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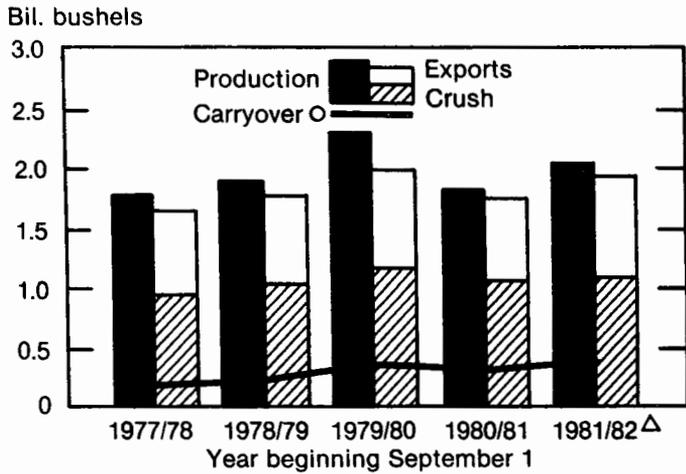
FOS-306

February 1982

Fats and Oils

OUTLOOK & SITUATION

Figure 1
U.S. Soybean Production, Use and Carryover

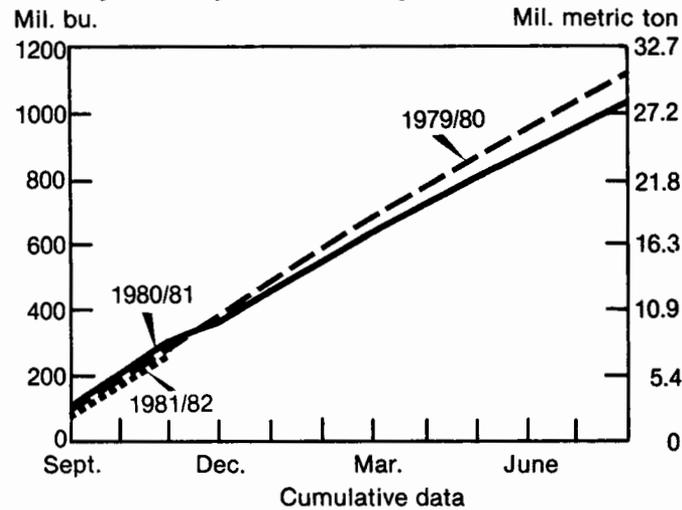


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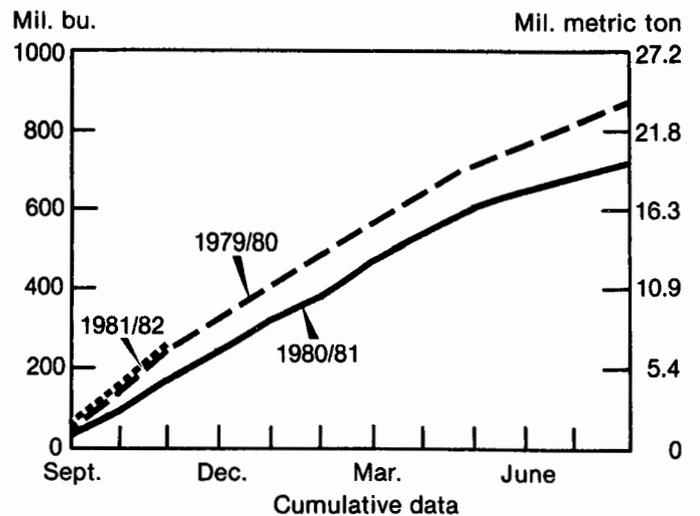
Figure 2
Monthly U.S. Soybean Crashings



USDA

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Figure 3
Monthly U.S. Soybean Exports



USDA

Neg. ERS 18-82 (1)

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Summary

The large 1981/82 U.S. soybean crop of 2.03 billion bushels has helped make supplies the second largest on record. In response to larger supplies and lower prices, total soybean disappearance is forecast to increase 9 percent to 1.99 billion bushels. Projections of a 40 million-bushel rise in domestic crush and 116-million-bushel jump in exports will not offset the increase in supply. Therefore, stocks on August 31, 1982, could about equal 1979/80's record 360 million bushels.

Reflecting large supplies relative to demand, soybean prices have trended downward. The average farm price slid from \$6.21 in September to \$6.05 in mid-January. The season average farm price is forecast at \$6.25 a bushel, down from last season's \$7.57. Adjusted for inflation, this average would be the lowest in 10 seasons.

Although prices of soybean products are lower this season, a sluggish U.S. economy will temper increases in use—keeping a lid on domestic soybean crushings.

Because soybean oil will remain favorably priced relative to other competing oils, the proportion of soybean oil used in manufacturing baking and frying fats, salad and cooking oils and margarine may rise somewhat. Domestic disappearance of soybean oil is forecast to be up 4 percent.

In response to similar weak retail demand and profit prospects for livestock, hog producers are expected to reduce output by 7 percent in 1981/82. A projected 2-percent increase in poultry production will help offset the contraction in pork output, but there are additional

decreases projected for fed cattle and other livestock. Nevertheless, in the face of these declines and weaker livestock prices, lower meal prices will provide some incentive to increase feeding rates. So, soybean meal use is forecast to rise 3 percent to about 18.1 million short tons.

Weak domestic demand for soybean meal and oil, along with large bean supplies, is holding prices down. The 1981/82 average price of soybean meal is expected to drop 17 percent to \$180.00 per ton, while the average price of soybean oil is also projected to fall 10 percent to 20.5 cents per pound. Even though soybean prices have decreased sharply, the decline in total product value will permit only a slight increase in the average crushing margin. Consequently, the domestic soybean crush is projected to rise only 40 million bushels to 1.06 billion.

Most of the projected increases in use of soybeans and products will come from the export side. Bean, meal and oil exports are forecast to jump 16, 6, and 35 percent, respectively. Lower prices have spurred additional foreign use, and the weaker dollar last fall has made imports of U.S. products more attractive this season.

World soybean production is forecast at a 89 million metric tons, almost 8 million above a year ago. The sharp rebound in U.S. output accounts for about 83 percent of the increase. A 16-percent rise in U.S. exports and a 16-percent increase in imports into the European Community (EC) highlight world trade forecasts. Improved EC crushing margins are helping to expand the

Community's demand for U.S. soybeans. The U.S. share of world soybean trade is forecast at 79 percent, hardly changed from last season. But, our share of meal and oil trade could be up by 4 and 7 percentage points respectively.

Given large ending stocks of soybeans and products projected for 1981/82 and uncertain economic prospects, adjustments to bring U.S. supplies and use into better balance will have to come from reduced production. However, with prices of competing crops also depressed, this spring's soybean acreage probably won't change from 1981.

Cottonseed supplies will be a record-large 6.7 million short tons this season because increased cotton acreage and 34-percent rise in yields boosted production 40 percent to 6.3 million short tons. However, total cottonseed use will not keep pace with supplies. Consequently, stocks will build sharply—possibly reaching 1.3 million short tons.

Cottonseed prices fell from \$111.00 a short ton in August to \$85 by December. For the season, the average cottonseed price is estimated at \$90 per ton, down \$38 per ton from last year.

Although sunflower planted acreage was unchanged, a 16-percent rise in the average yield boosted 1981/82 production by 19 percent to 2.1 million metric tons. However, beginning stocks—.3 million tons—were down sharply, causing total supplies to fall 12 percent.

Even though the crush will likely fall 4 percent, and exports 7 percent, sunflower seed stocks will probably decrease further. By August 31, 1982, stocks could be as low as 120,000 metric tons, 61 percent below the previous season. Season-average prices are estimated at \$250 per ton, up 2 percent from 1980/81.

U.S. peanut supplies should total 4.4 billion pounds this year, about one-third above the last marketing season, but 3 percent below 1979/80. Due to increased acreage and yield, the 1981 crop was up 71 percent from 1980.

All major uses for peanuts are expected to increase from last season. With the larger crop this season, domestic crushings may be up one-third from last year. Also, domestic edible use (raw, shelled, roasted, salted, etc.) is forecast to rise by one-fourth to 2 billion pounds. Exports are likely to be up by one-half from last season's 6-year low.

Fats and Oils Situation

1981/82 U.S. SOYBEANS AND PRODUCTS OUTLOOK

Soybeans

Production Near Record

The final 1981/82 soybean crop estimate stands at 2.03 billion bushels, about 47 million below the October 1 estimate, but up 13 percent from last season's drought-reduced output. Last spring, producers trimmed plantings by about 2 million acres, but the area harvested this fall was only around 1 million acres below 1980, when drought cut yields and made it uneconomical to harvest some fields. A return to a more normal relationship between planted and harvested acreage in 1981, combined with a 4-bushel jump in the average yield, produced a crop second only to the 2.3 billion bushels in 1979/80.

Production in the Lake States-Corn Belt region expanded 3 percent to 1,282 million bushels. Despite a drop in the springtime soybean/corn price ratio of 10 to 15 percent from a year earlier, planted acreage declined only 2 percent. Wet weather delayed corn plantings in some areas, which encouraged shifting from corn to soybeans. Record yields in Iowa and matching records in Missouri helped boost production, as the average yield per acre rose to 33.4 bushels. This region accounted for about 63 percent of total U.S. soybean production in 1981/82.

In the Delta, production grew 2 percent to 197 million bushels. Total planted acreage declined in response to price ratios that favored planting cotton and rice. However, interestingly, while single-crop planted acreage fell from 11.1 to 10 million, the double-crop area jumped 19 percent to 1.35 million acres. Therefore, a 28-percent rise in the average yield is responsible for expanded production.

Production in the Southeast also jumped 47 percent, from 202 million bushels in 1980/81 to 297 million in 1981/82. Soybean plantings declined there as well, as the soybean/corn price ratio prompted farmers to plant more corn. An 8.3-bushel rise in the average yield, caused the production increase.

In the Northern Plains, producers harvested 4.6 million acres, almost 11 percent more than in the previous season. At 31.8 bushels an acre, the average yield was also up 41 percent. Consequently, 1981/82 production is placed at 167 million bushels, 65 percent above a year earlier.

Soybean production costs per planted acre (excluding land costs) have been estimated at \$150 for 1981, up 14 percent. The largest increases occurred in variable costs—accounting for 58 percent of the rise. Large variable cost gains occurred for fuel and lubrication, fertilizers and lime. Increased costs per acre were offset by

higher yields, so average cost per bushel will remain at around \$5.00 per bushel.*

Disappearance Up 9 Percent

U.S. soybean disappearance is expected to rebound from last season's low levels, possibly up 9 percent to 1.99 billion bushels. The U.S. soybean crush is estimated at 1.06 billion bushels, up by 40 million. Demand for soybeans for domestic crush depends primarily on domestic demand for products, mainly soybean meal. Crush demand is reflected by crushing margins—the difference between the value of the products from a bushel of soybeans and soybean prices per bushel. While soybean prices have dropped, product demand has not been strong enough to improve margins. Generally, margins have been squeezed by declining product prices. Although average monthly margins during September-December have mostly been below those of the same period last season, intermittently, there have been some spot margins in the mid-30-cents-a-bushel range. However, some forward margins in the upper 30's to low 40's have allowed some crushers to lock in only moderate margins. Crush during September-December ran about 2 percent above that of last season.

Export Prospects Continue Strong

Soybean exports are forecast to reach 840 million bushels, up 116 million compared to last season. The projected rise is primarily based on expectations of a 16-percent increase in EC imports. If realized, the structure of trade would return to a more normal soybean/soybean meal import mix compared with last season, when EC soybean imports dropped 50 million bushels, while meal rose nearly 300,000 short tons.

Unlike crushing margins in the United States, EC margins soared last fall. Although prices throughout the soybean complex have declined, bean prices since August have declined by 11 percent while total product value has declined only 5-percent. The variable levy in the EC, which supports the price of corn, continues to keep corn prices high relative to meal. This factor should maintain meal use, and support meal prices, thus aiding crushing margins.

As of January 21, 1982, EC soybean imports from the United States were 55 percent above a year-ago. However, this pace is not expected to continue and it is generally believed that European crushers are maintaining a "wait and see" attitude in light of continued high

*For further information on regional production costs see COSTS OF PRODUCING SELECTED CROPS IN THE UNITED STATES 1978, 1979, 1980, AND PROJECTIONS FOR 1981.

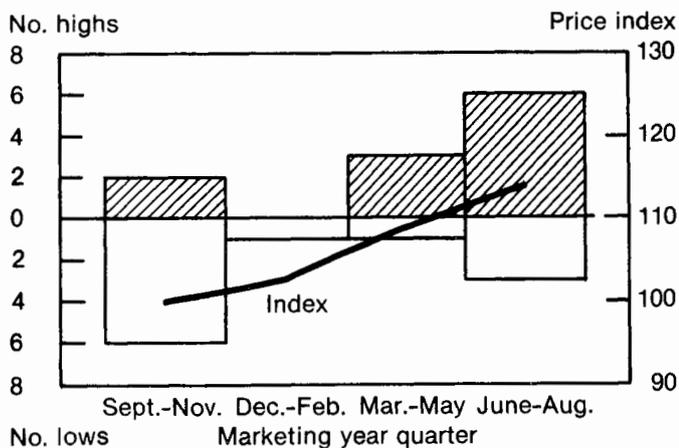
interest rates, and an uncertain economic outlook in Europe—two key factors likely to influence soybean demand for over the next several months.

Carryover Prospects Hold Prices Down

If the current estimates of U.S. soybean supply and disappearance are realized, stocks on September 1, 1982, could match the 1979/80 record of almost 360 million bushels. But, with the season not yet half over, many variables could still affect the final carryover. Therefore, ending stocks are projected to fall between 325 and 395 million bushels.

In light of this season's increase in supply relative to prospective demand, farm prices for soybeans are forecast to average considerably lower than last year, possibly averaging about \$6.25 a bushel. Although prices through November were below this estimate, they normally rise later in the crop year. As figure 4 indicates, monthly low prices most often occur in the first quarter, while high prices usually show up in the last quarter. Also, prices received during the last quarter averaged about 15 percent above the first-quarter. Applying that relationship to this season suggests that soybean prices next summer could average around \$7 per bushel. If the historical price pattern holds true, and monthly marketings do not significantly deviate from their 5 year averages, \$6.25 per bushel could be realized. Adjusted for inflation, this would be the lowest season-average price since 1971/72.

Figure 4
Soybean Farm Prices: Seasonal Distribution of High and Low Prices, Percentage Change by Quarters: 1970/71-1980/81



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Soybean Meal

U.S. soybean meal production is expected to expand 5 percent to 25.4 million short tons during 1981/82. While supplies will be larger and prices could be 10 to 20 percent lower, domestic disappearance prospects hinge on improvement in the U.S. economy and its impact on the livestock industry. The value of the dollar will largely influence meal exports.

Table 1—Soybean stocks: On farm, off farm and total in all positions

Date	On farm	Off farm	Total
	1,000 bushels		
1978			
January 1	674,550	652,400	1,326,950
April 1	394,405	455,448	849,853
June 1	207,541	298,815	506,356
September 1	59,132	102,044	161,176
1979			
January 1	699,556	692,534	1,392,090
April 1	412,570	467,646	880,216
June 1	241,255	284,850	526,105
September 1	61,509	112,579	174,088
1980			
January 1	892,934	877,896	1,770,830
April 1	602,779	580,322	1,183,101
June 1	396,650	378,152	774,802
September 1	128,888	229,880	358,768
1981			
January 1	730,157	790,300	1,520,457
April 1	533,082	496,619	1,029,701
June 1	362,266	317,156	679,422
September 1	159,029	159,276	318,305
1982			
January 1	901,145	742,816	1,643,961
April 1			
June 1			
September 1			

Crop Reporting Board, SRS.

The current 18.1-million-short-ton estimate for domestic disappearance of soybean meal reflects a 200,000-ton downward revision in the previous estimate. In recent weeks, livestock production prospects have fallen considerably, indicating demand for soybean meal has shifted downward. In particular, the December survey of pork producers indicated a sharp reduction in the number of hogs that will be marketed in the next several months and a large drop in the breeding herd as well. The latter reduction would affect the number of hogs marketed during the last half of 1982. The report revealed that the estimated number of hogs and pigs was 9 percent below December 1, 1980, and that the number of hogs kept for breeding was 7 percent lower.

A sluggish economy continues to limit employment and consumer budgets, dampening demand for livestock and poultry products at the retail level and diminishing the chances of substantial price gains in these sectors until at least mid-1982. The lack of price strength will limit improvements in the meal/pork and meal/broiler price ratios. Although some improvement over last year's ratios is still expected, particularly for meal/pork, it will induce only modest increases in feeding rates per animal unit. Furthermore, at \$2.45 per bushel, price forecasts for corn suggest that the soybean meal/corn price ratio will no longer favor increased meal use. Because of the bumper corn crop, pork producers in the Midwest may be particularly inclined to cut costs by feeding available corn rather than purchasing meal.

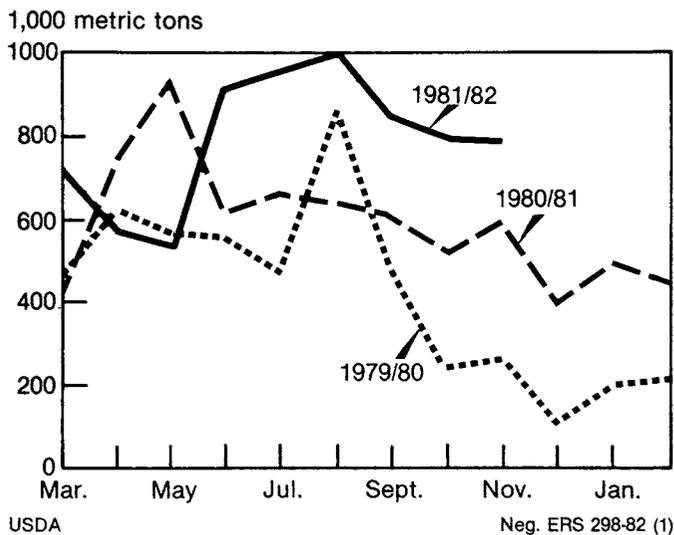
In addition to these factors adversely affecting meal feeding rates, the number of high protein animal units (HPAU's) are now projected to fall short of previous expectations and may be down by 3 percent. The

beef, hog, and broiler sectors account for approximately 20, 30, and 45 percent, respectively, of protein meal use in the United States. While a 2- to 3-percent increase in poultry production will partly offset the 7-percent drop in hog production, there are additional declines in fed cattle and other livestock sectors. During October through December, domestic meal use ran essentially unchanged from a year-earlier.

U.S. soybean meal exports are projected to reach 7.2 million short tons, up 6 percent, as foreign buyers respond to lower prices and some weakening of the dollar in recent months. Exports in October through December were up 216,000 short tons, despite unseasonably strong Brazilian exports. Principal buyers of U.S. meal thus far this season have been the Netherlands—characteristically the largest importer—Italy and Germany.

Soybean meal prices are expected to fall well below last season's highs. The season average price is forecast between \$170 and \$195 per ton, with a mid-point estimate of \$180 per ton. Through December, monthly prices averaged slightly above the \$180 estimate.

**Figure 5
Monthly Brazilian Soybean Meal Exports**



Soybean Oil

U.S. soybean oil production is forecast to reach 11.4 billion pounds, up 1 percent. The increased production, coupled with a record carryin of 1.7 billion pounds, puts total oil supplies at 13.1 billion pounds.

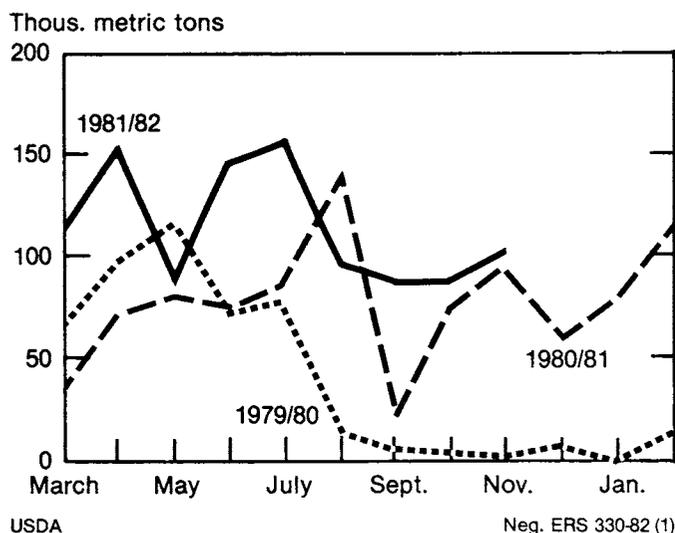
Domestic disappearance of soybean oil is projected to climb 335 million pounds to 9.45 billion. Generally, over 90 percent of the soybean oil that disappears domestically can be traced to the manufacture of baking and frying fats, salad and cooking oils, and margarine. Expanding consumption of these products, hence soybean oil, has primarily resulted from increases in population and real income. There is nearly a one-to-one correspondence in domestic soybean oil use and real income. This relationship suggests that use will receive little or no boost this season because increases in real incomes are not expected to occur until mid-1982. With this in mind, fast food

outlets which are heavy users of soybean oil products, are not likely to increase use or build inventories until the pinch of the recession subsides and business prospects improve.

While consumption of end products may show little to no increase, an increase in the proportion of soybean oil used in their manufacture is likely to occur as low relative soybean oil prices will encourage substitution of soybean oil for more expensive oils.

Exports of U.S. soybean oil are projected to jump 35 percent to 2.2 billion pounds. In October through December, exports were up by 50 percent, despite somewhat stronger movement out of Brazil than was previously expected. Pakistan and India have been the principal U.S. soybean oil importers so far this season. Thus far, U.S. exports to Pakistan have increased eighteen fold because Pakistan has benefited from U.S. credit guaranteed programs.

**Figure 6
Monthly Brazilian Soybean Oil Exports**



If current forecasts of world soybean oil trade are realized, U.S. oil exports will account for about 27 percent of world trade—regaining some of the share lost to Brazil last season. While current projections indicate a 29-percent decline in Brazilian exports during 1981/82, large EC imports of U.S. beans will ultimately result in expanding EC oil supplies and export availabilities. Net oil exports from the EC could be up almost 38 percent, and this increase could present the United States with increased competition, particularly in the January-March quarter when this country has characteristically been the principal world supplier.

Under current supply/disappearance prospects, stocks of soybean oil are expected to edge downward to 1.5 billion pounds by the end of the season. But this level will still be perceived as burdensome, so prices will be under continued pressure. For the 1981/82 crop year, the average price of soybean oil is expected to fall between 18 to 22 cents per pound, compared with 22.7 cents last year.

1982/83 U.S. SOYBEAN OUTLOOK

Farmers are now deciding how much land to put into soybeans this spring. The results of a USDA survey of farmers' planting intentions as of early February will be released on February 18 in the *Prospective Plantings* report. These intentions provide an early clue of how farmers will react to this season's low prices and expected stock buildup. Prices over the next several months could receive a boost if farmers plan a sharp contraction in area.

A low price at planting time often signals a drop in area for the price-depressed crop and a rise in area for more profitable crops or pasture. The spring of 1982 will see crop prices well below year-earlier levels. Still, variable costs are likely to be covered, and without Government programs to reduce acreage, total crop area would not likely decline much, if at all, from 1981. As far as the allocation of land among alternative crops is concerned, market prices suggest soybean and corn acreage could be planted in about the same proportion as last year, with perhaps an edge to soybeans. Current prices indicate that some cotton acreage may be switched to soybeans. However, weather and Government programs, particularly this year, could overrule the influence of market factors on acreage allocation decisions.

Historically, year-to-year changes in the soybean/corn price ratio have been a good indicator of changes in soybean acreage. For example, during the first quarter of 1981, the soybean/corn price ratio for Chicago cash prices averaged about 2.1 to 1; a year earlier it had averaged 2.4 to 1. This change in the ratio from 1980 to 1981 pointed to less soybean acreage and more corn acreage in areas where the crops compete. In the Corn Belt and Lake States, where about 55 percent of U.S. soybean acreage is planted, soybean acreage fell about 1 percent from 1980 to 1981. Had it not been for wet fields at planting time in some sections of the Corn Belt, the drop in soybean acreage would have been more substantial.

So far in 1982 the soybean/corn price ratio has averaged around 2.4 to 1, indicating that soybeans have become more profitable relative to corn, compared to the early 1981 ratio of 2.1 to 1. However, the influence of the 10 percent reduced-acreage programs for feed grains on soybean acreage is highly uncertain at this time. The corn target price of \$2.70 a bushel for 1982/83 and the loan and farmer-owned reserve programs greatly reduce the downside risk for corn producers and provide an incentive for their participation in the reduced-acreage program. There is no target price for soybeans and its loan rate of \$5.02 a bushel is low relative to market prices.

Recently, entry of 1981 crop corn in the regular loan and reserve program has been heavy, and from mid-December to late-January, cash corn prices increased over 20 cents a bushel. If increasing quantities of corn continue to be isolated from the market, further price improvement may occur, perhaps enough to influence the corn/soybean acreage mix this spring for producers who do not participate in the feed grain program. For participants, higher corn prices could mean that soybean acreage would be locked in near last year's level in the

Corn Belt. If corn prices remain low relative to soybeans, however, producers could cut corn acreage by more than what is required for compliance with the program. In this case soybean acreage would probably exceed last year's level. So, even with the acreage reduction programs in place, price movements in the next few weeks are crucial to soybean acreage prospects.

In the Delta States where nearly a quarter of U.S. soybean acreage is planted, the ratio of soybean to cotton cash prices is a good indicator of changes in soybean acreage. Both cotton and soybean prices are sharply below early 1981 levels. However, whereas the soybean/cotton price ratio averaged around 9 to 1 during the first quarter of 1981, the ratio this January was nearly 11 to 1, suggesting more soybean and less cotton acreage. But the cotton target price of 71 cents a pound for 1982 could cause some producers to think twice about switching acreage to soybeans from cotton. When the cotton target price is considered, the current soybean/cotton price ratio about equals the ratio of early last year. Another complicating factor is that the cotton target price is compared to a calendar year average farm price to determine deficiency payments. So, if cotton farm prices are below the target in early 1982, and they almost certainly will be, the target price could have even more influence on planting decisions. This could encourage producers who participate in the 15 percent acreage-reduction program for cotton to plant the maximum amount of cotton permitted for compliance. Producers who decide not to participate may switch some acreage to soybeans since the cotton target price does not apply to them.

In recent years, an increasing share of soybean acreage has been double-cropped, primarily with winter wheat in the South. Last fall winter wheat acreage in the South increased about 1-1/2 million acres over 1980. This increase could potentially lead to even more double cropping in 1982. Moreover, winter wheat acreage declined sharply in parts of the Corn Belt, particularly in areas where double-cropping is not common. This suggests that additional acres, perhaps a million or so, will be available for spring crops such as soybeans and corn unless this acreage comes into the reduced-acreage programs for wheat and corn.

So there is more than usual uncertainty about soybean acreage and production prospects this year. On balance, the many factors noted above suggest little change from the 68 million acres planted in 1981. With a trend yield, the supply-side adjustment needed to lower soybean stocks and raise real prices to a more normal level is probably not forthcoming.

While supply prospects will hinge on planted acreage and weather developments which affect harvested acreage and yields, demand prospects largely depend on the performance of the United States and world economies.

U.S. soybean crush in 1982/83 is expected to exceed this season's 1.06 billion bushel level. Crushing margins should show some improvements - reflecting stronger

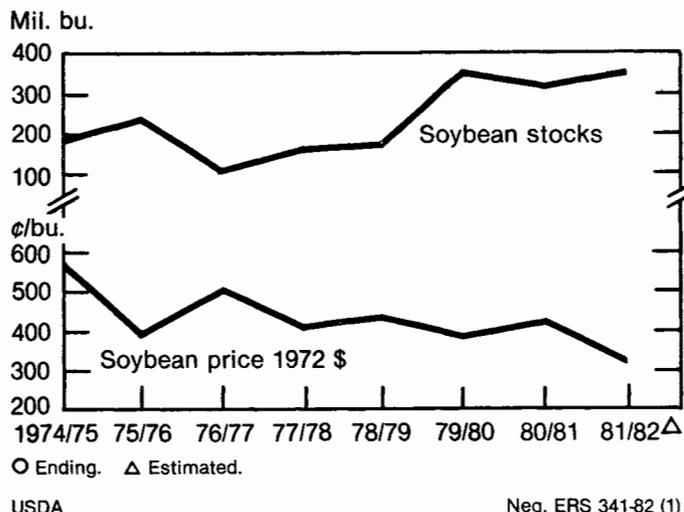
domestic demand for meal and oil due to better U.S. economic conditions.

U.S. exports of soybeans in 1981/82 could also rise moderately over the current season's expected level. However, export movement is highly speculative at this time, and the extent of any increase will depend on interest rates and the strength of the dollar, world

economic growth, global production of oilseeds, fats and oils, and export competition.

Currently, the 1982/83 outlook suggests that U.S. soybean supplies could exceed disappearance, and stocks could remain at a high level. Under these circumstances, prices are not likely to show much improvement in real terms.

Figure 7
U.S. Soybean Stocks and Price in 1972 Dollars
1974/75-1981/82



1981/82 WORLD SOYBEAN OUTLOOK

World soybean production is forecast at 89 million metric tons, almost 8 million above a year ago. The United States, with a 6.5-million-ton rise in production, accounts for 83 percent of the anticipated global increase. Foreign production is forecast at 33.5 million tons, up 4 from last season.

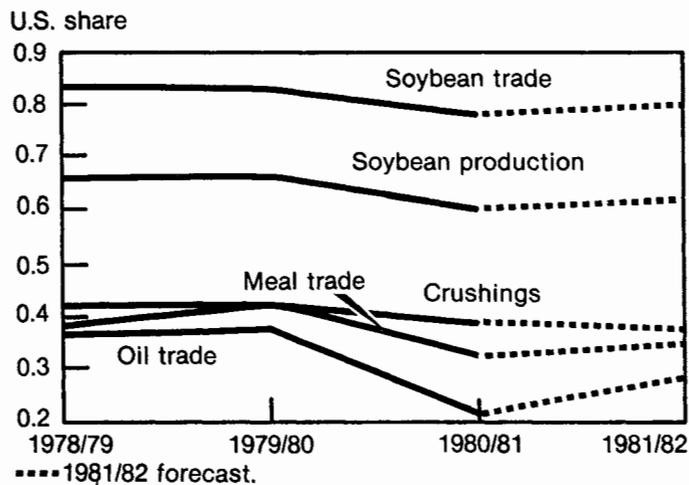
Production in the major foreign exporting countries of Brazil and Argentina is forecast to rise by .5 million metric tons to 19.5 million. Relatively higher support prices for corn in Brazil resulted in a planting-time soybean/corn price ratio that encouraged corn plantings. Consequently, Brazil's soybean area declined marginally, from 8.70 to 8.57 million hectares. Weather through December was good, but weather during January and February will be critical. If yields about match last season's, production could fall by only .3 million tons.

The decline in Brazilian production is expected to be offset by a .8-million ton rise in Argentina. Area planted in Argentina expanded 12 percent, as drought delayed corn plantings, thus encouraging a shift into soybeans. Since planting time, moisture conditions have improved, so yields are currently expected to reach a record 2.21 tons per hectare.

The sharp rise in world soybean production will promote a 15-percent expansion in world trade during 1981/82. A 16 percent rise in U.S. soybean exports and a corresponding 16-percent increase in EC imports highlight trade forecasts. In addition, the Soviet Union may have to import more soybeans to augment short sup-

plies of feedstuffs resulting from a production shortfall of coarse grains and oilseeds in that country. The current estimate of Soviet soybean imports stands at 2, million tons, up 54 percent. Trade agreements between the Soviets and both Brazil and Argentina call for imports of 500,000 tons from each of those countries.

Figure 8
U.S. Share of World Production and Trade of Soybeans and Products



Also, the United States has already sold the Soviets nearly 700,000 tons.

World soybean stocks are projected to build to 17.4 million tons, 56 percent of which will be carried in the

United States. Because high interest rates in many countries make carrying stocks expensive, stocks in other countries are expected to decline 3 percent to 7.6 million metric tons.

COTTONSEED

Due to larger cotton acreage and near-record yields, cottonseed production in 1981/82 is estimated at almost 6.3 million short tons, compared with 4.5 million last season. The sharpest gains were in Texas and California, which combined, accounted for 60 percent of total U.S. production and 64 percent of the 1.8-million-ton gain over last season. In spite of a very small carryin of only .4 million tons, total supplies will be a record-large 6.7 million.

Cottonseed crushings for 1981/82 are estimated at 4.2 million tons, up only marginally from 1980/81, as limited crushing capacity in the West will temper further expansion. Total domestic use of cottonseed is expected to be 5.4 million tons, because low cottonseed prices will spur additional feeding use.

U.S. exports of cottonseed could decline this season, perhaps dropping to 50 million tons from 133 million tons. Short oilseed supplies in Mexico resulted in record-large exports during 1980/81. Mexico's increased oilseed production this year will limit cottonseed exports to that destination.

If the above estimates are realized, cottonseed stocks on August 1, 1982, could be a record 1.3 million tons.

As a result of this season's abundant supplies, farm prices for cottonseed are expected to average around \$90 a ton, down from \$128 in 1980/81. During August-December 1981, farm prices averaged \$92, well below 1980's \$126.

Reflecting the expanding crush, supplies of cottonseed oil are expected to total 1.4 billion pounds. Domestic disappearance is likely to increase only slightly because of stiff competition from other domestic oils, particularly soybean, which is lower priced and in abundant supply.

Over half of the supplies of cottonseed oil this season will be exported. In recent years, principal U.S. customers have been Egypt and Venezuela, where cottonseed oil is preferred.

Because of its stature as a preferred oil, cottonseed oil will continue to command a premium over soybean. However, because of large supplies, that premium may shrink to only 2 cents a pound. Prices are forecast to average 22 cents a pound for the season.

Current crop prices point to lower cotton acreage in 1982. This, along with normal yields, would go a long way toward restoring the cottonseed supply/use balance in 1982/83.

SUNFLOWER

Total supplies of U.S. sunflowerseed are estimated at 2.4 million metric tons in 1981/82, down from 2.8 million a year earlier and considerably below the record 3.5 million in 1979/80. This year's lower supplies reflect the greatly reduced carryin on September 1—304,000 metric tons, compared with last year's record 1 million.

Sunflower production for 1981/82 is estimated at 2.1 million metric tons, up 20 percent from last year's drought-affected crop. Since acreage hardly changed from the previous year, increased production is due primarily to higher yields. Based on smaller supplies and this year's crushing and export estimates, stocks on August 31, 1982, are expected to be further reduced and are estimated to total about 120,000 metric tons.

Last year, U.S. sunflower crushings reached a record 780,000 metric tons, up more than 40 percent from a year earlier due partly to the coming-on-stream of a new plant. Another large processing plant is opening in the spring and the ground has been broken on two additional plants in the northern sunflower-producing region. Therefore, domestic crushings could increase at a rapid rate in the next few years if additional markets are developed for the oil and meal.

Though several new sunflower-oil-based products have come on the market in recent months, consumption is

not expected to increase substantially in 1981/82. Tight supplies of sunflowerseed oil in non-U.S. markets are lifting price premiums for sunflowerseed oil and limiting U.S. use. U.S. consumer acceptance of sunflowerseed oil has not reached the same level as in a number of European countries which have long regarded sun as the premium oil.

Even though domestic crushing is rising rapidly, the bulk of U.S. sunflowerseed production is still exported as seed. In 1980/81, exports accounted for 61 percent of the disposition of sunflowerseed. In each of the 4 previous years, exports of sunflowerseed ran between 70 and 75 percent. In 1981/82 U.S. trade is estimated at 1.4 million metric tons, down slightly from last year's 1.5 million. Even with the reduction, the United States will continue as the world's leading sunflowerseed exporter. The largest market for U.S. sunflowerseed exports is the E.C., taking about 60 percent of the total.

Exports of sunflower oil in 1981/82 are estimated at about 260,000 metric tons, down from last season's 301 thousand. However, it is anticipated that in the near future the United States may sell sunflower oil to the Soviet Union for the first time. An expected reduction in U.S. sunflowerseed crush will limit oil availabilities for export in 1981/82. Major markets for U.S. sunflower oil

in 1980/81 were Venezuela, Algeria, the Netherlands, and Egypt.

Farm prices during October-December have been slightly under last year's prices, but the average is estimated at about \$11.35 per cwt. In 1980/81, the average price was \$11 per cwt. The mid-January price for

sunflower oil (crude, Minneapolis) was around 24.5 cents a pound. Due to the present shortage in world supply, sunflower oil is selling at around a 6-cent-a-pound premium over soybean oil. Prices are forecast to average about 24 cents a pound for the season.

PEANUTS

Record Crop Bringing Recovery of Use

U.S. peanut supplies for 1981/82 (August-July) may total 4.4 billion pounds, about one-third above last season, but 4 percent below 1979/80. Due to the increase in acreage and yield, the 1981 crop was up 71 percent from 1980 and slightly below the record set in 1979.

All major use categories are expected to be higher than last season. With the larger, higher quality crop this season, domestic crushing may be up one-third from last season. Exports could go up by one-half from last season's 6-year low. However, due to the small domestic output last season, it is expected that some foreign buyers may have found other sources.

Domestic edible use of peanuts may rise by one-fourth to 2 billion pounds. Manufacturers of peanut butter and other products have ample supplies from the 1981 crop, and retail prices have declined.

Farm prices for the 1981 crop averaged 26.7 cents a pound, up 1.6 cents from the previous season. However, prices declined, as the season progressed, because the crop was larger than originally anticipated. Even so, the value of the 1981 crop rose by 80 percent from 1980.

This season's sharp increase in yield per acre reduced non-land production costs to 22 cents a pound, 9 cents below 1980. Costs per planted acre, however, rose to \$546, 18 percent above 1980. Per acre costs are expected to rise a tenth or so in 1982, pulling the per pound costs up too.

1982 Marketing Quota Reduced 17 Percent

The Agriculture and Food Act of 1981, PL 97-98, provides a poundage quota of 1.2 million short tons in 1982, 17 percent below 1981. If growers approve quotas in the January referendum, then loan rates for the 1982 crop are set by law at no less than \$550 a ton. Rates for "additional" peanuts will be set by February 15.

Table 2—Peanuts (farmers' stock basis): Supply, disappearance, and price, U.S.¹

Year beginning August 1	Supply			Disappearance						Price		
	Beginning stocks	Production	Imports	Total	Crush	Exports	Food	Seed, feed loss, and shrinkage	Total	Average received by farmers	Support	
											Quota additional	
											Cents/lb.	
1977	608	3,726	1	4,324	487	1,025	1,838	392	3,742	21.0	21.50	—
1978	581	3,952	1	4,534	527	1,141	1,996	284	3,948	21.1	21.00	12.5
1979	586	3,968	1	4,555	571	1,057	2,028	271	3,927	20.6	21.00	15.0
1980	628	2,308	401	3,337	446	503	1,647	328	2,924	25.1	22.75	12.5
1981	413	3,949	2	4,364	615	750	2,000	299	3,664	26.7	22.75	12.5
1982 ²	700										27.50	

¹Disappearance forecast for latest year. ²Preliminary.

Table 3—Flaxseed: Supply, disappearance, and price, U.S.

Year beginning June 1	Supply				Disappearance					Price	
	Beginning stocks	Production	Imports	Total	Crush	Exports	Seed	Residual	Total	Average received by farmers	
											Dol./bushel
											1,000 bushels
1977	2,961	14,280	859	18,100	11,615	1,001	557	-388	12,785	4.54	
1978	5,315	8,614	1,557	15,486	13,009	91	724	-924	12,900	5.74	
1979	2,586	12,014	1,916	16,516	12,425	174	650	-1,751	11,498	5.97	
1980	5,018	7,928	2,510	15,456	11,927	76	547	22	12,572	7.20	
1981 ¹	2,884	7,799	3,984	14,667	11,500	45	622	0	12,167	6.74	

¹Forecast.

LARD

Lard production for 1981/82 is projected at 1.07 billion pounds, down about 7 percent from a year earlier output of 1.16 billion. October and November lard production is about the same as a year ago, but is expected to drop in coming months. Commercial production of lard in 1980/81 was lower due to reduced hog slaughter. The yield of lard per hog was about the same as 1979/80—12.5 pounds and is expected to hold through 1981/82.

Domestic use of lard in 1981/82 is projected to drop to 975 million pounds. Use in October-November was much lower than last year—almost 25 million pounds or about 25 percent less. Last season domestic use was 1.023 billion pounds down 10 percent from the previous year. While domestic lard consumption has been dropping, larger quantities of edible tallow are being used. With domestic lard use down more lard is available for export.

U.S. lard exports were 144 million pounds in 1980/81 up 52 percent from 1979/80. The largest market was Mexico, taking 43 percent, followed by Poland with 30 percent and Canada with 12 percent. Poland's imports of 43 million pounds were a major factor in the strong market of 1980/81; Poland had imported no U.S. lard during the previous year.

In the first 2 months of 1981/82, U.S. lard exports to Mexico and Canada have done well; however, Poland has made no purchases. Without substantial exports to Poland, or without exports to other countries taking up the slack, lard prices may continue weak.

Lard prices, (loose, tanks, Chicago) were strong the latter part of 1980/81, peaking in the middle of October at 23-1/2 cents. Since then, they have dropped substantially, and in early January, were about 18-1/2 cents a pound. Prospects for price increases hinge heavily on a resurgence in export demand.

EDIBLE TALLOW

Edible tallow production for 1981/82 is projected at 1.18 billion pounds—5 percent above 1980/81. This estimate places edible tallow production more than 100 million pounds above lard output because beef production is expected to increase slightly and hog production to drop 7 percent. Furthermore, edible tallow production has increased rapidly in recent years because more beef carcasses are being cut up into retail-size portions (boxed beef) at packing plants.

Domestic use of edible tallow in 1981/82 is projected to increase to 1.05 billion pounds. This follows a 9 percent increase in domestic use last year. The increased consumption is partly replacing domestic lard use. Edible tallow is primarily used in commercial and institutional shortening products.

In the first 2 months of 1981/82, exports were running well below year-earlier levels. Exports of edible tallow reached 133 million pounds in 1980/81, almost double 1979/80 exports. Production has continued to increase. Domestic use has increased, but not enough to make up for the reduced exports, thereby resulting in a buildup of stocks.

Edible tallow prices (Chicago) carried a slight premium over lard during 1980/81. In early October, prices peaked at 23.75 cents-a-pound and since then have dropped to 19.5 in early January. During this decline, the price spread between edible tallow and lard widened, with edible tallow selling at as much as a 2.5 cents-a-pound premium.

INEDIBLE TALLOW

Production of inedible tallow and grease is forecast to decline slightly in 1981/82. Hog slaughter is expected to fall 7 percent, accompanied by a rise of less than 1 percent in beef and 2 percent in broiler slaughter.

Domestic use of inedible tallow in October and November was down over 3 percent from a year earlier. Use in fatty acids and feeds was up, but use in soap was down. Last year, domestic use of inedible tallow and grease was up slightly from the previous year, to about 3.015 billion pounds.

Exports of inedible tallow and grease totaled almost 3.0 billion pounds in 1980/81, slightly under last year's 3.1 billion. Exports of significant quantities of inedible tallow and grease go to many countries. Major export markets in 1980/81 were: Egypt, 15 percent; the Netherlands, 8; Soviet Union, 8; Republic of Korea, 7; Japan, 7; Pakistan, 6; and Mexico, 5. These 7 countries took 56

percent of the U.S. total in 1980/81. The Soviet Union, India, and the Netherlands significantly increased their U.S. purchases. Exports for October and November, were about the same a year earlier. However, there have been no exports of tallow to the Soviet Union so far this year.

Inedible tallow prices (bleachable, fancy, Chicago), which remained relatively stable at about 18 cents-a-pound during most of 1980/81, rose to 19.5 cents in October and since then have dropped off. Early January prices were about 17 cents-a-pound. With large stocks of soybean oil hanging over the market and production of inedible tallow and grease expected to decline only slightly in 1981/82, there is little likelihood of much of a price rise from early season levels unless a stronger export demand develops.

THE PEANUT PROGRAM FOR 1982-85

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ABSTRACT: This article describes the changes made in the U.S. peanut price support program under the Agriculture and Food Act of 1981 for crop years 1982-85. Major changes include lowering the quota, eliminating acreage allotments, and raising the quota price-support rate to a minimum of \$550 a ton in 1982, with additional hikes scheduled in 1983, '84, and '85, based on costs of the production. The program takes effect if growers approve it in a late-January grower referendum.

KEYWORDS: Peanuts, peanut program, price support program, quota peanuts, additional peanuts.

The Agriculture and Food Act of 1981 further modifies the U.S. peanut price support program. The program, which is administered by the Agricultural Stabilization and Conservation Service (ASCS), was substantially changed in the Food and Agriculture Act of 1977 after going largely unchanged for 28 years.¹ The modifications in the 1981 Act will continue steps begun in 1977, to bring production for domestic edible uses in line with market demand. The new program takes effect if at least two-thirds of the eligible voters approve it in a late-January grower referendum.

The new legislation continues the two-price program that prevailed from 1978 to 1981. It retains poundage quotas but drops acreage allotments. Any farmer in the United States can now grow and market peanuts for export and crush, if they have a poundage quota or not. The program would revert to permanent legislation after the 1985 crop if new legislation is not passed.

Poundage Quota

The national poundage quota will be reduced from 1.44 million tons in 1981 to 1.2 million in 1982. The national quota will be dropped to 1.1673 million in 1983, 1.1347 million in 1984, and to 1.1 million in 1985. The percentage reductions in the annual peanut poundage quota is to be shared equally among States.

To obtain a poundage quota for a farm during 1982-85, the farm must have had a quota assigned to it in 1981. However, individual farm quotas will not be reduced by an equal percentage among all quota holders in order to reach the lower national quota. Some farms that had quotas assigned to them previously could either lose them or have them reduced under provisions of the 1981 Act while others may retain the same poundage quota

they had in 1981. The Secretary is given the authority insofar as is practicable, fair, and equitable, to reduce individual farm quotas, based on three priority classifications, to reach the lower national quota. The highest priority for quota reductions are farms to which quotas are assigned but which have inadequate tillable cropland to produce such a quota. The second highest priority is farms having quotas that have not been used in previous years, and third priority is farms leasing quotas out. Farm quota reductions will be computed so that their sum will not exceed the national quota.

The carrying forward of an unused quota is permitted within prescribed limits. Unused quotas can not be carried forward from the 1979 and prior marketing years. A maximum carry forward of 10 percent of the national poundage quota is permitted, although the carry forwards for individual farm quotas can be greater if the national maximum is not reached. The individual farm quotas carried forward are not counted against the national poundage quota for the marketing year involved.

Owner and operator sale and lease of poundage quotas are permitted within county boundaries. In States with less than 10,000 tons of quota in 1981, cross-county sale and lease are permitted. Farms leasing quotas in must have adequate tillable cropland to produce both their own poundage quota and the quota transferred in under normal conditions.

Price Support of Quota Peanuts

Price supports will be offered on quota peanuts in the same manner as in the past. The price support for quota peanuts within the farm poundage quota will be set at not less than \$550 a ton in 1982—up from \$455 in 1981 and the \$420 a ton minimum prescribed in the 1977 Act. Annual increases in the quota price-support level will be permitted beginning in 1983, to reflect increases in the cost of production. However, the increase is limited to 6 percent for each annual adjustment. No adjustment may be made for inspection, handling, or storage costs when setting the support level.

¹For a description of changes made in the peanut program under the Food and Agriculture Act of 1977 see, "The New Peanut Program," by Alan S. Walter, FATS AND OILS SITUATION, FOS-289, October, 1977.

A minimum Commodity Credit Corporation resale price will likely be continued for quota peanuts. However, resale policy has not been set at this time.

Additional Peanuts

All peanuts grown in excess of quota are referred to as "additional peanuts." Under the new program, these peanuts may be grown on any farm, whether or not it has a poundage quota. Additional peanuts are physically identical to quota peanuts, but there is a significant difference in the application of the program.

Additional peanuts can be marketed by taking them to a buying point and offering them at the support price or by contracting with a handler. The contract must be submitted to USDA or the area association, if so designated, for approval by April 15 (formerly June 15). Peanuts produced under contract may be used only for crush or export, not for food or seed uses.

The support price for additional peanuts during 1982-85 will depend upon the demand for peanut oil and meal, expected prices of other vegetable oils and protein meals, and the demand for peanuts in foreign markets. The support price is to be set at a rate that avoids any net cost to the Government. Support price for additional peanuts was \$250 a ton in 1981. The price support must be announced by February 15, prior to planting for 1982 crop peanuts.

Additional peanuts placed under loan may be used for crush, export, or the domestic edible market. The sales policy for additional peanuts placed under loan has not been set at this time.

The law requires that any additional peanuts received by USDA (under loan) be made available for domestic use at a specified minimum price. The minimum price that users must pay for additional peanuts that are to be used in the domestic edible market must cover all inspection, warehousing, shrinkage, and other expenses, plus; (a) 100 percent of the quota loan if the peanuts are sold and paid for during the harvest season, with the written consent of the producer, or (b) 105 percent of quota loan if they are purchased by the user after delivery but before December 31, or, (c) 107 percent of the quota loan if purchased after January 1. A buyer purchasing additional loan peanuts for domestic edible use will pay essentially the same price as quota peanuts. Market conditions may dictate conversion of additional peanuts to quota-equivalent peanuts at prices above the minimum levels.

If profits accrue to the Commodity Credit Corporation on the sale of additional peanuts for domestic edible and related uses, the returns may be used to offset losses on quota peanuts of the same type in the same producing area. After such losses are offset, any remaining profits will be distributed to those who have delivered additional peanuts of a particular type in a given area.

Implications

The peanut title of the Agriculture and Food Act of 1981 drops the 1981 poundage quota by nearly a fourth by 1985. This is achieved through a series of annual reductions. These reductions should bring domestic edible peanut consumption and the national quota closely in line, assuring that the Governments' cost of operating the program is kept to a minimum.

Any farmer in the United States can now grow peanuts. However, the price support for additional peanuts will likely be much lower than that for quota peanuts. Potential producers who do not have a quota must determine if they can cover costs at prices below the quota support level and perhaps as low as the additional support rate.

It is difficult for producers who have a quota to determine the exact acreage needed to produce all their quota since yields vary in relation to weather. Therefore, a likely practice will be to produce on a large enough acreage to assure filling the quota in all but the most abnormal years. The excess production can be sold as additional peanuts. An advantage quota holders have over nonquota holders is that the costs of growing the higher priced quota peanuts and the lower priced additional peanuts can be averaged. This would permit an average profit per pound for those producers, even if costs are higher than the selling price for the additional peanuts. It is expected that both quota holders and non-quota holders will actively seek contracts-with handlers—especially for additional peanuts—that establishes prices above expected production costs. Shellers and other processors will likely be interested in contracting enough peanuts to assure that some level of expected demand is met.

Demand for additional peanuts during the next few years will depend on the recovery in the domestic and export markets from the drought-reduced crop of 1980 and market expansion beyond the 1979 levels. Growth in demand may be uneven among products, and this could affect the profitability and location of peanuts produced, because certain types of peanuts are preferred for some uses and grown only in certain areas.

The minimum quota price support was increased by over 30 percent for the 1982 crop, with further hikes scheduled for 1983-85. At the same time, the national quota will be reduced. Quota reductions are targeted primarily at quota holders who have not been actively engaged in peanut production. So, even though active peanut growers may to retain the same quotas as in 1981, those growers who leased quotas in 1981 will probably find less available to lease. Together with the hike in the quota support rate, the smaller availability of quotas for lease could result in increased lease rates in 1982-85. However, the expected difference between the contract and open market prices for additional peanuts and the support rate for quota peanuts, or the expected returns for quota peanuts without a lease cost, will determine the actual lease rate. ◻

HIGH-PROTEIN FEEDING

By

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ABSTRACT: Since 1965, high-protein feeds have consistently accounted for 11 to 13 percent of the total concentrates fed. Soybean meal has increased its share of the high-protein feeds from slightly over half in 1965 to three-fourths by 1979. Non-ruminants (non-cud chewing, single-stomach animals), such as hogs and poultry, are the major consumers of high-protein feeds, accounting for about four-fifths of the total. Ruminants (primarily cattle and sheep) consume the remaining one-fifth. Feeding rates range from 2.4 pounds per broiler to over 300 pounds per dairy cow per year.

KEYWORDS: High-protein feeds, concentrates, protein requirements in feeding rations, feeding rates.

Nutritional Requirements of Livestock And Poultry

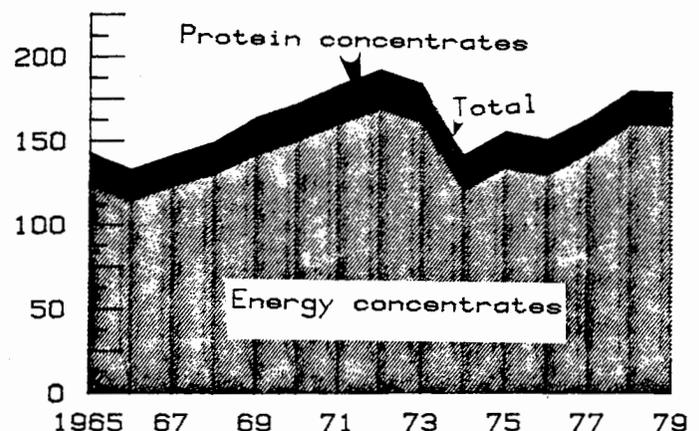
A balanced livestock or poultry ration must include sufficient protein, carbohydrates, and fats. Protein is needed for growth and replacement of body tissue, as well as for production of such products as milk and eggs. Carbohydrates and fats provide the energy necessary to carry out these activities and to maintain body functions. Fats contain more energy per pound than carbohydrates; however, because carbohydrates are more abundant and cheaper, fats usually make up only a small portion of the feed ration.

Feeds can be divided into 3 categories: (1) concentrates, (2) roughages, and (3) supplements. The majority of protein and energy fed to livestock is supplied by concentrates that are high in total digestible nutrients (TDN) and low in fiber. Higher levels of TDN allow animals to grow or produce at a faster rate on less feed. Since poultry and swine and most other non-ruminants (non-cud chewing, single-stomach animals) cannot use high-fiber feeds efficiently, the bulk of their rations consist of low-fiber concentrate feeds.

Roughages, such as pasture and hay, supply much of the energy needs of ruminants and horses. In fact, some roughage is necessary to prevent digestive upsets. However, when production is stepped up or other demands are placed on ruminants, roughage feeds are partially replaced by concentrate feeds, which are higher in TDN and thus facilitate increased production. For example, many finishing rations for beef cattle contain more than 85 percent concentrate feeds. Also, range cattle are often fed concentrates during the winter months and other periods when pasture feed is short.

Figure 9 shows the annual quantity of protein and energy concentrates fed to U.S. livestock and poultry from 1965 to 1979. Energy concentrates generally make

Figure 9
Concentrates Fed to U.S. Livestock
Million tons



up 80 percent of the total ration¹ for all livestock and poultry, with protein concentrates around 13 percent. Corn is the main energy concentrate, and soybean meal the main protein ingredient (figures 10 and 11). Other energy-feed concentrates include fats and molasses and sorghum, oats, barley, wheat, and their milling byproducts. Other protein concentrates besides soybean meal include cottonseed meal, other oilseed meals, animal protein (e.g., fish meal and edible tankage), and grain byproducts (e.g., gluten feeds and brewers grains).² Ingredients that contain more than 20 percent of their total weight as crude (total) protein are generally classified as protein feed concentrates.

¹The total concentrate ration includes protein concentrates, energy concentrates, and other feeds. The other feeds group makes up only about 7 percent of the total ration.

²Not included as protein concentrates are inorganic proteins (e.g., urea) or "synthetic" organic proteins (e.g., single cell proteins).

Figure 10 Energy Concentrates Fed to U.S. Livestock

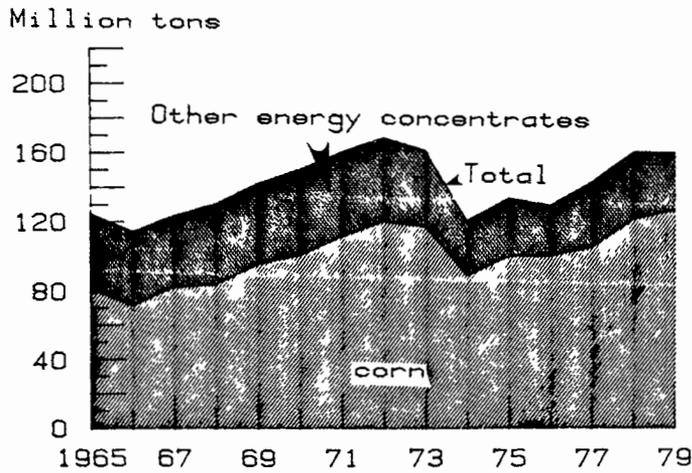
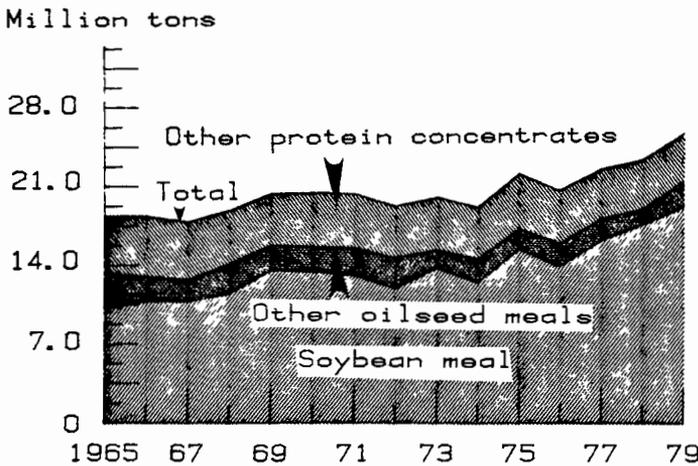


Figure 11 Protein Concentrates Fed to U.S. Livestock



Protein Requirements

Protein is extremely important in livestock rations, especially for young animals and animals in high production. It is necessary to provide enough protein for the animal to grow or produce, but to avoid added expense by feeding more than is needed. For ruminants, the crude protein levels as a percent of the total feed ration should be in the neighborhood of:

Percent crude protein	
Dairy cattle	15
Cattle on feed	12
Other beef cattle	18

For non-ruminants the crude protein levels should be roughly:

Percent crude protein	
Chicks (replacement layers)	22
Turkeys	21
Broilers	19
Hens and pullets	16
Hogs	14

These protein levels will vary depending upon sex, phase of production, season of the year, etc.

“Quality of protein”—the amino acid content—is also important for non-ruminants. Protein is of good quality when it contains nearly all the essential amino acids in proper proportions. Since different protein feeds supply different levels of various amino acids, a mix of feeds is required to provide all the essential amino acids.

High-Protein Feeds

The three major types of high protein feeds—oilseed meals, animal byproducts, and grain-milling byproducts—are not nutritionally equal. Each is unique on the basis of its crude protein, digestible protein, and amino acid content.

Oilseed meals account for between 80 and 85 percent of all high-protein feeds used in the United States. Soybean meal usually makes up about 75 percent of the total. Other oilseed meals that could be used include cottonseed, peanut, sunflower, linseed, and safflower. The crude protein content of oilseed meals ranges from 20 to 50 percent, while the crude fiber content is from 1.5 to 10 percent. Soybean meal normally contains between 40 and 50 percent crude protein. In general, oilseed meals contain a good mix of essential amino acids, which accounts for the popularity of oilseed meals as a protein feed.

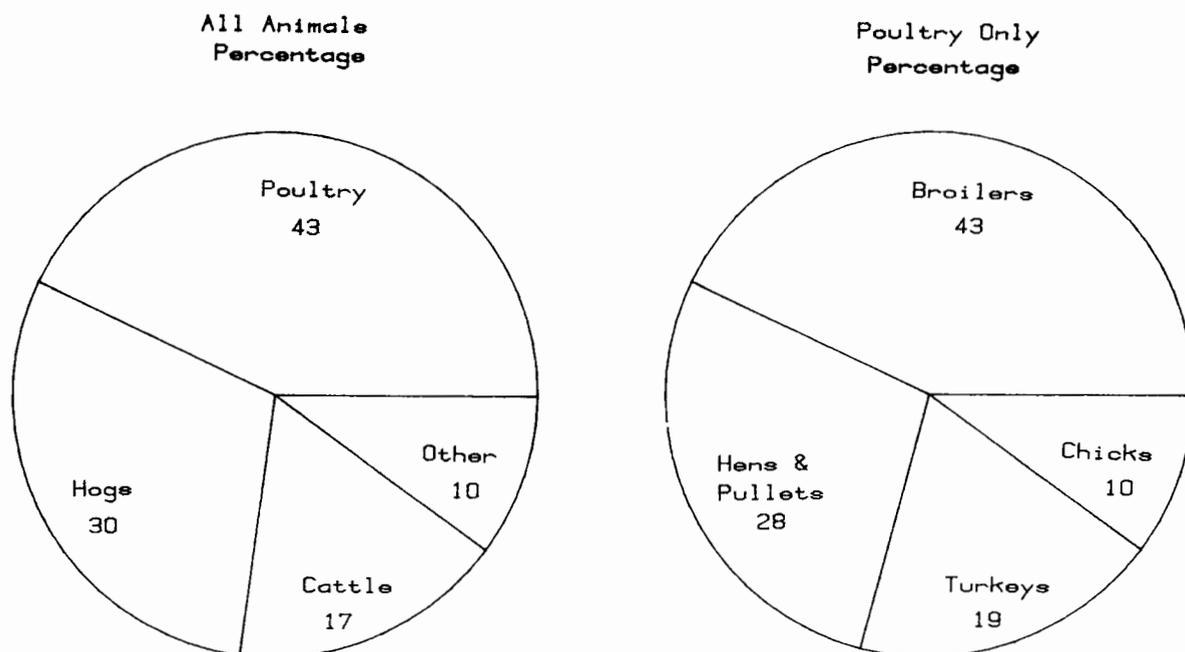
Animal byproducts make up about 10 percent of total high-protein feeds. This group includes meat meal, tankage, feather meal, and various fish meals. Crude protein content ranges from about 30 to 80 percent, which indicates that animal byproducts generally contain the most protein levels of the three feed groups. In addition to having a good mix of amino acids, animal byproducts often contain relatively large proportions of two essential amino acids, lysine and methionine, which other high-protein feeds often lack. To achieve a non-ruminant feed with a good amino acid profile, animal byproducts are mixed with other high-protein feeds.

Grain byproducts account for 5 to 10 percent of total high-protein feeds. Corn gluten feed and meal, wheat germ, distillers grains, and sorghum gluten meal are included in this group. Grain byproducts, as a group, tend to be the same as oilseed meals in crude protein, ranging from 20 to 50 percent. Grain byproducts are often included in a feed ration because they are less expensive than other high-protein feeds. However, grain byproducts alone can not supply the amino acid profile non-ruminants need.

High Protein Feed Consumption

Since 1965, high-protein feeds have consistently accounted for 11 to 13 percent of the total concentrate feeds consumed. However, soybean meal has increased its share of the high-protein market from slightly over half in 1965 to three-fourths by 1979. While the total amount of soybean meal fed was doubling from 10 million tons in 1965 to almost 20 million in 1979, all other high-protein feeds combined were declining from 8 to 6.5 million tons

Figure 12 High-Protein Feed Consumed
by Livestock Class in 1979



over the same period. Today, soybean meal dominates the high-protein feed market, primarily because of its high quality, wide availability, and relatively low cost.

As figure 12 illustrates, non-ruminants (primarily hogs and poultry) are the major consumers of high-protein feeds, accounting for about four-fifths of the total. Ruminants (primarily cattle) consume the remaining one-fifth. Ruminants are fed substantially less high-protein feed, because they are able to derive protein from other sources, such as urea and roughages.

Hogs and broilers are the largest consumers of soybean meal. In 1979, hogs were fed 34 percent of all soybean meal consumed and broilers 18 percent. This was very nearly the same proportions as in 1965. However, other poultry classes reduced their share over the 15-year period, from 32 to 23 percent.

Even though non-ruminants consume the largest proportion of soybean meal, ruminants have been increasing their share. In the late 1960's, ruminants consumed between 10 and 15 percent of the total soybean meal fed. Since the early 1970's, the ruminants' share has increased to 20 percent.

Protein feed data are the Economic Research Service's estimates published each fall in the *Feed Outlook and Situation* report. The number of animals fed during the feeding-year (October to September) were derived from animal numbers reported in various Statistical Reporting Service reports. Animal numbers during the feeding year have been previously reported in USDA Statistical Bulletins 336, 446, and 530, and their supplements. Feeding rates were obtained by dividing the amount of high-protein feed or soybean meal fed to each class of livestock by the number of animals in that livestock class.

The remaining sections will briefly discuss the amount of high-protein feeds and soybean meal consumed by the various livestock classes between 1965 and 1979.

Hogs

The major high-protein feed fed to all hogs between 1965 and 1979 was soybean meal. Hogs normally consume about a third of the total soybean meal fed to all animals and slightly less than a third of the total high-protein meal. Consumption of high-protein feeds and soybean meal increased between 1965 and 1979, mainly because of increases in both the number of hogs and the amount of protein fed to each animal. Feeding rates have gone up because of expanded confinement feeding.

Crop year (Oct.-Sept.)	Hogs		
	Hogs fed	Total soybean meal fed	Total high-protein feeds fed
	<i>Million animals</i>	<i>10,000 tons</i>	
1965	81	408	532
1970	102	561	684
1975	77	557	665
1979	104	679	831

The rise in feeding rates has not been constant. Rates tend to change during the course of the hog cycle as the proportion of barrows and gilts to sows changes. Soybean meal feeding varied from 95 to 145 pounds per hog, and the high-protein feed rate was from 117 to 173 pounds.

Broilers

About three-fourths of the protein fed to broilers during 1965-79 was soybean meal. Broiler rations remained relatively constant at about 2.5 pounds of high-protein feeds. Slightly less than 2 pounds of this were soybean meal.

Broilers are the second largest consumers of high-protein meals, accounting for about 17 percent of both

total high-protein meal and soybean meal consumption. The amount of high-protein meal fed to broilers increased from around 3 million tons in 1965 to about 5 million in 1979. At the same time, soybean meal nearly doubled, from 2 million to about 3.7 million tons.

Broilers			
Crop year (Oct.-Sept.)	Broilers fed	Total soybean meal fed	Total high- protein feeds
	<i>Million animals</i>	<i>10,000 tons</i>	
1965	2569	2.01	3.10
1970	2944	2.65	3.82
1975	3285	2.96	3.98
1979	4108	3.68	4.96

Feeding rates changed very little during the 1960's and 1970's. Almost all of the increase in the total amount of protein feeds fed to broilers was due to more broilers being produced annually.

Hens and Pullets

From two-thirds to three-fourths of the high-protein feed used by hens and pullets, including breeder flocks, was soybean meal. Consumption averaged between 14 and 18 pounds of high-protein feeds, including 9 to 13 pounds of soybean meal.

Hens and pullets are the third largest consumers of both high-protein feeds and soybean meal, accounting for about 12 percent of the total consumption of each. Their share has declined slightly from the late 1960's, when it was about 15 percent.

With both feeding rates and animal numbers remaining relatively constant since 1965, there has been only a slight increase in the total annual amount of high-protein feed and soybean meal fed to hens and pullets.

Hens and Pullets			
Crop year (Oct.-Sept.)	Hens and pullets fed	Total soybean meal fed	Total high- protein feeds
	<i>Million animals</i>	<i>10,000 tons</i>	
1965	373	2.07	3.00
1970	425	2.09	3.07
1975	361	2.37	3.25
1979	395	2.39	3.30

Chicks (Replacement Layers)

In 1979, over 70 percent of the high-protein feed consumed by chicks—replacement chickens for hens and pullets—was soybean meal, an increase from 60 percent in 1965. In general, high-protein feeding rates held steady at about 6.5 pounds a head until the mid-1970's, when the rates began to increase to 8 to 9 pounds. The feeding rates of soybean meal steadily rose from under 4 pounds a bird in 1965 to about 6 in 1979.

During the late 1960's, chicks consumed slightly over 5 percent of total high-protein feeds and soybean meal fed to livestock. While the total amount of high-protein feed fed to all chicks increased only slightly from 1965 to 1979, the amount of soybean meal climbed by about a third, largely because of higher feeding rates.

Chicks

Crop year (Oct.-Sept.)	Chicks fed	Total soybean meal fed	Total high- protein feeds
	<i>Million animals</i>	<i>10,000 tons</i>	
1965	335	0.65	1.12
1970	316	0.68	1.01
1975	270	0.94	1.31
1979	300	0.86	1.20

Turkeys

In 1979, about 65 percent of the high-protein feeds fed to all turkeys was soybean meal. This has increased slightly from 1965's approximately 60 percent. While the feeding rate for soybean meal has held steady at about 16.5 pounds a bird, the rate for total high-protein feeds has declined from 28 to about 25 pounds. This decline has largely been due to the marketing of lighter weight birds.

Turkeys consistently consume 7 to 8 percent of both high-protein feeds and soybean meal fed to livestock. While the number of turkeys increased by about 50 percent from 1965 to 1979, the total amount of high-protein feeds consumed rose only 33 percent. This reflects lower average market weights and more total confinement production.

Turkeys			
Crop year (Oct.-Sept.)	Turkeys fed	Total soybean meal fed	Total high- protein feeds
	<i>Million animals</i>	<i>10,000 tons</i>	
1965	117	0.96	1.63
1970	120	0.99	1.63
1975	140	1.22	1.86
1979	175	1.42	2.17

Dairy Cattle

In 1965, soybean meal accounted for less than half the high-protein feeds fed to all dairy cattle, including replacement cows. By 1979, soybean meal made up four-fifths. While the amount of soybean meal fed increased from 76 to 245 pounds a head, the total for all other high-protein feeds combined declined from 85 pounds per head in 1965 to 58 in 1979. Overall, the amount of high-protein feed consumed by dairy cattle increased from about 160 pounds a head in 1965 to 300 in 1979.

In 1979, dairy cattle used about 10 percent of all high-protein feeds and soybean meal fed to livestock. Because of the declining number of dairy cows, the total amount of high-protein feeds increased by only 15 percent between 1965 and 1979, even though the amount fed to individual dairy cows doubled.

Dairy Cattle			
Crop year (Oct.-Sept.)	Cows fed	Total soybean meal fed	Total high- protein feeds
	<i>Million animals</i>	<i>10,000 tons</i>	
1965	25	0.93	1.97
1970	16	1.21	1.78
1975	15	1.77	2.41
1979	15	1.84	2.27

Figure 13

Hogs

Feeding Rates

Lb. per animal

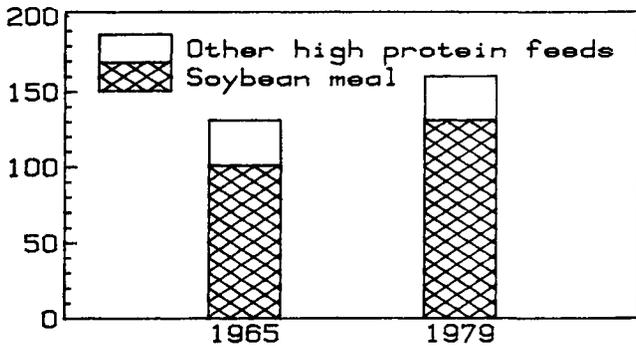


Figure 16

Chicks

Feeding Rates

Lb. per animal

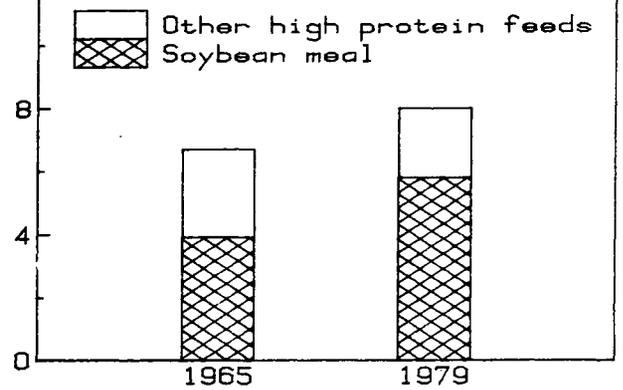


Figure 14

Broilers

Feeding Rates

Lb. per animal

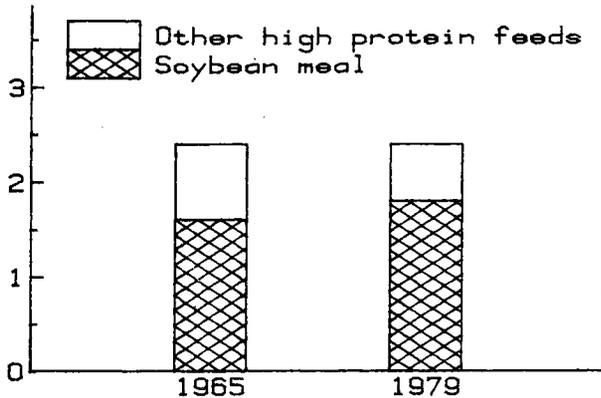


Figure 17

Turkeys

Feeding Rates

Lb. per animal

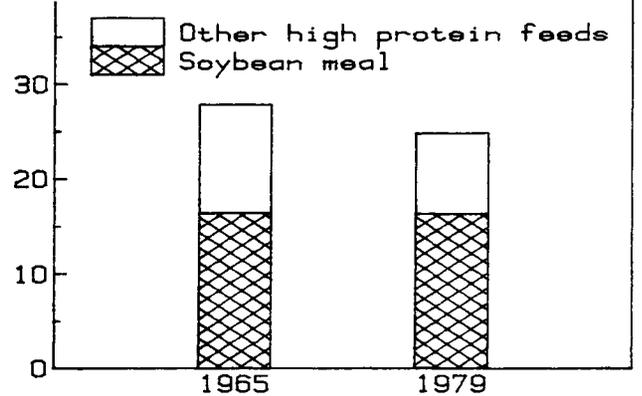


Figure 15

Hens and Pullets

Feeding Rates

Lb. per animal

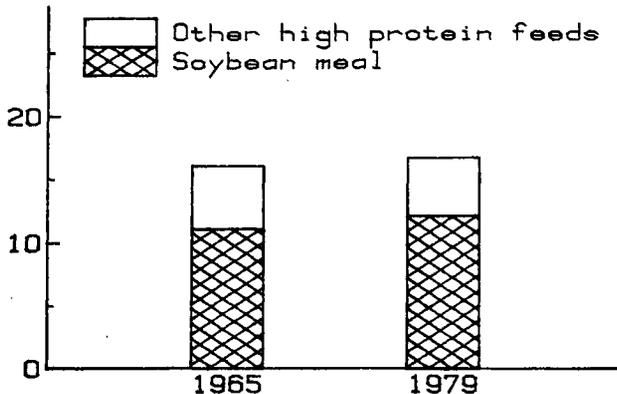
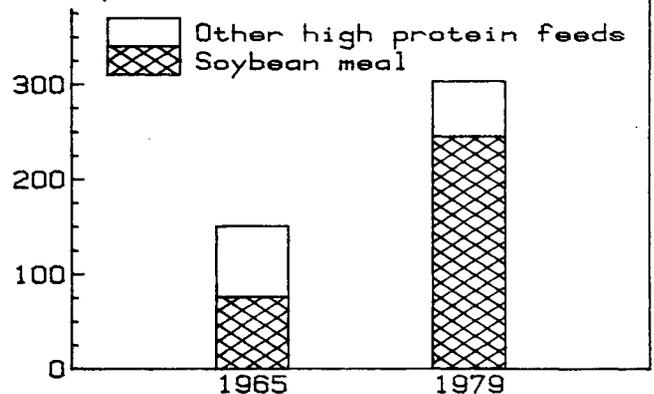


Figure 18

Dairy Cattle

Feeding Rates

Lb. per animal



Beef Cattle

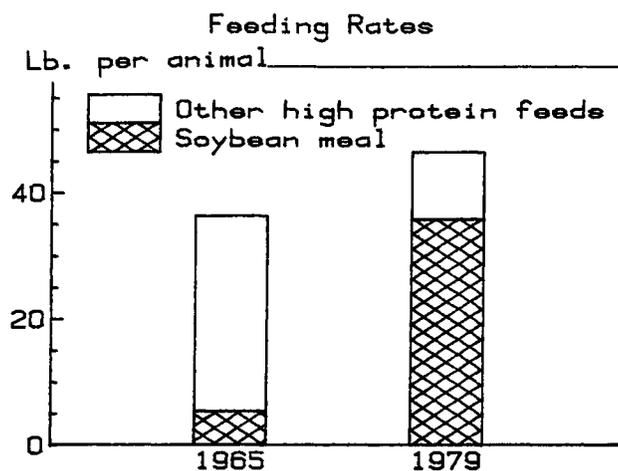
Soybean meal as a percent of the total high-protein meal fed to all beef cattle (including cow/calf operations and feed lots) increased from about 15 percent in 1965 to over 75 percent in 1979. Beef cattle rations increased from 36 pounds of high-protein meal a head in 1965 to 47 in 1979.

In 1979, beef cattle consumed about 10 percent of the total high-protein feeds and soybean meal used by all livestock. However, between 1965 and 1979, the total amount of high-protein meal increased by 60 percent, while soybean meal jumped by about 800 percent. During this same period, the quantities of cottonseed meal consumed by beef cattle declined by 73 percent reflecting a major shift to soybean meal.

Beef Cattle

Crop year (Oct.-Sept.)	Cows fed	Total soybean meal fed	Total high- protein feeds
1965	77	0.20	1.39
1970	88	1.35	2.22
1975	113	2.07	2.71
1979	96	1.72	2.23

Figure 19 Beef Cattle



SOYBEAN MARKETING PATTERNS IN THE UNITED STATES

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ABSTRACT: The marketing of U.S. soybeans involves many interregional movements. This article presents an overview of the results of a survey of soybean marketing channels from production areas to processing and export points during 1977. The results are contrasted with data from a 1970 survey to identify trends in domestic marketing.

KEYWORDS: Soybeans, soybean marketing, grain transportation, grain flows.

INTRODUCTION

Marketing soybeans in the United States tends to be complex, involving interregional movements. Moving soybeans from the areas of concentrated production to processing and export locations requires a large transportation capacity and alternative transportation modes. Information about transportation requirements and the origin and destination of the soybeans marketed is important for policy and investment decisions. Recognition of the need for better soybean marketing information led to a survey of grain-marketing firms throughout the United States. This article presents some of the findings. More detail about soybean movements can be found in reference 1.

A large volume of soybeans must be transported, because production is regionally concentrated, and nearly 80 percent of soybean exports pass through Gulf ports. Soybean production is largely confined to the eastern half of the country, where summer rainfall is adequate. Over 70 percent of the 1977 crop was produced in the Corn Belt (Illinois, Indiana, Iowa, Missouri, and Ohio) and the Delta States (Arkansas, Louisiana, and Mississippi). The inland waterway system, which handled nearly 80 percent of soybeans inspected for export in 1977, is the vital link to Gulf ports.

SHIPMENTS BY REGION

Grain marketing firms in the United States reported shipping about 1.7 billion bushels of soybeans in 1977 (table 4), excluding 593 million bushels sent overseas by port elevators. A portion of reported shipments were the same soybeans transported by several firms at different points along the way. In Illinois, for example, about two-thirds of the soybeans handled by river elevators were shipped there from country elevators. The other third moved directly from farms.

About 830 million bushels, or 49 percent of the total volume, was transported to destinations within the State in which the shipments originated. These shipments were generally from country elevators to river elevators, terminal elevators, and processors located in the same State. Soybean processing plants have traditionally been located in production areas, thus most purchases for crushing are from nearby sources, making local processors the predominant destination for intrastate shipments.

In the Southeast (Mid Atlantic, South Atlantic, and Mid South regions), there are several large processing plants that process more soybeans than are produced locally. These deficit areas often purchase soybeans from

the Corn Belt. At the same time, southeastern marketing firms convenient to export points, export locally-produced beans. For example, beans grown in Western Kentucky are often exported by beans processed in Louisville often come from the Corn Belt. Therefore, interstate shipments of soybeans to domestic destinations totaled 231 million bushels in 1977, with the Corn Belt accounting for about 70 percent.

Grain marketing firms exported almost 630 million bushels in 1977. Illinois firms were the most important State source for soybeans moving to port, and their shipments totaled over 126 million bushels, 20 percent of the total. Ohio, Louisiana, Iowa, and Arkansas ranked second through fifth, respectively, with each State shipping in excess of 50 million bushels to port. In all, firms in the Corn Belt and Delta States originated 80 percent of U.S. soybean exports in 1977.

Ports for each shipping region are shown in table 5. Ports located on the Gulf of Mexico were the destinations for 485 million bushels, 77 percent of total shipments to export points. The balance of shipments were shared about equally by the Great Lakes and Atlantic regions. Most of the shipments to ports on the Great Lakes came

from adjacent States and moved relatively short distances. Although some movements to Atlantic ports originated nearby, about 70 percent started in Ohio and Indiana.

Firms in the Corn Belt sent 236 million bushels to Gulf ports in 1977, accounting for almost 50 percent of Gulf

Coast shipments. The Delta States, also an important source, shipped 156 million bushels to Gulf ports (32 percent of the total). Shipments to the Pacific region totaled only 1.3 million bushels, mostly from Iowa, Kansas, Minnesota, and Nebraska.

RECEIPTS BY REGION AND MODE OF TRANSPORT

In 1977, marketing firms and processors received 272 million bushels of soybeans from interstate origins (table 6). About 231 million bushels were shipped by other marketing firms, while the balance was received directly from farmers located in adjacent States (table 4). The Corn Belt, the leading soybean-producing region in 1977, led all others in terms of the volume received from interstate origins. About 50 percent of the Corn Belt total originated in Indiana, Iowa, and Missouri and was trucked to Illinois firms. Firms in northwestern Iowa received large shipments from Minnesota and South Dakota, while Kansas and Nebraska processors purchased sizeable quantities from Iowa and Missouri.

Processors and other marketing firms located in the Mid-South region represent a sizeable domestic market for midwestern soybeans, and in 1977, those firms received 53 million bushels from interstate origins. The Mid-South region was the primary domestic destination for soybeans shipped by barge. In the Delta States, Arkansas processors were the predominant destination.

Trucks were the main mode of transport for interregional domestic movements, accounting for 46 percent of the total volume shipped from elevators. The remainder was transported by rail, barge, and trucks originating on the farm (farm trucks) which accounted for 32, 7, and 15 percent of the total, respectively.

The quantity of soybeans received at ports and the transportation modes used are shown in table 7. Receipts at Great Lakes ports totaled 77 million bushels, with 80 percent being trucked from nearby origins. Atlantic ports received 71 million bushels, with 85 percent moving by rail. Most rail movements were unit trains originating in Ohio, Indiana, and eastern Illinois.

The importance of the inland waterway system is again demonstrated by the fact that 78 percent of the volume received at Gulf ports, the primary port destinations, moved there by barge. Barges predominated at all Gulf ports except the North Texas Gulf area, where three-fifths of the soybeans came by truck.

TRENDS IN DOMESTIC MARKETING PATTERNS

Market-flow patterns change over time in response to changes in the quantities produced and processed in various regions, the volume and location of exports, and the transportation rate structure. Comparing flow patterns at different points in time can reveal trends in soybean marketing patterns. Previous surveys have had incomplete geographical coverage; therefore, it is not possible to fully evaluate all changes in soybean flow patterns during recent years. However, information is available from a 1970 survey of grain movements between the three eastern Corn Belt States—Illinois, Indiana, and Ohio—and several Southern States (2).

Transportation advantages and deficit soybean production caused soybeans to be exported from the South, while at the same time, southern processors procured beans from the Corn Belt for use primarily in poultry feed. The Corn Belt, with excess production, depends on the South as an important outlet for their beans. Increased exports during the 1970's have been important in altering the trading patterns between the Corn Belt and the South.

Soybean movements from Illinois, Indiana, and Ohio during 1970 and 1977 are summarized in table 8. In 1970, a total of 51 million bushels were shipped to the three southeastern regions from the eastern Corn Belt, and by 1977, the volume was up to 58 million bushels. Even though the total volume increased only slightly, there were some notable shifts in trading patterns. In

1970, Illinois was the predominant supplier of soybeans to the southeast, accounting for almost 84 percent of the total. By 1977, that State's share dropped to 45 percent. This decline was more than offset by increased shipments from Indiana and Ohio.

The drop in shipments from Illinois firms to the Delta States was caused by a decline of 12.5 million bushels in shipments to Mississippi processors. The rapid expansion in soybean exports from Gulf ports was also an important factor. Transportation considerations give Illinois an advantage in shipping soybeans by barge to the Gulf; however, shippers in Indiana and Ohio could compete with Illinois in many southeastern markets served by rail transportation. The volumes shipped from Indiana and Ohio to port regions also increased substantially between 1970 and 1977.

REFERENCES

(1) (1) Leath, Mack N., Lowell D. Hill, and Steven W. Fuller. *Soybean Movements in the United States—Interregional Flow Patterns and Transportation Requirements in 1977*, University of Illinois at Urbana-Champaign, No. Cent. Reg. Res. Bul. 273, So. Coop. Ser. Bul. 251, Ill. Bul. 766, Jan. 1981.

(2) (2) Stallings, James L., James M. Harris, and Charles Sappington. *Grain Movements Between Southern and Corn Belt States, a Special Relationship*, So. Coop. Ser. Bul. No. 209, Mar. 1976. □

Table 4—U.S. shipments of soybeans to domestic destinations and export regions, 1977

Originating region ¹	Domestic destination ²			Total
	Intrastate	Interstate	Export region	
<i>1,000 bushels</i>				
Northeast	0	4,124	1,263	5,387
Mid-Atlantic	29,855	1,165	7,546	38,566
South Atlantic	17,394	2,247	6,655	26,296
Lake States	75,265	8,747	53,110	137,122
Corn Belt	493,341	164,058	344,674	1,002,073
Mid-South	76,731	14,817	43,112	134,660
Delta States	100,196	13,688	156,479	270,363
Northern Plains	38,204	18,528	5,154	61,886
Southern Plains	795	3,380	12,002	16,177
Mountain	0	3	0	3
Pacific	0	0	0	0
Total	831,781	230,757	629,995	1,692,533

¹States included in each region are: Northeast (N.J., N.Y., and Penn.); Mid-Atlantic (Del., Md., N.C., Va., and W. Va.); South Atlantic (Fla., Ga., and S.C.); Lake States (Mich., Minn., and Wisc.); Corn Belt (Ill., Ind., Ia., Mo., and Oh.); Mid-South (Ala., Ky., and Tenn.); Delta States (Ark., La., and Miss.); Northern Plains (Kan., Neb., N.D., and S.D.); Southern Plains (Okla. and Tex.); and Mountain (N.M.). Firms in other States did not handle soybeans in 1977.

²Survey data from several States were aggregated to avoid disclosure of individual firm data. Consequently, movements between Alabama and Tennessee, between Kansas and Nebraska, between States in the Mid-Atlantic region, and between States in the South Atlantic region are shown as intrastate movements.

Table 5—U.S. shipments of soybeans to export regions, 1977

Originating region ¹	Export region				Total
	Great Lakes	Atlantic Coast	Gulf Coast	Pacific Coast	
<i>1,000 bushels</i>					
Northeast	0	1,263	0	0	1,263
Mid-Atlantic	0	7,546	0	0	7,546
South Atlantic	0	3,490	3,165	0	6,655
Lake States	18,594	4,055	29,922	539	53,110
Corn Belt	54,711	53,768	235,900	295	344,674
Mid-South	0	0	43,112	0	43,112
Delta States	0	0	156,479	0	156,479
Northern Plains	0	0	4,685	469	5,154
Southern Plains	0	0	12,002	0	12,002
Mountain	0	0	0	0	0
Pacific	0	0	0	0	0
Total	73,305	70,122	485,265	1,303	629,995
Percentage of total	11.7	11.1	77.0	.2	100.0

¹See footnote ¹ table 3 for States in each region.

Table 6—U.S. receipts of soybeans in domestic regions from interstate origins and by transportation modes, 1977

Destination region ¹	Quantity received	Modal share			
		Rail	Truck	Barge	Farm Truck
Northeast	0	0	0	0	0
Mid-Atlantic	20,091	61.3	20.6	0	18.1
South Atlantic	15,408	94.5	5.5	0	0
Lake States	21,409	3.0	86.4	0	10.6
Corn Belt	103,883	17.3	63.3	0	19.4
Mid-South	53,473	44.7	24.7	26.9	3.7
Delta States	31,287	28.0	35.1	13.1	23.8
Northern Plains	22,836	30.2	47.4	0	.4
Southern Plains	3,139	60.5	35.9	0	3.6
West	0	0	0	0	0
U.S. total	271,526	32.0	46.2	6.8	15.0

¹See footnote 1, table 3 for States in each region.

Table 7—U.S. receipts of soybeans at port areas and by transportation modes, 1977

Export region and port received	Quantity Rail 1,000 bu.	Modal share			
		Truck	Barge	truck	Farm
		Percent			
Great Lakes:					
Chicago area	29,491	20.9	72.0	4.5	2.6
Toledo area	46,795	8.7	84.2	0	7.1
Saginaw area	1,148	0	100.0	0	0
Subtotal	77,434	13.2	79.8	1.7	5.3
Atlantic:					
North Atlantic	14,140	91.6	8.4	0	0
South Atlantic	56,782	83.5	6.1	9.0	1.0
Subtotal	70,922	85.1	6.6	7.2	1.1
Gulf:					
East Gulf	71,122	44.5	6.9	47.4	1.2
Louisiana Gulf	387,502	8.1	2.8	89.1	0
North Texas Gulf	27,491	38.6	61.4	0	0
Subtotal	486,115	15.1	6.7	78.0	.2
Pacific:					
Columbia River	565	94.0	6.0	0	0
Puget Sound	443	42.9	57.1	0	0
California	295	100.0	0	0	0
Subtotal	1,303	78.0	22.0	0	0
Total receipts	635,774	22.8	15.6	60.7	.9

Table 8—A comparison of soybean shipments from eastern Corn Belt origins

Destination	Illinois ¹		Indiana		Ohio	
	1970	1977	1970	1977	1970	1977
	<i>Million bushels</i>					
Intrastate	312.3	194.8	51.7	57.8	59.7	33.8
Domestic regions						
Corn Belt	9.0	13.4	42.6	13.8	2.4	4.6
Northeast	0	0	0	0	.6	0
Mid-Atlantic	0	.3	0	.3	1.6	8.4
South Atlantic	14.2	2.5	0	3.5	2.6	6.0
Mid-South	28.4	23.4	4.2	11.2	0	2.4
Delta States	12.5	4.5	0	0	0	0
Total domestic	64.1	44.1	46.8	28.8	7.2	21.4
Export regions	88.5	126.2	24.5	44.3	49.1	66.6
Total interstate	152.6	170.3	71.3	73.1	56.3	88.0

¹Includes quantities that were reshipped from the Chicago port area to other domestic and export regions.

Table 9—Oilseeds: Acreage and production, U.S.

Item	Unit	1978	1979	1980	1981 ⁴
Soybean¹					
Acreage:					
Planted	1,000 acres	64,708	71,632	70,037	68,000
Harvested	"	63,663	70,566	67,856	66,688
Production	Mil. bushels	1,869	2,268	1,792	2,030
Yield per acre harvested	Bushels	29.4	32.1	26.4	30.4
Cottonseed²					
Acreage:					
Planted	1,000 acres	13,375	13,978	14,534	14,319
Harvested	"	12,400	12,831	13,215	13,821
Production	1,000 tons	4,269	5,778	4,471	6,254
Yield per acre harvested	Pounds	689	901	677	905
Flaxseed					
Acreage:					
Planted	1,000 acres	710	922	779	645
Harvested	"	687	878	683	617
Production	Mil. bushels	8,614	12,014	7,928	7,799
Yield per acre harvested	Bushels	12.5	13.7	11.6	12.6
Peanuts¹					
Acreage:					
Planted	1,000 acres	1,541	1,546	1,521	1,514
Harvested	"	1,509	1,520	1,399	1,488
Production	Mil. pounds	3,952	3,968	2,308	3,949
Yield per acre harvested	Pounds	2,619	2,611	1,650	2,654
Sunflowerseed³					
Acreage:					
Planted	1,000 acres	2,840	5,555	3,910	3,865
Harvested	"	2,798	5,410	3,683	3,811
Production	Mil. pounds	3,818	7,296	3,742	4,487
Yield per acre harvested	Pounds	1,365	1,349	1,016	1,177
Total acres planted	Mil. acres	83	94	91	88

¹Soybeans and peanuts planted acreage grown alone for all purposes. ²Cotton acreage and cottonseed production. ³Minnesota, North Dakota, South Dakota and Texas. ⁴Preliminary.

Table 10—Soybeans: Supply, disappearance, and price, U.S.

Year beginning September 1	Supply			Disappearance					Price	
	Beginning stocks	Production	Total	Crush	Exports	Seed and feed	Residual ¹	Total	Ending stocks	Season average received by farmers
	<i>Million bushels</i>									<i>Dol./bu.</i>
1977	103	1,767	1,870	927	700	69	13	1,709	161	5.88
1978	161	1,869	2,030	1,018	739	76	23	1,856	174	6.66
1979	174	2,268	2,442	1,123	875	68	17	2,083	359	6.28
1980	359	1,792	2,151	1,020	724	66	21	1,831	320	7.57
1981	320	2,030	2,350	1,060	840	70	20	1,990	360	5.75–6.75
1982 ²	360									

¹Mostly statistical discrepancies. ²Forecast.

Table 11—Soybean meal: Supply, disappearance, and price, U.S.

Year beginning October 1	Supply				Disappearance				Price		
	Stocks ¹	Production		Total	Exports	Shipments to U.S. territories	Domestic ³	Total	Ending stocks	44 percent protein, Decatur	
		Total ²	for								
			Animal feed	Edible protein							
	<i>1,000 short tons</i>									<i>Dol./ton</i>	
1977	228	22,557	21,405	410	22,785	6,080	61	16,462	22,542	243	163.56
1978	243	24,354	23,205	368	24,597	6,610	47	17,720	24,330	267	190.06
1979	267	27,105	25,930	297	27,372	7,932	60	19,215	27,147	226	181.91
1980	226	24,312	23,232	286	24,538	6,778	—	17,597	24,375	163	218.18
1981 ⁴	163	25,287	—	—	25,450	7,200	—	18,000	25,200	250	170.00–195.00
1982 ⁴	250										

¹Stocks at processor plants ²Includes production of millfeed (hull meal). ³Includes shipments to U.S. territories. ⁴Forecast.

Table 12—Soybean oil: Supply, disappearance, and price, U.S.

Year beginning October 1	Supply			Disappearance				Price		
	Beginning stocks	Production	Total	Exports	Shipments to U.S. territories	Domestic ¹	Total	Ending stocks	Crude, Decatur	
	<i>Million pounds</i>									<i>Cents/lb.</i>
1977	771	10,288	11,059	2,057	80	8,273	10,330	729	24.5	
1978	729	11,323	12,052	2,334	77	8,942	11,276	776	27.2	
1979	776	12,105	12,881	2,690	51	8,981	11,671	1,210	24.3	
1980	1,210	11,270	12,480	1,629	—	9,115	10,744	1,736	22.7	
1981 ²	1,736	11,554	13,290	2,200	—	9,450	11,650	1,640	18.0–22.0	
1982 ²	1,640									

¹Includes shipments to U.S. territories. ²Forecast.

Table 13—Soybeans: Supply, disappearance, and price, by months, U.S.

Year beginning September 1	Supply		Disappearance		Price
	Beginning stocks at mills	Crush	Exports	Ending stocks at mills	Average received by farmers
	<i>1,000 bushels</i>				<i>Dol./bu.</i>
1979/80					
September	37,460	75,877	40,862	39,206	6.81
October	39,206	95,807	88,854	166,528	6.35
November	166,528	101,408	118,123	184,518	6.30
December	184,518	104,392	78,305	163,295	6.27
January	163,295	106,622	85,778	145,438	6.39
February	145,438	100,019	72,990	130,711	6.20
March	130,711	102,246	69,353	118,634	5.94
April	118,634	91,971	81,297	95,782	5.63
May	95,782	93,828	74,173	79,746	5.76
June	79,746	82,661	58,693	75,737	5.91
July	75,737	84,854	49,076	73,936	6.75
August	73,936	83,691	57,669	56,860	7.18
Total		1,123,382	875,173		¹ 6.28
1980/81					
September	56,860	81,602	41,402	80,390	7.59
October	80,390	97,762	60,262	166,038	7.68
November	166,038	98,484	75,042	171,971	8.18
December	171,971	94,132	74,488	138,742	7.80
January	138,742	92,153	71,726	125,887	7.80
February	125,887	79,599	55,457	105,408	7.50
March	105,408	88,698	103,188	97,234	7.59
April	97,234	85,377	59,962	84,438	7.60
May	84,438	82,285	69,629	67,833	7.42
June	67,833	73,435	41,776	49,157	7.10
July	49,157	72,330	29,574	43,855	7.16
August	43,855	74,636	41,789	33,411	6.71
Total		1,020,493	724,295		¹ 7.57
1981/82					
September	33,411	75,432	50,936	31,533	6.21
October	31,533	104,459	100,760	105,773	6.06
November	105,773	97,558	103,693	135,165	6.03
December ²	135,165	102,539	73,641	114,592	5.93
January ²	114,592				

¹Weighted average. ²Preliminary.

Table 14—Soybean meal: Supply, disappearance, and price, by months, U.S.

Year beginning October 1	Supply			Disappearance			Price	
	Beginning stocks ¹	Production ²	Total	Domestic use	Exports	Total	Ending stocks ¹	44 percent protein, Decatur
								<i>Dol./ton</i>
<i>1,000 short tons</i>								
1979/80								
October	267.4	2,285.8	2,553.2	1,805.2	513.7	2,318.9	234.3	181.40
November	234.3	2,433.3	2,667.6	1,920.3	552.1	2,472.4	195.2	183.10
December	195.2	2,506.1	2,701.3	1,703.4	757.4	2,460.8	240.5	188.00
January	240.5	2,555.1	2,795.6	1,804.7	806.6	2,611.3	184.3	180.20
February	184.3	2,400.0	2,584.3	1,462.9	930.1	2,393.0	191.3	174.25
March	191.3	2,454.4	2,645.7	1,513.5	881.1	2,394.6	251.1	164.60
April	251.1	2,203.1	2,454.2	1,566.9	661.2	2,228.1	226.1	154.20
May	226.1	2,247.1	2,473.2	1,423.5	750.7	2,174.2	299.0	166.50
June	299.0	1,987.8	2,286.8	1,426.7	558.0	1,984.7	302.1	160.90
July	302.1	2,058.4	2,360.5	1,514.9	577.8	2,092.7	267.8	187.90
August	267.8	2,011.5	2,279.3	1,633.1	384.1	2,017.2	262.1	207.40
September	262.1	1,962.5	2,224.6	1,439.9	559.9	1,999.0	225.6	234.50
Total ³		27,105.1		19,215.0	7,931.9			181.91
1980/81								
October	225.6	2,325.7	2,551.3	1,856.9	452.0	2,308.9	242.4	246.40
November	242.4	2,366.5	2,608.9	1,764.2	463.3	2,227.5	381.4	261.40
December	381.4	2,248.5	2,629.9	1,628.7	751.5	2,380.2	249.7	223.70
January	249.7	2,207.8	2,457.5	1,554.3	660.6	2,214.9	242.6	223.50
February	242.6	1,905.3	2,147.9	1,139.2	760.6	1,899.8	248.1	212.50
March	248.1	2,141.1	2,389.2	1,175.6	942.2	2,117.8	271.4	210.40
April	271.4	2,045.9	2,317.3	1,305.3	800.3	2,105.6	211.7	222.00
May	211.7	1,963.2	2,174.9	1,360.9	526.4	1,887.3	287.6	221.00
June	287.6	1,765.3	2,052.9	1,424.7	387.1	1,811.8	241.1	200.90
July	241.1	1,734.4	1,975.5	1,466.7	320.0	1,786.7	188.8	204.10
August	188.8	1,787.8	1,976.6	1,325.9	416.9	1,742.8	233.8	202.25
September	233.8	1,820.6	2,054.4	1,594.4	297.3	1,891.7	162.7	190.00
Total ³		24,312.1		17,596.8	6,778.2			218.18
1981/82								
October	162.7	2,501.8	2,664.5	1,770.7	584.6	2,355.3	309.2	180.75
November	309.2	2,325.8	2,635.0	1,688.5	631.7	2,320.3	314.8	178.40
December ⁴	314.8	2,450.6	2,765.4	1,819.9	666.1	2,486.0	279.4	187.50
January ⁴	279.4							
February								
March								
April								
May								
June								
July								
August								
September								
Total ³								

¹Includes stocks of millfeed. ²Includes production of millfeed (hull meal). ³Totals may not match annual totals due to rounding. ⁴Preliminary.

Table 15—Soybean oil: Supply, disappearance, and price, by months, U.S.

Year beginning October 1	Supply			Disappearance			Price	
	Beginning stocks	Produc- tion	Total	Domestic	Exports	Total	Ending stocks	Crude, tanks, f.o.b. Decatur
	1,000 pounds							Cents/lb.
1979/80								
October	775,758	1,020,324	1,796,082	841,559	134,737	976,296	819,786	27.9
November	819,786	1,067,867	1,887,653	801,646	218,683	1,020,329	867,324	27.8
December	867,324	1,101,961	1,969,285	675,189	263,954	934,143	1,030,142	26.2
January	1,030,142	1,115,332	2,145,474	809,029	181,255	990,284	1,155,190	23.6
February	1,155,190	1,064,899	2,220,089	757,021	258,529	1,015,550	1,204,539	23.4
March	1,204,539	1,098,117	2,302,656	794,529	332,248	1,126,777	1,175,879	22.1
April	1,175,879	993,699	2,169,578	709,204	276,687	985,891	1,183,687	20.3
May	1,183,687	1,009,793	2,193,480	714,252	334,414	1,048,666	1,144,814	20.8
June	1,144,814	901,602	2,046,416	617,957	202,567	820,524	1,225,892	21.7
July	1,225,892	927,793	2,153,685	725,576	123,080	848,656	1,305,029	26.2
August	1,305,029	913,801	2,218,830	774,803	181,056	955,859	1,262,971	25.9
September	1,262,971	890,127	2,153,098	759,983	182,945	942,928	1,210,170	26.1
Total		12,105,315		8,980,748	2,690,155			24.3
1980/81								
October	1,210,170	1,080,226	2,290,396	796,957	119,583	916,540	1,373,856	25.1
November	1,373,856	1,077,611	2,451,467	680,070	94,146	774,216	1,677,251	26.7
December	1,677,251	1,024,270	2,701,521	833,843	129,891	963,734	1,737,787	23.7
January	1,737,787	1,010,554	2,748,341	730,218	118,056	848,274	1,900,067	23.0
February	1,900,067	887,847	2,787,914	690,593	121,040	811,633	1,976,281	22.0
March	1,976,281	991,315	2,967,596	739,942	210,980	950,922	2,016,674	23.1
April	2,016,674	954,185	2,970,859	761,630	90,749	852,379	2,118,480	23.4
May	2,118,480	914,705	3,033,185	752,768	114,848	867,616	2,166,299	21.6
June	2,166,299	830,719	2,997,018	733,459	125,000	858,459	2,138,559	21.3
July	2,138,559	815,798	2,954,357	833,907	96,038	929,945	2,024,412	22.8
August	2,024,412	827,154	2,851,566	767,046	301,398	1,068,444	1,783,122	20.8
September	1,783,122	855,599	2,638,721	795,721	106,882	902,603	1,736,118	19.4
Total		11,269,983		9,116,154	1,628,611			22.7
1981/82								
October	1,736,118	1,125,271	2,861,389	884,033	187,165	1,071,198	1,790,191	19.7
November ¹	1,790,191	1,017,819	2,808,010	777,139	146,632	923,771	1,884,239	19.9
December ¹	1,884,239	1,069,609	2,953,848		184,249			18.9
January								
February								
March								
April								
May								
June								
July								
August								
September								
Total								

¹Preliminary.

Table 16—Soybeans: Monthly value of products per bushel of soybeans processed, and spot price spread

Date	Value of products per bushel						Total value	Percent of value		Price	Spread between value of products and soybean price
	Soybean oil			Soybean meal				Soybean oil	Soybean meal	No. 1 yellow III. points	
	Yield	Price	Value	Yield	Price	Value					
<i>Pounds</i>	<i>Cents</i>	<i>Dollars</i>	<i>Pounds</i>	<i>Dollar</i>		<i>Percent</i>	<i>Dollars</i>				
1979/80											
September	11.19	30.0	3.36	48.02	188.60	4.53	7.89	43	57	7.04	0.85
October	10.65	27.9	2.97	47.72	181.40	4.33	7.30	41	59	6.56	.74
November	10.53	27.8	2.93	47.99	183.10	4.39	7.32	40	60	6.52	.76
December	10.56	26.2	2.77	48.01	188.00	4.51	7.28	38	62	6.53	.75
January	10.46	23.6	2.47	47.93	180.20	4.32	6.79	36	64	6.36	.43
February	10.65	23.4	2.49	47.99	174.25	4.18	6.67	37	63	6.42	.25
March	10.74	22.1	2.37	48.01	164.60	3.95	6.32	38	63	6.07	.25
April	10.80	20.3	2.19	47.91	154.20	3.69	5.88	37	63	5.80	.08
May	10.76	20.8	2.24	47.90	166.50	3.99	6.23	36	64	6.04	.19
June	10.91	21.7	2.37	48.10	160.90	3.87	6.24	38	62	6.10	.14
July	10.93	26.2	2.86	48.52	187.90	4.56	7.42	39	61	7.22	.20
August	10.92	25.9	2.83	48.07	207.40	4.98	7.81	36	64	7.45	.36
1980/81											
September	10.91	26.1	2.85	48.10	234.50	5.64	8.49	34	66	8.13	.36
October	11.05	25.1	2.77	47.58	246.40	5.86	8.63	32	68	8.27	.36
November	10.94	26.7	2.92	48.06	261.40	6.28	9.20	32	68	8.91	.29
December	10.88	22.6	2.46	47.77	223.70	5.35	7.81	32	69	7.73	.08
January	10.97	22.9	2.51	47.92	223.50	5.36	7.87	32	68	7.57	.30
February	11.15	20.8	2.32	47.87	212.50	5.09	7.41	31	69	7.34	.07
March	11.18	23.1	2.58	48.28	210.40	5.08	7.66	34	66	7.37	.29
April	11.18	23.4	2.62	47.93	222.00	5.32	7.94	33	67	7.72	.22
May	11.12	21.6	2.40	47.72	221.00	5.27	7.67	31	69	7.58	.09
June	11.31	21.3	2.41	48.08	200.90	4.83	7.24	33	67	7.13	.11
July	11.28	22.8	2.57	47.96	204.10	4.89	7.46	34	66	7.36	.10
August	11.08	20.8	2.30	47.91	202.25	4.84	7.14	32	68	6.94	.20
1981/82											
September	11.34	19.4	2.20	48.27	190.00	4.59	6.79	32	68	6.44	.35
October	10.77	19.7	2.12	47.90	180.75	4.33	6.45	33	67	6.30	.15
November	10.43	19.9	2.08	47.68	178.40	4.25	6.33	33	67	6.28	.05
December	10.43	18.9	1.97	47.80	187.50	4.48	6.45	31	69	6.23	.22
January											
February											
March											
April											
May											
June											
July											
August											

Table 17—Soybeans, soybean meal, and soybean oil: Production, exports, and imports by major countries¹

Item/country	1977/78	1978/79	1979/80	1980/81 ⁴	1981/82 ⁵
<i>1,000 metric tons</i>					
Soybeans:					
Production					
United States	48,097	50,859	61,722	48,772	55,260
Brazil	9,534	10,236	15,140	15,500	15,200
Argentina	2,700	3,700	3,650	3,500	4,300
Paraguay	333	549	575	600	625
China, Mainland	7,300	7,600	7,460	7,880	8,100
Other	4,197	4,462	5,075	4,687	5,267
Total	72,161	77,406	93,622	80,939	88,752
Gross exports ²					
United States	19,061	20,117	23,818	19,712	22,861
Brazil	830	638	1,239	1,766	1,700
Argentina	1,972	2,791	2,374	2,704	3,100
Paraguay	192	347	415	525	550
E.C. ³	237	341	305	138	213
Other	220	434	287	343	426
Total	22,512	24,668	28,439	25,188	28,850
Gross imports ²					
E.C. ³	11,129	12,007	12,085	10,246	11,926
Mexico	580	633	783	1,370	850
Brazil	11	218	367	1,067	900
Japan	4,260	4,132	4,401	4,100	4,100
Spain	2,178	2,237	3,208	2,750	2,900
China, Mainland	188	261	810	540	400
China, Taiwan	959	1,111	939	1,000	1,080
Soviet Union	906	1,765	1,065	1,300	2,000
Eastern Europe	630	744	813	621	675
Other	2,226	2,650	3,043	3,225	3,972
Total	23,067	25,758	27,514	26,219	28,803
Soybean meal:					
Production					
United States	20,296	22,094	24,589	22,055	22,940
Brazil	7,652	7,451	8,134	10,584	10,328
Argentina	492	551	571	683	780
E.C. ³	8,647	9,219	9,138	7,715	9,090
Mexico	780	712	1,016	1,225	1,225
Japan	2,542	2,647	2,693	2,582	2,651
Spain	1,728	1,787	2,425	2,212	2,291
China, Mainland	2,594	2,661	2,846	2,927	2,890
China, Taiwan	618	676	648	654	678
Soviet Union	999	1,152	939	997	1,694
Eastern Europe	779	904	1,118	949	981
Other	2,576	3,038	3,407	3,426	4,078
Total	49,703	52,892	57,524	56,009	59,626
Gross exports ²					
United States	5,516	5,997	7,196	6,149	6,632
Brazil	6,311	5,447	5,487	8,601	7,248
Argentina	330	382	350	323	430
E.C. ³	2,689	3,115	3,569	3,730	3,529
Other	403	539	652	651	562
Total	15,249	15,480	17,256	19,454	18,301
Gross imports ²					
E.C. ³	7,833	8,430	9,417	9,687	9,639
Mexico	56	103	156	245	50
Japan	340	283	326	220	210
Spain	481	360	53	130	150
Soviet Union	0	52	500	1,200	1,200
Eastern Europe	3,170	3,490	3,965	3,945	3,652
Other	2,545	2,929	3,249	3,374	2,985
Total	14,425	15,647	17,667	18,801	19,886

Continued

Table 17—Soybeans, soybean meal, and soybean oil: Production, exports, and imports by major countries¹ Continued

Item/country	1977/78	1978/79	1979/80	1980/81 ⁴	1981/82 ⁵
<i>1,000 metric tons</i>					
Soybean oil:					
Production					
United States	4,666	5,136	5,491	5,112	5,244
Brazil	1,827	1,768	1,995	2,590	2,500
Argentina	103	118	125	149	167
E.C. ³	1,895	2,052	2,004	1,710	2,003
Mexico	180	164	235	283	283
Japan	598	621	618	602	618
Spain	385	398	540	481	507
China, Mainland	365	325	401	413	408
China, Taiwan	142	147	141	142	153
Soviet Union	221	253	219	221	375
Eastern Europe	177	203	247	215	221
Other	561	662	735	746	891
Total	11,120	11,897	12,751	12,755	13,370
Gross exports ²					
United States	933	1,059	1,220	739	1,000
Brazil	675	557	538	1,300	925
Argentina	69	52	106	93	105
E.C. ³	806	909	914	824	962
Spain	273	311	369	400	400
Other	34	76	127	109	163
Total	2,790	2,964	3,274	3,465	3,555
Gross imports ²					
E.C. ³	449	455	487	487	498
India	510	555	690	625	650
Pakistan	181	260	213	260	260
China, Mainland	184	122	100	80	25
Mid-East/N. Afr.	506	544	613	674	635
Latin America	307	309	332	383	447
Other	459	421	789	803	818
Total	2,596	2,666	3,224	3,312	3,333

¹Except for Argentina and Brazil, all data are shown on a local marketing year. For major bean producer/exporter countries, Northern Hemisphere marketing years begin in the late months of the first years shown and Southern Hemisphere marketing years begin in the early months of the second year. For bean importing countries, and for minor producing countries which are not major exporters, marketing years generally begin January 1 of the second year. For Argentina and Brazil, the October estimate is included in the total.²World exports will not necessarily equal imports due to differing marketing years and because some minor countries are not included in the totals.³European community includes Greece for 1980/81 analysis year on.⁴Preliminary.⁵Estimated.

Foreign Agricultural Service.

Table 18—Cottonseed: Supply, disappearance, and price, U.S.

Year beginning August 1	Supply			Disappearance				Price	
	Beginning stocks	Production	Total	Crush	Exports	Other	Total	Ending stocks	Average received by farmers
<i>1,000 short tons</i>									
1977	283	5,521	5,804	4,313	41	633	4,987	817	70.30
1978	817	4,269	5,086	4,127	16	423	4,566	520	114.00
1979	520	5,778	6,298	4,230	94	916	5,240	1,058	121.00
1980	1,058	4,471	5,529	4,076	133	922	5,131	398	128.00
1981 ¹	398	6,254	6,652	4,200	50	1,102	5,352	1,300	90.00

¹Forecast.

Table 19—Cottonseed meal: Supply, disappearance, and price, U.S.

Year beginning October 1	Supply				Disappearance			Price	
	Beginning Stocks	Production	Imports	Total	Domestic	Exports	Total	Ending	Average Memphis stocks
<i>1,000 short tons</i>									<i>Dol./ton</i>
1977	59	2,083	4	2,146	1,962	115	2,077	69	139.68
1978	69	1,885	9	1,963	1,762	150	1,912	51	164.80
1979	51	2,049	7	2,107	1,879	175	2,054	53	164.10
1980	53	1,790	—	1,843	1,608	127	1,735	108	197.05
1981 ¹	108	1,932	—	2,040	1,865	100	2,013	75	160.00

¹Forecast.**Table 20—Cottonseed oil: Supply, disappearance, and price, U.S.**

Year beginning October 1	Supply			Disappearance			Price	
	Beginning Stocks	Production	Total	Domestic	Exports	Total	Ending	Average, Valley stocks
<i>Million pounds</i>								<i>Cents/lb.</i>
1977	86	1,453	1,539	696	758	1,454	85	25.4
1978	85	1,282	1,367	620	661	1,281	86	31.6
1979	86	1,423	1,509	659	728	1,387	122	25.3
1980	122	1,194	1,316	526	710	1,236	80	25.9
1981 ¹	80	1,345	1,425	605	720	1,325	100	22.0

¹Forecast.**Table 21—Cottonseed: Supply, disappearance, and price, by months, U.S.**

Year beginning August 1	Supply		Disappearance		Price
	Beginning stocks	Crush	Exports	Ending stocks	Average received by farmers
<i>1,000 short tons</i>					<i>Dol./ton</i>
1979/80					
August	520.2	257.5	.2	380.1	125.00
September	380.1	174.6	.1	349.6	121.00
October	349.6	304.3	.3	1,157.4	125.00
November	1,157.4	394.3	.7	2,577.2	122.00
December	2,577.2	379.1	2.5	3,237.6	115.00
January	3,237.6	441.8	2.6	3,246.3	113.00
February	3,246.3	388.0	2.5	2,968.2	113.00
March	2,968.2	454.3	2.0	2,543.0	—
April	2,543.0	373.6	11.8	2,140.2	—
May	2,140.2	388.4	26.6	1,720.0	—
June	1,720.0	358.8	16.6	1,342.0	—
July	1,342.0	315.4	27.8	1,058.4	—
Total		4,230.1	93.7		¹ 121.00
1980/81					
August	1,058.4	330.3	34.8	811.9	110.00
September	811.9	306.1	35.8	610.0	120.00
October	610.0	364.9	34.0	1,171.9	124.00
November	1,171.9	426.0	4.8	1,658.7	133.00
December	1,658.7	400.4	9.1	1,904.5	132.00
January	1,904.5	439.8	2.6	1,754.9	126.00
February	1,754.9	378.2	.3	1,653.3	122.00
March	1,653.3	371.6	2.1	1,344.6	—
April	1,344.6	314.1	2.9	1,050.6	—
May	1,050.6	278.2	1.9	744.0	—
June	744.0	248.0	2.2	606.0	—
July	606.0	218.2	2.1	397.5	—
Total		4,075.8	132.6		¹ 128.00
1981/82					
August	397.5	195.6	.4	352.5	111.00
September	352.5	191.5	.8	482.8	100.00
October	482.8	339.5	2.3	1,257.5	86.00
November	1,257.5	471.7	5.8	2,258.9	85.00
December ²	2,258.9	487.9		2,974.9	85.00
January ²	2,974.9				

¹Weighted average. ²Preliminary.

Table 22—Cottonseed meal: Supply, disappearance, and price, by months, U.S.

Year beginning October 1	Supply			Disappearance				Price	
	Beginning stocks	Production	Imports	Total	Domestic	Exports	Total	Ending stocks	Bulk, Memphis (Expeller)
	<i>1,000 short tons</i>								<i>Dol./ton</i>
1979/80									
October	51.5	145.9	0.3	197.7	147.2	18.7	165.9	31.8	183.00
November	31.8	183.4	3.4	218.6	163.1	28.8	191.9	26.7	183.75
December	26.7	173.0	.1	199.8	165.4	6.8	172.2	27.6	195.00
January	27.6	201.0	—	228.6	199.0	1.1	200.1	28.5	167.00
February	28.5	178.0	—	206.5	161.4	22.2	183.6	22.9	156.25
March	22.9	204.0	2.9	229.8	176.0	12.7	188.7	41.1	136.25
April	41.1	168.9	—	210.0	144.0	26.2	170.2	39.8	120.50
May	39.8	181.6	—	221.4	134.4	18.1	152.5	68.9	121.00
June	68.9	167.8	—	236.7	129.9	16.6	146.5	90.2	129.40
July	90.2	148.5	—	238.7	156.2	10.2	166.4	72.3	157.50
August	72.3	152.3	—	224.6	148.1	7.2	155.3	69.3	198.40
September	69.3	144.0	—	213.3	154.4	6.4	160.8	52.5	224.50
Total		2,048.4	6.7		1,879.1	175.0			164.40
1980/81									
October	52.5	170.3	—	222.8	153.9	10.8	164.7	58.1	215.60
November	58.1	202.1	—	260.2	179.3	13.9	193.2	67.0	230.00
December	67.0	191.1	—	258.1	190.9	10.4	201.3	56.8	225.60
January	56.8	204.9	—	261.7	174.9	12.3	187.2	74.5	205.60
February	74.5	176.3	—	250.8	126.8	37.9	164.7	86.1	178.75
March	86.1	173.4	—	259.5	142.2	11.2	153.4	106.1	185.00
April	106.1	145.5	—	251.6	122.9	5.7	128.6	123.0	206.90
May	123.0	130.8	—	253.8	105.1	7.2	112.3	141.5	201.75
June	141.5	114.2	—	255.7	101.8	3.4	105.2	150.5	194.00
July	150.5	104.2	—	254.7	100.3	4.1	104.4	150.3	182.50
August	150.3	88.3	—	238.6	99.8	8.9	108.7	129.9	183.10
September	129.9	88.7	—	218.6	109.9	1.0	110.9	107.7	166.50
Total		1,789.8	—		1,607.8	126.8			197.90
1981/82									
October	107.7	152.1	—	259.8	156.4	12.2	168.6	91.2	150.00
November	91.2	220.2	—	311.4	199.4	17.3	216.7	94.7	150.60
December ¹	94.7	219.5	—	314.2				76.1	179.00
January ¹	76.1								
February									
March									
April									
May									
June									
July									
August									
September									
Total									

¹Preliminary.

Table 23—Cottonseed oil: Supply, disappearance, and price, by months, U.S.

Year beginning October 1	Supply			Disappearance			Price		
	Beginning stocks	Produc- tion, crude	Total	Domestic	Exports	Total	Ending stocks	Crude, Valley points	
			<i>1,000 pounds</i>						<i>Cents/lb.</i>
1979/80									
October	86,392	98,562	184,954	57,794	34,034	91,828	93,126	30.2	
November	93,126	126,509	219,635	41,725	48,920	90,645	128,990	27.9	
December	128,990	119,910	248,900	77,661	26,956	104,617	144,283	26.8	
January	144,283	142,848	287,131	79,158	34,821	113,979	173,152	24.2	
February	173,152	125,678	298,830	71,912	28,059	99,971	198,859	24.8	
March	198,859	145,109	343,968	20,718	110,478	131,196	212,772	22.4	
April	212,772	119,837	332,609	72,962	70,989	143,951	188,658	20.4	
May	188,658	125,545	314,203	43,355	105,017	148,372	165,831	20.9	
June	165,831	116,775	282,606	84,124	31,373	115,497	167,109	22.3	
July	167,109	104,237	271,346	56,451	70,338	126,789	144,551	27.8	
August	144,551	104,934	249,485	33,212	77,642	110,854	138,631	29.0	
September	138,631	93,068	231,699	20,464	89,303	109,767	121,932	27.5	
Total		1,423,012		659,536	727,930			25.3	
1980/81									
October	121,932	116,372	238,304	62,035	53,690	115,725	122,579	27.2	
November	122,579	130,453	253,032	33,565	66,610	100,175	152,857	27.8	
December	152,857	122,277	275,134	57,934	47,122	105,056	170,078	26.8	
January	170,078	131,708	301,786	41,181	77,033	118,214	183,572	25.3	
February	183,572	118,928	302,500	73,174	29,251	102,425	200,075	24.2	
March	200,075	115,388	315,463	46,411	66,657	113,068	202,395	25.3	
April	202,395	100,759	303,154	55,131	82,132	137,263	165,891	27.3	
May	165,891	88,665	254,556	22,197	72,195	94,392	160,164	26.7	
June	160,164	77,365	237,529	30,102	85,680	115,782	121,747	26.6	
July	121,747	69,565	191,312	31,391	46,856	78,247	113,065	27.9	
August	113,065	62,098	175,163	29,801	35,908	65,709	109,454	24.6	
September	109,454	60,859	170,313	43,775	46,544	90,319	79,994	20.7	
Total		1,194,437		526,697	709,678			25.9	
1981/82									
October	79,994	111,158	191,152	46,984	41,620	88,604	102,548	20.5	
November ¹	102,548	153,470	256,018	99,977	37,433	137,410	118,608	20.4	
December ¹	118,608	161,864	280,472					19.8	
January									
February									
March									
April									
May									
June									
July									
August									
September									
Total									

¹Preliminary.

Table 24—Sunflower seed: Supply, disappearance, and price

Year beginning September 1	Supply				Disappearance				Price	
	Beginning stocks	Produc- tion	Imports	Total	Crush	Nonoil usage + seed	Exports	Total	Ending stocks	Average received by farmers
	<i>1,000 metric tons</i>									<i>Dol./mt.</i>
1977	23	1,330	3	1,356	219	118	942	1,279	77	224
1978	77	1,823	7	1,907	292	159	1,366	1,817	90	236
1979	90	3,409	10	3,509	547	162	1,820	2,529	1,980	200
1980	980	1,748	28	2,756	780	167	1,505	2,452	304	245
1981	304	2,098	28	2,430	750	160	1,400	2,310	120	250

Table 25—Sunflower meal: Supply, disappearance, and price

Year beginning October 1	Supply				Disappearance			Price
	Beginning stocks	Produc- tion	Total	Domestic	Exports	Total	Ending stocks	Average 28% protein
	<i>1,000 metric tons</i>							<i>Dol./mt.</i>
1977	—	131	131	127	—	127	4	—
1978	4	180	184	180	—	180	4	102
1979	4	359	363	359	—	359	4	106
1980	4	439	443	440	—	440	3	122
1981	3	431	434	430	—	430	4	115

Table 26—Sunflower oil: Supply disappearance, and price

Year beginning October 1	Supply				Disappearance			Price
	Beginning stocks	Produc- tion	Total	Domestic	Exports	Total	Ending stocks	Average crude Minneapolis
	<i>1,000 metric tons</i>							<i>Dol./mt.</i>
1977	—	86	86	49	34	83	3	—
1978	3	115	118	70	41	111	7	728
1979	7	224	231	72	86	158	73	572
1980	73	298	371	29	301	330	41	594
1981	41	294	335	50	260	310	25	535

Table 27—Edible fats and oils: Supply and disappearance

Item	1976	1977	1978	1979	1980	1981
<i>Million pounds</i>						
Stocks October 1						
Coconut	127	137	145	157	152	204
Corn	41	46	73	70	66	76
Cottonseed	105	86	85	86	122	80
Lard	34	32	35	44	44	36
Palm	138	131	74	74	42	58
Peanut	199	171	33	47	28	22
Soybean	1,251	771	729	776	1,210	1,736
Sunflower	18	N.A.	7	15	161	90
Tallow, edible	59	33	42	49	46	36
Imports						
Coconut	1,115	980	967	810	1,122	
Palm	661	361	277	212	324	
Production						
Corn	669	695	737	791	863	
Cottonseed	1,198	1,453	1,282	1,423	1,195	
Lard	1,047	996	1,072	1,220	1,159	
Peanut	313	144	155	192	124	
Soybean	8,578	10,288	11,323	12,105	11,270	
Sunflower	31	190	254	494	657	
Tallow, edible	532	795	921	982	1,122	
Exports						
Coconut	29	33	8	30	38	
Corn	59	88	121	141	181	
Cottonseed	691	758	661	727	710	
Lard	206	132	97	94	144	
Palm	58	51	12	21	9	
Peanut	73	100	29	20	55	
Soybean	1,547	2,057	2,334	2,690	1,629	
Sunflower	33	75	90	190	664	
Tallow, edible	23	18	50	68	133	
Domestic disappearance						
Coconut	1,076	939	947	785	1,032	
Corn	605	580	619	654	672	
Cottonseed	526	696	620	660	527	
Lard	843	861	966	1,126	1,023	
Palm	610	367	265	223	299	
Peanut	268	182	112	191	75	
Soybean	7,511	8,273	8,942	8,981	9,115	
Sunflower	16	108	156	159	64	
Tallow, edible	535	768	864	917	999	

N.A. = Not available.

Table 28—Prices: Wholesale, farm, and index numbers of wholesale prices

Item	1981				
	Aug.	Sept.	Oct.	Nov.	Dec.
Wholesale prices, cents per pound, for fats and oils					
Butter, creamery, grade A, (92 and 93-score) bulk, New York	176.4	178.0	179.5	181.8	
Castor oil, No. 1, Brazilian, tanks, imported, New York	44.3	43.7	43.3	43.3	43.3
Coconut oil, crude, tank cars, Pacific Coast	26.4	24.3	26.6	26.6	25.4
Corn oil, crude, tank cars, f.o.b., Decatur	22.3	21.5	20.0	21.0	
Cottonseed oil, crude, tank cars, f.o.b., Valley	24.6	20.7	20.5	20.4	19.8
Grease, white, tank cars, delivered, Chicago	19.0	16.5	16.3	16.3	
Linseed oil, raw, tank cars, Minneapolis	32.3	31.8	30.8	30.0	27.6
Margarine, yellow, quarters, f.o.b., Chicago	39.0	37.4	36.9	36.9	36.9
Palm kernel oil, c.i.f., bulk, U.S. ports	42.8	42.8	42.8	42.8	42.8
Palm oil, c.i.f., bulk, U.S. ports	25.0	24.7	—	—	—
Peanut oil, crude, tank cars, f.o.b., Southeast mills	43.2	40.3	34.5	34.5	30.9
Rapeseed oil, refined, denatured, tanks, New York	59.0	59.0	59.0	59.0	59.0
Safflower oil, tanks, New York	46.5	72.5	72.5	72.5	72.5
Shortening, all vegetable, hydrogenated, 440-pound drums, New York	44.0	43.3	44.0	43.8	
Soybean oil, crude, tank cars, f.o.b., Decatur	20.8	19.4	19.7	19.9	18.9
Sunflower oil, crude, Minneapolis	27.4	26.4	22.6	24.5	24.5
Tallow, edible, loose, Chicago	33.7	33.5	32.5	32.5	
Tallow, inedible, number 1, delivered, Chicago	15.0	14.5	14.5	13.9	13.6
Tung oil, imported, drums, f.o.b., New York	64.0	62.1	60.3	58.5	58.5
Prices received by U.S. farmers					
OILSEEDS:					
Cottonseed, United States average (short ton)	111.00	100.00	86.00	85.00	85.00
Flaxseed, United States average (bushel)	7.08	6.44	6.21	6.64	6.90
Peanuts, United States average (cents per pound)	32.60	28.60	26.50	25.70	24.80
Soybeans, No. 1, yellow, Chicago (bushel)	6.95	6.50	6.30	6.30	6.23
Soybeans, United States average (bushel)	6.71	6.21	6.06	6.03	5.93
Sunflower seed, United States average (cwt.)	11.20	10.50	10.30	10.50	10.20
OILMEALS (bulk-short ton)					
Cottonseed meal, 41 percent protein, Memphis	183.10	166.50	150.00	150.60	179.00
Linseed meal, 34 percent protein, Minneapolis	150.00	150.00	150.00	150.00	150.00
Peanut meal, 50 percent protein, f.o.b. Southeastern mills	—	—	—	181.90	193.50
Soybean meal, 44 percent protein, Decatur	202.25	190.00	180.75	178.40	187.50
Soybean meal, 49-50 percent protein, Decatur	220.25	207.00	196.25	193.10	202.10
Sunflower meal, 28 percent protein	102.50	107.00	98.75	106.25	112.00
Index numbers of wholesale prices, fats and oils, 1967=100					
All fats and oils	290	283	285	278	
All fats and oils, except butter	324	315	317	308	
Group by origin:					
Animal fats	265	260	261	255	
Vegetable oils, domestic	153	143	142	139	
Vegetable oils, foreign	215	224	231	230	
Group by use:					
Butter	222	223	226	226	
Lard, refined	300	315	315	338	
Food fats other than butter	218	214	217	209	
Food fats other than butter and lard	155	148	148	145	
All edible fats and oils	210	207	210	203	
Soap fats	329	307	298	303	
Drying oils	190	189	185	181	
Other industrial:					
All industrial	305	287	279	283	
Crude	187	179	177	172	
Edible vegetable oils, grouped by degree of processing:					
End products	238	237	238	238	
Refined	197	189	180	183	
Margarine	235	235	235	235	
Shortening, 3-pound tin	266	266	266	266	
Shortening, 440-pound drum	212	208	212	211	

Compiled from Chemical Market Reporter, Wall Street Journal, Feedstuffs, Reports of the Crop Reporting Board, Agricultural Marketing Service, and Bureau of Labor Statistics.

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