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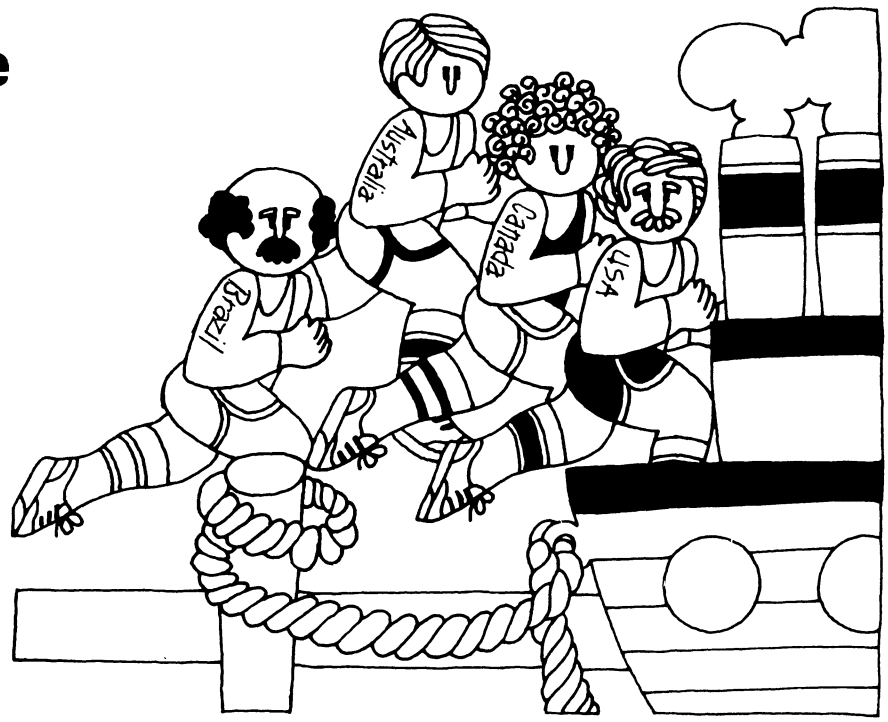
# MINNESOTA AGRICULTURAL ECONOMIST

Agricultural Extension Service
University of Minnesota

# Agricultural Trade




Exports of agricultural products are of great importance to the economies of Minnesota and the nation. The value of agricultural exports from Minnesota to foreign nations in 1978 was $1.5 billion. Additional income for state marketing, processing and transportation firms was generated by the flow of products from farm gates to the points of export.

For the 50 states, one out of every five dollars of farm commodity sales comes from U.S. farm product sales overseas. The production from nearly one out of every three acres is exported. In 1979, U.S. farm exports are expected to reach $29 billion. If so, it will be the tenth consecutive year that the value of agricultural exports has exceeded that of the previous year. Thus, the export market has become vitally important to American farmers.

U.S. exports have dominated the international market in staple agricultural products. Shares of world trade in staple agricultural products by important exporters in 1978 follow:

| Soybeans and 1978 Exporters | soybean meal | Wheat | Feed grains |
|---|---|---|---|
| | percent | | |
| United States | 67 | 42 | 62 |
| Brazil | 29 | — | 1 |
| Canada | — | 22 | 5 |
| Australia | — | 15 | 2 |
| Others | 4 | 21 | 30 |
| Total | 100 | 100 | 100 |

The world market for staple commodities can't be pictured as some single market in Rotterdam or London, comparable to the Chicago Board of Trade or the Minneapolis Grain Exchange. The world market is comprised of many trading nations — some importers, some exporters. Each has a set of governmental trade mechanisms governing its internal food and agriculture policies. For the important importing countries, trade controls emphasize devices which protect each country's dominant agricultural industries, but which permit the selective importation of needed agricultural commodities. For many important exporting countries, trade devices emphasize government-operated and/or subsidized sales agencies, which excel in searching out and exploiting the import needs and chinks in the import control armor of the various importing countries.

International agricultural trade occurs through governmentally operated or privately operated (the U.S. is an example of the latter) sales agencies which arrange financing and transportation of commodities from exporting to importing countries. Agencies in the importing country are responsible for acquiring in the world market the specific quantity and quality of the commodities needed.

The volume of trade moving through this complicated network has increased in importance in the past 10 years. Economic development in countries and areas such as Japan, Western Europe, Eastern Europe, and the USSR has increased the need for certain agricultural products. The leading example is feedstuffs — feed grains and feed concentrates, such as soybean meal. With economic development, consumers in those countries have increased their demand for meat, poultry, and livestock products. But not enough feedstuffs are produced domestically for these expanded livestock industries. Thus, those countries turn to the U.S. and other areas of the world for the feedgrains and feed concentrates not self-produced.

The barrage of trade controls maintained by all modern importing and exporting nations does not always restrict trade. It controls trade and directs it. It is important that those responsible for U.S. agricultural exports understand the implications of economic development in importing countries and be aware of the internal food and agriculture policies and the external trading controls. This is a start toward seeking out the commodity needs of importing countries and implementing trade. It is not automatic; it is complicated, but it can be done.

This issue explores key internal agriculture policies and external trading policies of three important exporting countries that are U.S. competitors: Canada, Australia and Brazil. A future issue of *Minnesota Agricultural Economist* will present policies of three major importers — the Soviet Union, Japan and the European Community.

# Canadian and Australian Grain Policies

Brian Oleson*

This discussion includes some relevant background, description of the marketing environment of the wheat producer, and the primary elements of price and income support and stabilization. It concentrates on Canada because it and the Australian marketing system closely resemble each other.

## CANADIAN POLICIES

### Background

Over the past 3 years Canadian wheat production has averaged in excess of 20 million metric tons (735 million bushels) compared to average U.S. production of 54 million metric tons (1.9 billion bushels). Canadian sales have accounted for over 20 percent of world trade. These sales are all handled either directly or indirectly by the Canadian Wheat Board (CWB). Canada has a long standing dependency on wheat export. On the average, about 75 percent of production moves into the export market. Internationally, Canada has a reputation as a consistent supplier of high quality bread wheats. This reputation has been maintained by a tightly controlled grading system, administered by the Canadian Grain Commission, which is completely independent from the CWB.

Wheat production is centered in the Prairie Provinces north of Montana and North Dakota. The main Canadian crop is the hard red spring wheat class which competes with the spring wheat belt of the northern states. About half of the acreage seeded to all crops on the Canadian prairies is planted to wheat. As geographic and climatic factors severely limit production alternatives, wheat producers in this region have little opportunity to switch crops when export prices are low. The prairie region is isolated completely by political or geographic barriers. This, plus the common dependence on exporting wheat, made farmers in Western Canada able to identify as a group with common goals. This common interest led to a very strong cooperative movement. In turn, these cooperatives, motivated by a strong distrust of the private grain trade, were instrumental in formation of the CWB.

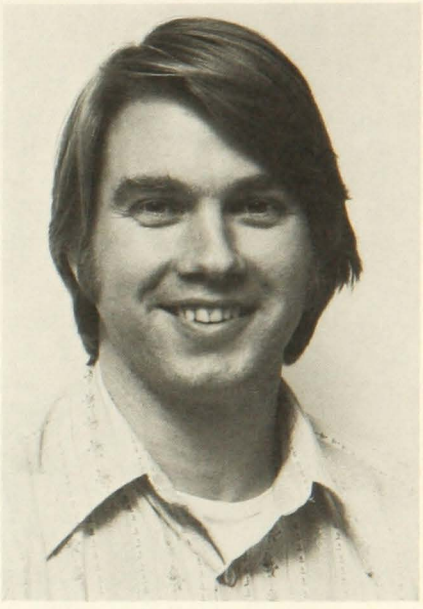
### Marketing

Its offices in Winnipeg, the CWB was established in 1935 to market "in an orderly manner, in interprovincial and export trade, grains grown in Canada." Grain was initially defined only as wheat but later included barley and oats. The CWB controlled sales (between provinces) of domestic feed grains until 1974 when new feed grains legislation put domestic feed grain marketing back in the private sector. However, for exports and the domestic food grains market, the CWB remains the sole marketing agency for wheat, oats, and barley grown in the prairie region. This means that producers must sell their wheat, oats and barley through the CWB.

The CWB's goal is to market grains to the best advantage of the prairie grain grower. In practice, the CWB's activities are in four distinct areas which profoundly affect the activities and welfare of producers.

*Sales.* The CWB uses two methods to market grains: direct customer sales and agency sales. Direct sales are negotiated by the CWB with other government buying agencies such as those of the Soviet Union and China. Under the agency sales method the CWB sells wheat to private firms which in turn offer it for resale. Many of these private firms are international grain traders selling wheat of the U.S. and other exporters.

*Price Pooling.* The price pooling system provides producers a guaranteed minimum price, a uniform price across the prairies (adjusted for transportation and quality) and a uniform price throughout the crop



Brian Oleson

year. It consists of two parts — an initial price and a final payment. The initial price is established by the federal government (not the CWB) before planting. It applies to grain delivered to the CWB account during the following crop year. If the CWB sales returns average higher than the initial price, adjusted for transportation and marketing costs, then producers receive a final payment about 15 months after harvest. If world prices are especially buoyant early in the crop year, then some intermediate payments may be expected before the final payment. Because the initial payment is guaranteed by the federal government, it is usually set lower than the world price. As a result, the pool has seldom been in financial deficit.

*Market Quota System.* This system governs deliveries from the farm to country elevators. It allows the CWB to draw out the mix and quantities of deliveries necessary to meet anticipated market needs. This system also insures that each producer gets a share of the available markets and elevator space. Currently, a grower's share is determined by the sum of seeded acreage and summer-fallow with partial allowance for improved perennial forage. This establishes a total

*Brian Oleson is a research assistant, Department of Agricultural and Applied Economics, University of Minnesota, on leave from Agriculture Canada.

World War I and the agricultural depressions of the 1920's and the 1930's sparked changes in Canadian attitudes about government involvement in agriculture. Major legislation aimed toward more centrally managed agricultural economies and laid the foundation of today's agricultural programs and institutions. The Canadian approach created a new central institution, the Canadian Wheat Board (CWB) which reduced the role of private firms when the CWB took on many of their activities.

acreage base which the producer can allocate to different crops. Quotas are then announced throughout the crop year based on these allocations.

*Transportation.* Similar to the programming of deliveries into the country elevator system, the CWB programs the movement of grain from country elevators to port terminals via the Block Shipping System. This includes the CWB wheat, barley and oats and the non-CWB crops such as flax, rapeseed, and rye. Although the CWB owns none of the country elevators, port terminals or rail assets, it is the system coordinator. Four giant producer cooperatives and a few private firms own the country elevators. These same cooperatives and firms or the federal government own the port elevators. The rail system is split between public and private ownership: Canadian Pacific is a private corporation while Canadian National is publicly owned. In recent years, the federal government has directly purchased a number of hopper cars and these were placed under the CWB management.

### Support and Stabilization Activities

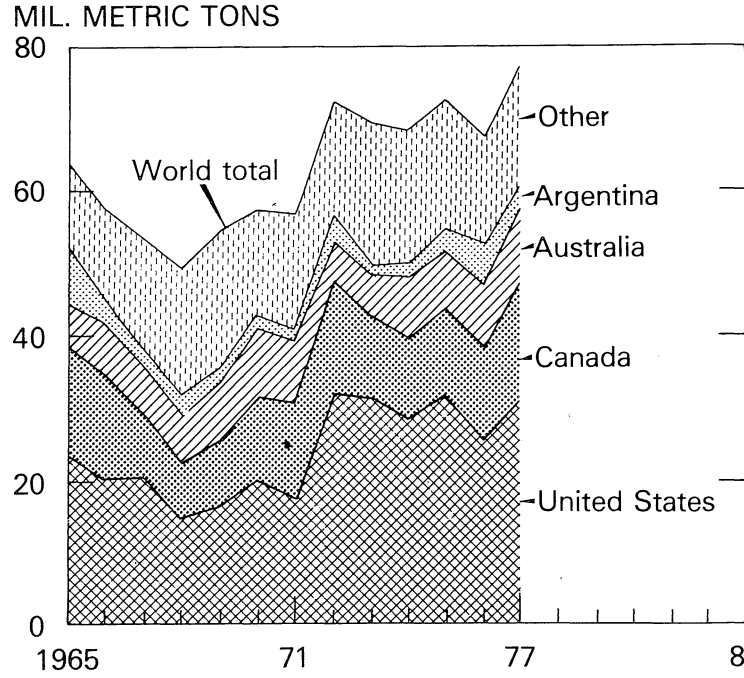
Historically, the Canadian grains' sector has not received federal government subsidies. Producers' welfare was directly connected to the world wheat prices. Recently, however, support and stabilization activities have begun. In part, this reflects recognition within Canada that the CWB is no longer the major force it once was in world wheat price determination. In recent years U.S. influence and, to a lesser degree, Australian influence has grown. Consequently it is recognized that producers' welfare should not be a responsibility of the CWB which must compete on world markets. While the initial price guarantee of the federal government can be viewed as similar to a loan rate in the U.S., it has not supported prices because it is set below world price levels (figure 1).

Prices are supported, however, through a subsidized grain transportation system and through the operation of a two price system. Legislation sets grain transport rates which have remained unchanged for 50 years. Yet it was not until the high inflation in the 1960's and the 1970's that there was a gap between the rates and the underlying costs to the railways. The federal government and the rail companies have had to subsidize the operation, and since there is no profit incentive for the rail companies to invest, grain shipments are constrained by outdated rail facilities. The benefit to the farmer is mixed: less cost to ship, but dependence on a system that is deteriorating in quality.

Under the two price system all domestic sales of food wheat (less than 15 percent of production) enter into the CWB wheat pool. Currently, the price to domestic millers is set at $4 (Canadian) per bushel. If the export price is higher, the federal government compensates the pool to a maximum export price of $5 (Canadian) per bushel. At prices below $4 the taxpayer is subsidizing the producer and at prices above $5 the producer is subsidizing the consumer.

The Western Grains Stabilization Program became effective on April 1, 1976. It guarantees each year that the net cash flow to prairie grain producers as a group will not be below the previous 5-year average. The program is voluntary and is financed by annual producer contributions of 2 percent of grain sale proceeds up to $900 and a federal government contribution double the producer contribution. Payments are triggered when the net cash flow of all producers in Western Canada is less than the previous 5-year average and the individual producer share of that payment is

## WHO EXPORTS THE WORLD'S WHEAT AND FLOUR




Year beginning July 1 includes wheat equivalent of flour and products. 1977 USDA

The Australian wheat marketing system also grew out of the depression and controls instituted during World War II. The heart of legislation affecting grain production and marketing is the Wheat Industry Stabilization Act, the most recent in 1974, which established the authority of the Australian Wheat Board and set the support and stabilization programs in effect for the life of the Act.

directly related to contributions over the last 3 years. The program acts to stabilize income, especially for the prairie region as a whole and also contains an element of income support since the premium is partially paid by the government. At the same time the problem of large payments to a single producer is avoided by the limitation since the size of the payments is directly related to contributions over the last 3 years.

### AUSTRALIAN POLICIES

The Australian wheat marketing system is similar to Canada's. All wheat marketed for sale in Australia and for export is delivered to the account of the Australian Wheat Board (AWB). Wheat is then sold directly to foreign governments (or their agencies) or to private grain marketing firms. The AWB operates a pooling system much like that of the CWB; however, it is much more open ended. Producers are paid a "first advance" similar to the initial payment in Canada. The payment size is set by the government conservatively in relation to the anticipated sales price. The final payment is indefinite and, as a result, producers may not know their realized price until sometime after that crop year. The 1969-70 pool took more than 4 years to close. Even when sales are high, the pools are open for more than 2 years.

Australian seeded acreage and production grew very rapidly in the sixties. Peak production in 1968-69 was 14.8 million tons. At the end of that crop year, stocks rose to 7.3 million tons and delivery quotas were imposed by each state government. By 1972-73 stocks had fallen to insignificant levels and quotas have not been a factor since.

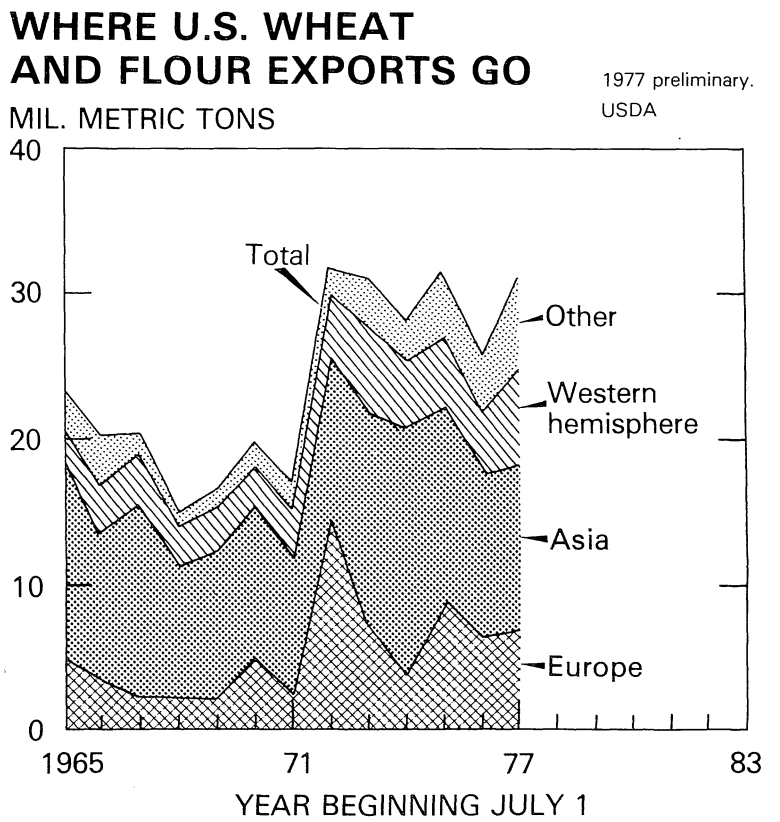
Price stabilization and income support schemes are implemented through wheat stabilization plans: the first introduced in 1948. Besides designating the AWB as the sole marketing agent, these plans provide a guaranteed price for a certain quantity of export wheat. The first four plans tied the guaranteed price to a cost of production formula while the fifth tied price to world trading conditions. The sixth and most recent plan replaced the guaranteed price with a stabilized price which again is related to the export market. The domestic price for wheat is established prior to each new stabilization plan and adjusted annually for the life of that plan on a cost of production formula.

Under the current stabilization plan, which is due to expire at the end of the 1978-79 crop year, the contributions to the stabilization fund are financed by either the producer or the Commonwealth (federal) government. When the average export price is greater than the stabilization price, the wheat grower contributes to the fund. Grower contributions are limited to $30 million in any one season. When the average export price is less than the stabilization price the producer receives a payment from the fund. If it is a deficit fund, the government pays the difference. Government obligations are limited to $30 million annually and $80 million over the life of the plan which is 1974-75 to 1978-79.

### EXPORT PROSPECTS

Traditionally Canada has been strong competition to the United States in Western Europe and, more recently, in China and the Soviet Union. Transportation problems, especially a shortage of railroad cars, curtailed 1978 exports. Over the next few years the same problems will dominate the Canadian wheat export situation.

Australia, while also supplying sizable volumes of wheat to China and the Soviet Union, has been major competition to the U.S. in developing countries. Australia discourages wheat carryover from year to year. Continuing this policy implies that Australian exports will vary directly with the highly variable production (figure 2).



# Brazilian Soybean Policies

Karen Gulliver†

Within the last decade Brazil has become a major producer and crusher of soybeans as well as an exporter of soybeans and soybean products. In spite of droughts the past 2 years, 367 million bushels (10 million metric tons) of soybeans were produced in the 1977-78 crop year and production in 1979 is estimated at 390-426 million bushels (10.5-11.5 million metric tons) contrasted with just over 37 million bushels (1 million metric tons) in 1970.

The increase in Brazilian soybean production is obvious when Brazil's production is compared with U.S. and world production. In 1969-70 the Brazilian crop was 3.6 percent of the U.S. crop and accounted for 2.6 percent of world soybean production. In 1977-78 Brazil produced 14 percent of the world's soybeans which was 21 percent of the U.S. crop.

Soybean meal and oil are consumed domestically by Brazil's poultry industry as mixed feed and by consumers as cooking oil and margarine.

The major changes in Brazilian agricultural policy have come from changes in Brazil's philosophy toward achieving development. Policies once discriminated against agriculture. From the end of World War II to 1963, industry was promoted at the expense of the farmer. Consumer prices were kept low and sporadically there were farm price controls. In 1964, however, Brazil began to pursue a philosophy of promoting exports. Since most of its agricultural goods are export oriented, this philosophy encouraged crop expansion. Soybeans was one of the crops affected most.

†Karen Gulliver is a research assistant, Department of Agricultural and Applied Economics, University of Minnesota.

While domestic use of soybean products is rising, exports have grown faster. Brazil's exports of soybean meal rose from 65 percent of total production in 1970 to 83 percent in 1978. Historically, oil exports have fluctuated widely. The nation was a net oil importer in 1970 while 30 percent of production was exported in 1978. Most of Brazil's and U.S.'s sales are to the European Community and Japan (figure 3).

The Brazilian government has farm policies and programs that influence its soybean production. Some policies discourage expansion of domestic production. Others encourage it. The most important are described here.

### Price Policies.

*Price ceilings.* In the absence of government interference, prices of Brazilian soybeans and soybean products would fluctuate with world prices. Before the early 1970's, this was true for Brazilian soybean and soybean meal prices but not for soybean oil prices. The Brazilian government, in an attempt to hold down retail food prices, fixed domestic prices of soy oil. Low oil prices were sustained by restricting soybean oil exports through a licensing system. Mixed feed prices were fixed, too.

Then, in 1972, the Brazilian domestic feed industry complained that it could no longer pay for soybean meal while selling feed at the fixed price. Aware that the government might decide to fix meal prices, domestic crushers also expressed their concern. If meal prices were fixed in addition to oil prices, crushing margins would be adversely affected. Since crushers paid world prices for soybeans, beans might cost more than receipts from oil and meal.

The result of both appeals was a 1973 export quota for soybean meal and unprocessed beans to keep a lid on domestic bean and meal prices. Since then a licensing system has replaced the meal quota, but the bean quota still applies.

The quota keeps domestic soybean prices low, in line with fixed oil and feed prices. These domestic Brazilian prices do not reflect world price movements. For soybean producers this means that high world prices for soybeans are not being reflected in the domestic markets. Thus, rising world prices have not been an incentive to expand soybean production.

*Minimum Price Program.* The government announces guaranteed minimum soybean prices about two months before planting. The level is set at the expected market price. To date it has always been below the actual level. The major considerations are to maintain supplies to the domestic crushing industry, and to keep government costs under control. Currently cost of production appears to have little direct role in setting the minimum price. If market prices should fall below the guaranteed minimum, the government would acquire stocks to support the price. The program is similar to the U.S. price support program for soybeans.

Analysis has shown that minimum prices have two effects: first, as a floor under soybean prices; second, as the basis for extending credit to producers. Of the two effects the latter appears to be the more important.

Karen Gulliver

## Credit programs

*Production loans.* A cost of production loan is granted to producers to cover such costs as soil preparation and seed purchases. The size of the loan is determined by multiplying the support price, times expected yield, times area planted. Sixty percent of the figure obtained represents operating expenses. Expected yield and area planted are certified for each farmer by Brazilian extension agents. Loans from 0-100 percent of operating expenses are granted by the Bank of Brazil depending on the farmer's individual circumstances.

The interest rate on production loans is 13 percent for small farmers and 18 percent for large farmers. (A small farmer in Brazil is one with less than 20 acres while a large farmer is one with more than 20 acres.) Since the annual rate of inflation is approximately 30 percent per year, farmers actually enjoy a subsidy through these loans — the difference between the interest rate and the inflation rate.

*Fertilizer credit.* The Brazilian government has tried subsidies to encourage commercial fertilizer use. From 1970 to 1974 producers could buy fertilizers with 7 percent interest loans. Again, because of inflation, this also was a subsidy. From 1975 to 1976 the program changed allowing farmers to obtain a 40 percent rebate by presenting receipts for their total fertilizer bill at the Bank of Brazil. Currently, interest-free loans are available for fertilizer purchases. In addition, there is a 1-year grace period in southern Brazil and a 2-year grace period in central Brazil before loan repayment must begin.

*Other credit programs.* Credit for buying machinery is also available at highly subsidized rates. For example, from 1967 to 1976 the tractor program allowed a farmer to put 10 percent of the purchase price down and borrow 90 percent from the Bank of Brazil. After 1976, if a producer already owned a tractor and wished to replace it with a newer model a 50 percent downpayment was required and only 50 percent could be borrowed. If a producer has no machinery the old system applied at the current rate of interest. In 1977 the interest rate was 7 percent. There was a 1-year grace period before repayment began. This program benefited small and new soybean producers.

## Other programs

In addition to the programs already mentioned, soybean production is affected by government policy directed toward two important Brazilian commodities, coffee and wheat. Coffee policy has the potential to influence the area planted to soybeans. Wheat policy affects soybean yields.

*Coffee.* Economic research shows that coffee and soybeans are substitute crops. Substitution has been the greatest in southern Brazil, the traditional coffee location, and also the region of the greatest soybean production. In the late sixties and early seventies, soybeans appeared to be replacing coffee because of greater profitability, but substitution began to slow by the mid-1970's. In 1976, however, the Brazilian government adopted a policy of encouraging new coffee planting in central Brazil and discouraging planting in the south. This policy went into effect in 1977 and can cause a new phase of substitution between coffee and soybeans in southern Brazil. It is still too early to know if this has occurred.

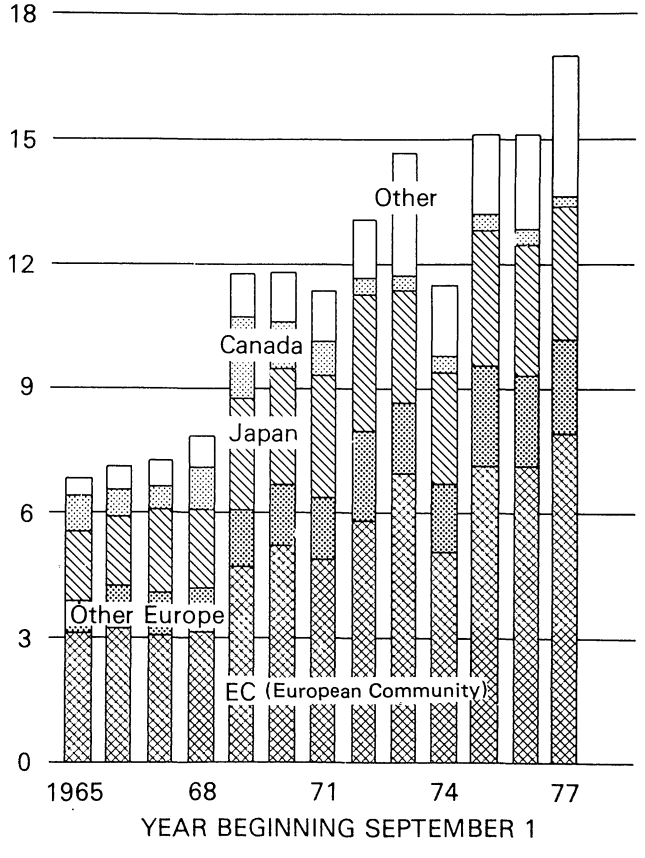
*Wheat.* Wheat and soybeans somewhat complement one another in production. Soybeans is planted on land after winter wheat is harvested. Until recently wheat has dominated the scene. Throughout the sixties soybeans benefited from a number of programs designed to promote wheat production, most involving subsidized credit.

The two crops share much in common. For example, wheat harvesting combines can be adapted to soybeans simply by changing the heads and screens. Wheat storage facilities, financed by highly subsidized credit to wheat cooperatives, are also adaptable to soybeans.

Despite these complementary aspects competition between the two crops exists. Delay in the wheat

**WHERE U.S. EXPORTS ITS SOYBEANS**

1977, September 1 - June 30.



harvest postpones soybean planting past optimal dates. This can lower soybean yields up to 25 percent. In 1975, the estimated value of soybeans lost from late harvest was greater than the value of wheat harvested.

Whether farmers benefit or lose from double cropping wheat and soybeans depends on crop prices. When wheat is cheap compared to soybeans (1960 to 1976) the farmer loses by double cropping. When wheat is high relative to soybeans, double cropping pays — at least since 1976.

The government sets wheat prices and is the sole purchaser so wheat policy acts to expand or deter soybean production. Since 1976 wheat prices have been set high compared to other grains. This encourages double cropping and adversely affects soybean yields.

## CONCLUDING COMMENTS

Brazil's soybean industry is young and dynamic and its policy will change to meet world economic conditions. Some credit policies stimulate production while price policies often depress soybean output. On balance, expansion policies have dominated. The emergence of Brazil as a major world soybean producer and exporter is evidence.

Brazil's soybean output is expected to continue to rise but at a slower rate than in the 1970's. The U.S. and the world will be watching.

Jerome W. Hammond. . . . . Editor
Prepared by the Agricultural Extension Service and the Department of Agricultural and Applied Economics. Views expressed are those of the authors, not necessarily those of the sponsoring institutions. Address comments or suggestions to Professor Jerome W. Hammond, Department of Agricultural and Applied Economics, 1994 Buford Avenue, University of Minnesota, St.Paul, MN 55108.



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