FEDERAL RESERVE BANK OF CHICAGO

AGRICULTURAL LETTER

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FARM MACHINERY AND EQUIPMENT purchases declined last year, and many analysts expect a further decline this year. According to the Farm and Industrial Equipment Institute, retail sales of farm tractors totaled only 131,000 units last year, down nearly 5 percent from the year before and the fewest tractors sold in any year since 1972. At 29,000 units, sales of combines were off 11 percent and the lowest level since 1971. The slack in sales contributed to a substantial buildup in dealers' and manufacturers' inventories, strengthening the bargaining position of farmers buying new equipment this year. But without improvement in the earnings of crop farmers, demand for farm machinery and equipment is apt to remain sluggish for several more months.

Generally, purchases of farm machinery and equipment in states of the Seventh District followed the nationwide downturn. There was considerable variation, however, among the five states. Wisconsin was the only District state that achieved year-to-year gains in tractor and combine sales—up 2 and 15 percent, respectively. An 11 percent drop in Michigan tractor sales and a 17 percent decline in Iowa combine sales paced the cutbacks in other District states last year. Overall, nearly a fourth of the nation's new tractors were sold in District states, and nearly a third of the combines.

Farm equipment inventories continued to build last year among dealers and manufacturers, indicating production schedules were not cut back to match the

District states paralleled the nationwide downturn in farm machinery and equipment sales in 1977

	Unit retail sales			
	District states		United States	
	Number *(thou.)*	Change *(percent)*	Number *(thou.)*	Change *(percent)*
Tractors	30.8	− 5.5	130.9	− 4.6
Combines	9.3	−12.6	28.8	−11.4
Cornheads	10.1	−18.4	20.7	−18.8
Baler	4.2	3.6	21.4	− 3.9
Forage harvesters	4.8	0.7	13.1	− 1.0
Mower conditioners	6.6	− 2.4	22.1	− 3.2
Manure spreaders	6.6	−15.9	16.0	−17.4

Four-wheel drive tractors paced the 1977 cutback in tractor sales

	Sales		Inventory		Inventory as percent of 1977 unit sales
	Thousand units	Percent change	Thousand units	Percent change	
Two-wheel drive *(horsepower)**					
40-59	30.8	2.2	18.0	10.3	58.4
60-80	19.8	−18.5	14.5	37.4	73.2
80-100	11.9	8.0	7.9	68.7	66.5
100-119	15.6	− 5.8	7.7	36.5	49.3
120-139	26.5	0.2	12.1	55.4	45.5
140-159	12.3	− 6.1	6.4	53.7	51.9
160 plus	6.2	21.4	4.7	168.8	76.3
Total	123.2	− 2.8	71.3	40.1	57.9
Four-wheel drive	7.7	−26.9	5.5	10.8	72.0
All tractors	130.9	− 4.6	76.9	37.5	58.7

*The Farm and Industrial Equipment Institute has discontinued reports on tractors of less than 40 horsepower. Data for 1976 have been adjusted to maintain comparability.

decline in sales. Inventories of farm tractors increased nearly 38 percent, reaching a seven-year high at the end of 1977. The inventory of tractors at year-end was equivalent to 59 percent of the units sold during the preceding 12 months, up from the inventory-to-sales ratio of 41 percent in 1976 and the most recent low of 34 percent in 1975. Combine inventories at the end of last year were more than double the ending 1976 level, and equivalent to over one-third of last year's unit sales. Inventories of balers, forage harvestors, and manure spreaders increased little, but at year-end they were still equal to at least 90 percent of the units sold during the year.

The buildup in inventories prompted efforts to stimulate sales. Farmers were often able to negotiate bigger discounts and more lenient financing from dealers. Interest free loans for six to nine months became a common practice late last year, prompting increased use of financing arrangements offered by dealers. Preliminary estimates by the Department of Agriculture, for example, suggest that outstanding loans provided by six major manufacturers for financing retail purchases of their farm equipment increased more than a fourth last year. With inventories burdensome to many dealers and manufacturers, farmers will likely be in a strong bargaining position well into 1978. This is apt to be particularly true during periods of seasonally slack sales. But higher costs for energy, steel, and labor will still hold machinery and equipment prices above year-before levels.

Prospects for 1978 point to further declines in purchases of farm machinery and equipment. The Farm and Industrial Equipment Institute's preliminary report for January shows marked year-to-year declines in purchases of most major items of equipment. The largely unexpected first-quarter strength in cattle and hog prices has improved earnings prospects for livestock producers and could strengthen their demand for machinery **and** equipment. Earnings from crops, however, will probably remain suppressed, particularly if the long-term grain reserve or the 1978 feed grain set-aside do not attract sufficient levels of participation by farmers. Reduced purchases by crop farmers will probably more than offset any increase in demand from livestock producers.

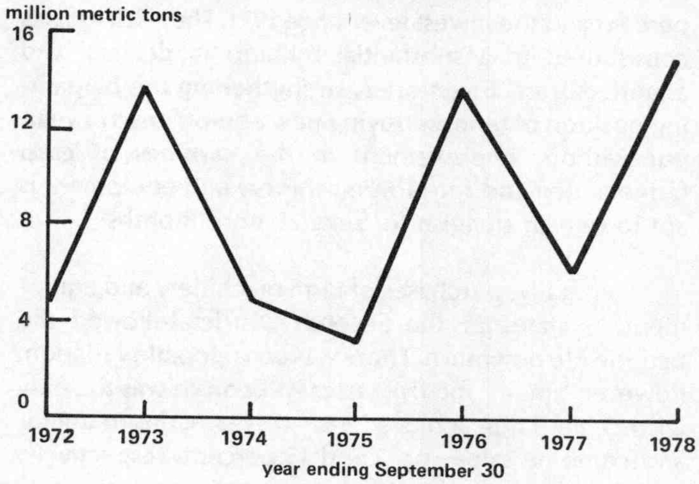
Similar expectations are apparent from a recent survey of farm machinery and equipment manufacturers. The consensus view expressed by the manufacturers indicated prospects for a 5 to 6 percent decline in unit sales of farm tractors and combines in 1978 and an overall decline in dollar sales of all items. For agricultural lenders, declines of this magnitude, coupled with prospects for more dealer financing, suggest further easing in demand for loans to buy machinery and equipment in 1978.

AGRICULTURAL EXPORTS could set a new record for volume of shipments in fiscal 1978, but lower prices are likely to cut the value of exports. A recent projection by the Department of Agriculture shows the quantity of agricultural exports up nearly one-tenth in fiscal 1978, paced by larger shipments of grains and soybeans. However, lower prices for grains, soybeans, and cotton may trim the value of farm exports to about $22.5 billion, down from the fiscal 1977 record of $24.0 billion. Since agricultural imports are expected to remain close to last year's high of $13.4 billion, the agricultural trade balance is projected to fall to a five-year low of around $9 billion.

Prospects for lower sales to the European Economic Community (EC) and Japan account for the projected decline in fiscal 1978 agricultural exports. Last year, these two markets absorbed 45 percent of all export sales. The prospective decline in sales to the EC reflects both their reduced import need for feed grains—because of last year's larger harvest—and lower prices for all grains and soybeans. In the case of Japan, lower prices are expected to more than offset the expected rise in the quantity of grains and soybeans imported. Higher export sales in fiscal 1978 are projected for the USSR and Eastern Europe (due to sharply higher grain shipments) and the Peoples Republic of China (reflecting larger shipments of soybeans and related products as well as cotton). USSR imports of U.S. grains in fiscal 1978 are still projected to reach a record 15 million metric tons, although confirmed sales to date approximate only 11.5 million tons.

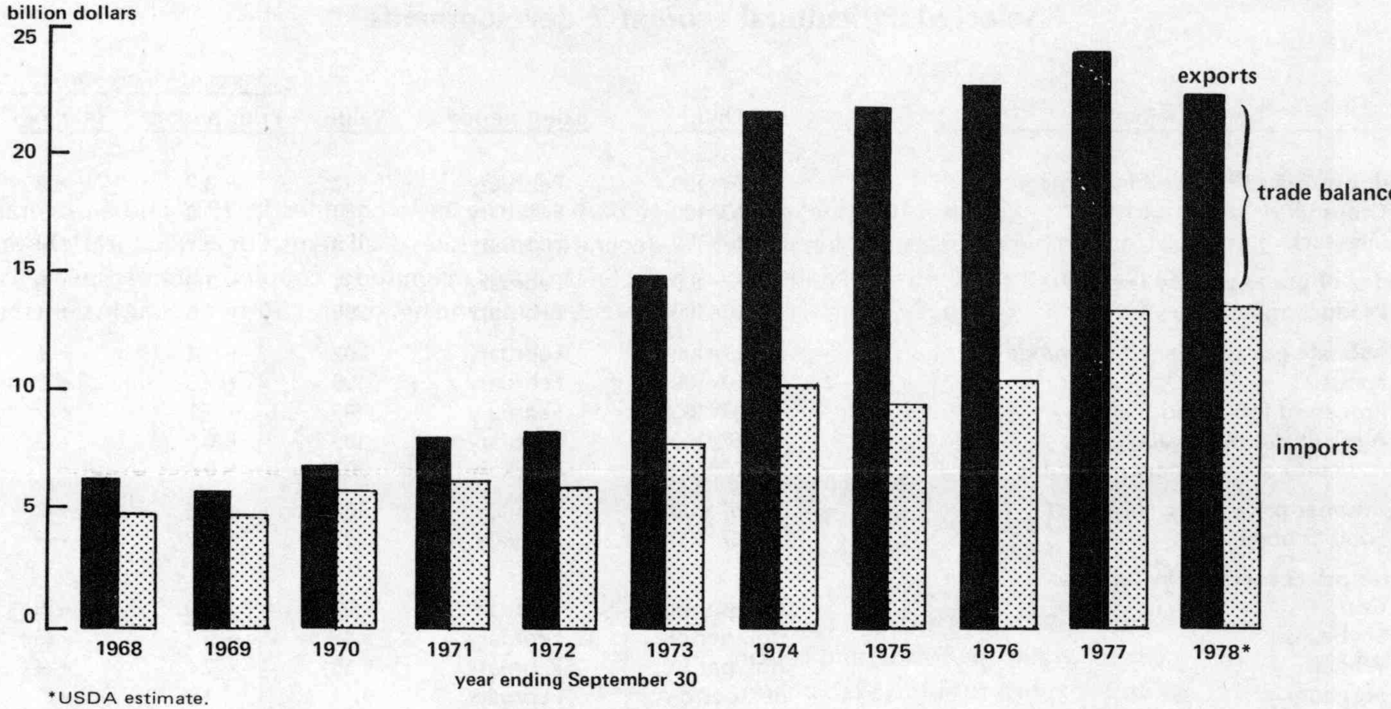
Trends during the first quarter of the fiscal year were roughly in line with the USDA's projections for the whole year. During the October-December 1977 period, the value of U.S. agricultural exports was down 5 percent from the year-earlier level, while imports, paced by a sharp increase in sugar imports in anticipation of tariff increases, were up 2.5 percent. However, a disturbing element of the October-December trend was the comparatively slow start in the quantity of grain exports. Corn exports, which are expected to edge slightly above last year's fiscal record, were down 16 percent from the October-December period of a year earlier. Wheat exports were up only 2.5 percent during the October-December quarter, well below the one-fourth increase projected for all of fiscal 1978. In contrast, October-December shipments of soybeans were up one-fifth from the year-earlier pace, about double the relative increase projected for all of fiscal 1978.

U.S. grain shipments to the Soviet Union expected to hit new high in fiscal 1978



Grain export shipments have fluctuated widely since the end of 1977, but overall have not registered the projected increases. Weekly export inspections show corn shipments in January and February were only equal to their low year-earlier pace. Although wheat exports were up about 40 percent, the increase for the entire January-May 1978 period will have to approach 50 percent if the USDA's projected rise in wheat shipments for the 1977/78 *wheat marketing year* is to be realized. Soybean shipments in January and February continued ahead of last year, athough the gain narrowed to about 5 percent.

Agricultural exports are projected to decline in fiscal 1978



*USDA estimate.

The disturbingly slow rate in grain exports thus far during fiscal 1978 reflects a host of problems. A strike by dockworkers in late 1977 cut into shipments during the October-December quarter. The aftermath of the recent port elevator explosions has reduced ship loading capacity and has contributed to a substantial buildup in the number of ships waiting in the Gulf to be loaded. Although barge traffic has been encumbered less by frozen rivers this year, the distribution of rail cars has been hampered by heavy snows and periodic delays in unloading at port facilities.

Most of the recent problems in grain shipments will probably pass with the coming of spring, allowing stronger export movements in the months ahead. Whether shipments can pick up enough to offset the earlier delays and allow the projected increases for all of fiscal 1978 to materialize is still subject to doubt. Nevertheless, several signs continue to attest to the potential strength of foreign demand for U.S. grains and soybeans. Recent reports indicate drought in the Southern Hemisphere has been more damaging to competitive world supplies of oilseeds and feed grains than earlier thought. The upcoming soybean harvest in Brazil, for example, is now expected to fall short of last year's record. In perhaps a related development, the first U.S. soybean sales to the Soviet Union for 1977/78 delivery were recently announced. The unsettling decline in the value of the dollar with respect to gold and major foreign currencies could also trigger increased purchases of U.S. grains, although the comparatively slow economic growth in many countries may continue to be a largely offsetting factor. Large domestic grain stocks and the comparative lack of exportable grain supplies in other countries suggest that the United States is in a good position to supply any increase in world demand that might surface in the near future.

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Agricultural Credit Conferences for the following District states are scheduled for the dates and locations listed below. Further information can be obtained from the respective state banking associations.

Iowa Agricultural Credit Conference
Iowa State University, Ames
March 21-22

Indiana Agricultural Clinic
Purdue University, West Lafayette
March 22-23

Wisconsin Agricultural Credit Conference
Holiday Inn, Stevens Point
April 17-18

Selected agricultural economic developments

Subject	Unit	Latest period	Value	Percent change from Prior period	Percent change from Year ago
Index of prices received by farmers	1967=100	February	192	+ 3.2	+ 3
Crops	1967=100	February	188	0	− 7
Livestock	1967=100	February	196	+ 5.9	+13
Index of prices paid by farmers	1967=100	February	211	+ 1.0	+ 6
Production items	1967=100	February	206	+ 1.5	+ 4
Wholesale price index *(all commodities)*	1967=100	February	202	+ 1.1	+ 6
Foods	1967=100	February	199	+ 2.3	+ 8
Processed foods and feeds	1967=100	February	195	+ 1.7	+ 7
Agricultural chemicals	1967=100	February	189	+ 0.9	+ 3
Agricultural machinery and equipment	1967=100	February	207	+ 0.6	+ 7
Consumer price index *(all items)*	1967=100	January	187	+ 0.6	+ 7
Food at home	1967=100	January	197	+ 1.7	+ 9
Cash prices received by farmers					
Corn	dol. per bu.	February	2.00	0	−15
Soybeans	dol. per bu.	February	5.42	− 5.7	−23
Wheat	dol. per bu.	February	2.58	+ 2.0	+ 4
Sorghum	dol. per cwt.	February	3.11	− 1.3	−11
Oats	dol. per bu.	February	1.15	− 1.7	−29
Steers and heifers	dol. per cwt.	February	42.70	+ 5.4	+20
Hogs	dol. per cwt.	February	47.90	+ 9.1	+22
Milk, all sold to plants	dol. per cwt.	February	10.20	0	+ 7
Broilers	cents per lb.	February	24.3	+ 6.6	+ 1
Eggs	cents per doz.	February	55.1	+11.5	−17
Income *(seasonally adjusted annual rate)*					
Cash receipts from farm marketings	bil. dol.	4th Quarter	96	+ 6.1	+ 4
Net realized farm income	bil. dol.	4th Quarter	22	+22.9	+ 4
Nonagricultural personal income	bil. dol.	January	1,588	+ 0.7	+12

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