those poor countries which can effectively use it. To the extent that this aid stimulated growth in poor countries, it also stimulates markets for U.S. and Minnesota farm products.

⁶See Martin E. Abel, *op. cit.*, for a fuller discussion.



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