FRB CHICAGO

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## Crop production and carryover estimates revised upward

Recent reports issued by the USDA provide updated projections of the 1985 crop harvest and estimates of utilization and ending carryover stocks for the marketing year just completed and the marketing year that lies ahead. The reports show that corn and soybean supplies are larger than previous estimates had implied. Estimates of production and carryover stocks were revised upward while estimates of utilization, for the most part, were reduced. Despite the bearish tone to the reports, corn prices have recovered somewhat from recent lows as the movement of corn under loan with the CCC has accelerated. Soybean prices, following an initial recovery, declined recently as debate on farm program legislation increased the probability that the 1985 soybean loan program will be altered.

The latest production estimates are based on conditions as of November 1. They show that the 1985 corn harvest will likely reach a record 8.72 billion bushels. Such a level would be 14 percent higher than a year ago and 6 percent above the previous high in 1982. The corn production estimate is based on a harvested area of 74.8 million acres—the highest since 1949—and a record-high yield of 116.6 bushels per harvested acre. In addition to the large corn harvest, production of other feed grains is up this year also. The combined harvest of other feed grains—sorghum, oats, and barley—is now estimated at 49.4 million metric tons, up 18 percent from last year and equivalent to 18 percent of total feed grain production. The larger supplies of these feed grains will result in added competition for corn in the months ahead.

The 1985 soybean harvest is now projected to reach 2.13 billion bushels, up 14 percent from last year and sufficient for a third-place ranking with respect to the 1979 record of 2.26 billion bushels. Some 62.2 million acres of soybeans are expected to be harvested this year with per-acre yields averaging a record high of 34.2 bushels.

The current projections will not be revised until final estimates are released in February 1986. In recent years, final estimates of corn and soybean production have usually exceeded the November estimates. That has been the case in 9 of the past 10 years with corn production estimates and 7 out of 10 years with soybean production estimates. While a similar pattern could prevail this year, analysts increasingly believe that the rain-delayed completion of this year's harvest could result in slight downward revisions.

Whether final estimates are raised or lowered, the fundamental reality that production of both corn and soybeans will far exceed utilization during the 1985/86 marketing year is not likely to be altered. While projections of 1985/86 utilization are tentative, tallies summarizing the just-completed marketing years for corn and soybeans provide little encouragement for the year ahead. Those tallies show that total utilization of corn in the 1984/85 marketing year that ended with September, although up 6.5 percent from the low year-earlier level, still only reached 7.0 billion bushels. Total utilization of corn in the five years prior to the 1983/84 downturn averaged 7.2 billion bushels. For soybeans, total utilization in the 1984/85 marketing year that ended with August retreated to a seven-year low of 1.7 billion bushels.

**District states pace the upturn in 1985 corn and soybean production**

| | Yield per acre | | Production | |
|---|---|---|---|---|
| | Bushels | Percent change* | Million bushels | Percent change* |
| **Corn** | | | | |
| Illinois | 134 | 18 | 1,521 | 22 |
| Indiana | 124 | 6 | 756 | 7 |
| Iowa | 125 | 12 | 1,669 | 16 |
| Michigan | 102 | 21 | 275 | 25 |
| Wisconsin | 107 | 1 | 364 | 6 |
| District States | 124.3 | 12 | 4,585 | 16 |
| United States | 116.6 | 9 | 8,716 | 14 |
| **Soybeans** | | | | |
| Illinois | 43 | 37 | 385 | 35 |
| Indiana | 41 | 19 | 183 | 22 |
| Iowa | 38 | 21 | 310 | 17 |
| Michigan | 32 | 19 | 35 | 9 |
| Wisconsin | 30 | -3 | 10 | -29 |
| District States | 40.1 | 26 | 922 | 24 |
| United States | 34.2 | 22 | 2,129 | 14 |

*From 1984.

A break-down of the utilization estimates indicates that both corn and soybean exports fell to eight-year lows in their respective 1984/85 marketing years. Corn exports, at 1.8 billion bushels, were slightly below the low level of the previous two years and a fourth below the 1979/80 peak. Soybean exports, at 600 million bushels, were 19 percent lower than the year before and 35 percent below the 1981/82 peak. A couple of discouraging aspects of the curtailed export shipments last year stand out in particular. For one, the pace of corn and soybean shipments in the latter part of their respective marketing years was exceedingly slow. Corn exports in the final three months of the 1984/85 marketing year fell to an annual rate of 1.2 billion bushels, a level unprecedented since the early 1970s. Similarly, export shipments of soybeans this summer fell to an annual rate of less than 400 million bushels, the lowest since the latter part of the 1960s. In addition, the booking of export orders for future shipments of corn and soybeans languished at a low level during the summer and early fall. While the pace will likely pick up in the months ahead, the summer patterns in export shipments and orders are disconcerting to those hoping that lower U.S. grain prices and a lower value of the U.S. dollar would quickly stimulate shipments.

The second discouraging aspect of the weak 1984/85 exports was that corn exports would have been sharply lower had it not been for a surge in shipments to the USSR. In the 1984/85 corn marketing year, corn shipments to the USSR rose 140 percent from the year before and, at a record 620 million bushels, represented a third of U.S. corn exports to all destinations. The sharp increase in shipments to the USSR was more than offset by a one-fourth decline in corn exports to all other destinations. The likelihood that shipments to the USSR will turn lower in the months ahead diminishes hopes for a recovery in corn exports in 1985/86.

Aside from exports, other components of corn and soybean utilization rose somewhat in 1984/85. Domestic utilization of corn rose a tenth from the unusually low year-earlier level but at 5.2 billion bushels, was only marginally above the annual average for the five years prior to last year. Nearly 80 percent of the corn used domestically in the 1984/85 marketing year was fed to livestock and poultry, with the remainder used for food, seed, and industrial purposes (mostly in the production of sweeteners, starches, and ethanol).

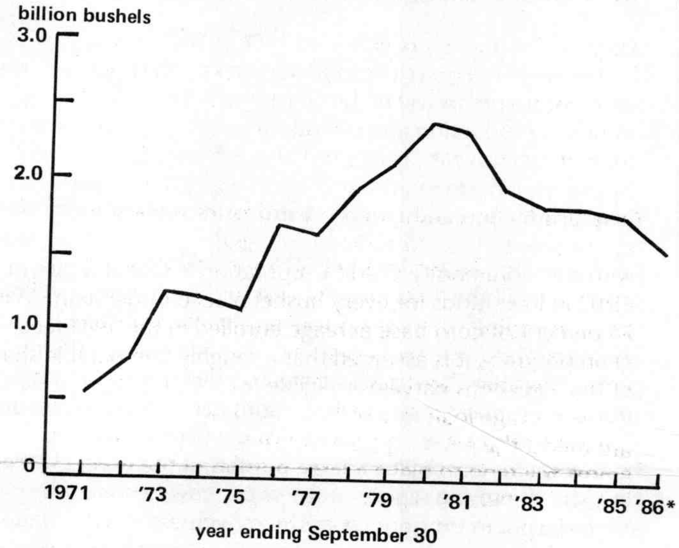
The bulk of the soybeans used initially for domestic purposes are those that are crushed into the joint by-products of meal and oil.[1] In the 1984/85 marketing year, some 1.0 billion bushels of soybeans were crushed by U.S. processors. That was five percent more than the previous year but was still short of the average level of crushings for the five years prior to the 1983/84 marketing year.

If utilization trends of recent years prevail in the months ahead, corn and soybean markets will be dominated by excess supplies and a huge build-up in carryover stocks next fall. Compared to the 8.7 billion bushel corn harvest now estimated for this fall, current USDA estimates imply that total utilization of corn in the 1985/86 marketing year may only marginally exceed 7.0 billion bushels. If those estimates hold, the difference of 1.7 billion bushels between production and utilization will be added to carryover stocks next fall. That would be in addition to the already existing 1.4 billion bushels of carryover stocks of corn, boosting the total to nearly 3.1 billion bushels. Such a carryover would be nearly equal to the record high that prompted the PIK program in 1983 and equivalent to a 23-week supply of market needs.

In the same vein, total utilization of soybeans in the 1985/86 marketing year may rise slightly but, according to current USDA projections, is not expected to go much above 1.8 billion bushels. That would be some 300 million bushels short of the amount now estimated as being harvested this fall, foreshadowing that carryover stocks of soybeans next fall will double, perhaps reaching 615 million bushels. Such a level would far exceed the previous high (in 1980) of 358 million bushels in carryover stocks of soybeans and be equivalent to about a 17-1/2 week supply of market needs. A carryover of soybeans at that level would also be nearly equivalent to the 1985 harvest in Brazil, the world's second largest exporter of soybeans and soybean products.

Projections of corn and soybean utilization for the year ahead are at best tentative. But several developments support the

**Corn exports at 8-year low in 1984/85 and expected to decline more in 1985/86**




*USDA projection.

USDA's current projections that show exports will continue sluggish and that domestic utilization may rise only slightly. An upturn this year in the USSR grain harvest suggests that U.S. corn exports to that destination in the months ahead will tail off considerably from the 1984/85 record. Simultaneously, corn exports to other destinations in the year ahead may be held in check by large supplies of corn and other feed grains in other exporting countries as well as increased production in traditional importing countries. Total production of corn and other coarse grains in countries other than the United States in 1985/86 is currently expected to be up nominally from the high year-earlier level. In addition, U.S. corn exports in the months ahead may confront increased competition from Canadian wheat exports. Weather damage lowered the quality of much of the Canadian wheat crop. The lower quality Canadian wheat will likely be available in world markets at prices that are very competitive to corn for livestock feeding.

Soybean exports, while expected to rise more than a tenth next year, will fall far short of earlier highs. The projected upturn in U.S. soybean exports hinges, in part, on current forecasts that the Brazilian soybean crop now being planted will result in a smaller harvest than was recorded a few months ago. Nevertheless, total soybean production in 1985/86 outside of the United States is projected to be unchanged from a year ago and up 6 percent from two years ago. Even larger increases are projected for total foreign production of eight major oilseed crops that compete to some degree with U.S. soybeans.

Domestic utilization of corn and soybeans in the months ahead will be mostly influenced by livestock feed demands. Current measures indicate that the numbers of hogs and cattle being fed for slaughter markets over the next several months will lag year-earlier levels. A counterbalance, however, will be rising feed demand for poultry and dairy cattle. But overall, it is doubtful that domestic utilization of corn in the 1985/86 will exceed the 1982/83 high of 5.4 billion bushels. Domestic soybean crushings in 1985/86, while up, will likely fall short of earlier peaks.

Corn and soybean prices will be held at relatively low levels by the huge build-up in carryover stocks. As is typically the case, future prices will be heavily influenced by emerging trends in production and utilization world-wide. But more so than in recent years, prices will also be strongly influenced by price support loan programs and any changes that may be made in those programs. As things now stand, all farmers are eligible to place their soybeans under price support loan with the Commodity Credit Corporation (CCC) at a rate of $5.02 in loan funds for every bushel placed under loan. With 71 percent of corn base acreage enrolled in the 1985 feed grain program, it is assumed that a roughly comparable share of the 1985 corn harvest is eligible for a CCC loan at a national average loan rate of $2.55 per bushel. Unless changes are made, the price support mechanisms of the loan programs will tend to place a large portion of the excess stocks in CCC ownership which, in turn, will tend to pull corn and soybean prices up from recent levels.

This has been the case in the recent upturn in corn prices. In mid-October, cash corn prices in central Illinois bottomed at about $2.07 a bushel, down from $2.65 a year earlier. Since then, prices have recovered to around $2.33 a bushel. The recovery has been due mostly to the movement of corn under loan with the CCC. The loan can be repaid at anytime but may extend up to nine months. At that time, the farmer has the option of repaying the loan plus accumulated interest or of forfeiting the grain to the CCC in full repayment of the loan charges. In general, farmers will repay the loan, and sell or store the grain, if actual or expected market prices are high enough to cover the principal and interest payments. Alternatively, if grain prices are below the loan rate, farmers tend to default on their loans, keeping the loan proceeds in exchange for the grain. Once the CCC owns the grain, it is precluded from selling the grain in commercial market channels unless market prices are somewhat above the prevailing loan rate. Because of these features, grain under loan with the CCC, if in sufficient quantities, can substantially tighten market supplies. In such situations, the loan rate typically serves as a price floor at least during some portion of the marketing year.

Analysts believe that some 3.0 to 3.5 billion bushels of corn will eventually be placed under loan with the CCC. Assuming the 1985 corn loan program is not changed, such an amount, coupled with other stocks of corn already in CCC ownership or under long-term reserve contracts, would eventually push corn prices up to levels that would encourage some farmers to repay their loans and sell their corn at the higher market prices. At the present time, many analysts believe corn prices might peak at or above the loan rate in early spring.

Similar options are available for soybean farmers. Soybean prices, which bottomed at $4.85 a bushel in early October, had recovered to about $5.15 a bushel in early November. But more recently, soybean prices have dropped back to the October lows, apparently because of Senate debate that has heightened the possibility that the 1985 soybean loan program could be changed. Some of the proposed changes under debate would offer soybeans farmers who do not default on their CCC loan, or who do not put their crop under loan with the CCC, a direct payment that, on average, might be equivalent to about $1 a bushel. Such a change, if enacted, would discourage heavy use of the CCC loan program by soybean farmers and thus circumvent the "price floor" typically associated with the CCC loan rate.

Some observers think that because of the large government costs associated with CCC stockpiles, other changes may be made in the 1985 loan programs for corn and soybeans that could also circumvent the price-floor mechanisms. For example, some have suggested the CCC may use the stocks that it acquires through defaulted loans to make "in-kind" deficiency or, if applicable, land diversion payments to replace the cash that is normally used to make such payments. Whether such a change will be made is purely speculative at this point. But if the change were made in the corn program, it could be implemented through advance payments for 1986 program participants or through deficiency payments that will be made to 1985 program participants in April. If implemented, such a change would tend to increase free market supplies and hold prices lower than would otherwise be the case.

In the months ahead, changes in the 1986 loan programs are also likely to affect market prices. While the debate on legislation that will shape future farm loan programs still continues, it is fairly clear that loan rates for grains will be lowered in the 1986 program. Current versions of the farm bill, for example, would set corn loan rates at $2.40 to $2.45 a bushel in 1986. Assuming such a level is retained in the final legislation, corn markets in the year ahead will likely be adjusting to a lower loan rate. The adjustment process implies that prices during the latter part of the 1985/86 marketing year will be more heavily influenced by the 1986 corn loan rate than by the 1985 loan rate.

Gary L. Benjamin

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[1] Each 60-pound bushel of soybeans that is crushed produces about 47.5 pounds of soybean meal (a high protein feed supplement for livestock and poultry) and 11 pounds of soybean oil (a product of widely diverse uses in foods and industrial processes). In recent years, exports have absorbed 20 to 25 percent of the domestically produced soybean meal and about 14 to 16 percent of the domestically produced soybean oil.

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## Selected Agricultural Economic Indicators

| | Latest period | Value | Percent change from: Prior period | Year ago | Two years ago |
|---|---|---|---|---|---|
| **Prices received by farmers** *(1977=100)* | October | 123 | 1.7 | -11 | -8 |
| Crops *(1977=100)* | October | 111 | -0.9 | -19 | -17 |
| Corn *($per bu.)* | October | 2.16 | -5.3 | -19 | -31 |
| Oats *($per bu.)* | October | 1.08 | -1.8 | -38 | -33 |
| Soybeans *($per bu.)* | October | 4.83 | -3.2 | -20 | -39 |
| Wheat *($per bu.)* | October | 3.00 | 0 | -13 | -17 |
| Livestock and products *(1977=100)* | October | 134 | 4.7 | -3 | -1 |
| Barrows and gilts *($per cwt.)* | October | 44.00 | 9.2 | -1 | 7 |
| Steers and heifers *($per cwt.)* | October | 56.90 | 9.0 | -4 | 1 |
| Milk *($per cwt.)* | October | 12.50 | 1.6 | -11 | -9 |
| Eggs *(¢per doz.)* | October | 63.5 | 2.1 | 14 | -7 |
| **Prices paid by farmers** *(1977=100)* | October | 162 | 0 | -1 | 1 |
| Production items | October | 148 | 0 | -3 | -3 |
| Feed | October | 108 | -1.8 | -14 | -23 |
| Feeder livestock | October | 146 | 2.1 | -3 | 0 |
| Fuels and energy | October | 202 | -0.5 | 0 | -2 |
| **Producer Prices** *(1967=100)* | October | 295 | 1.6 | 1 | 2 |
| Agricultural machinery and equipment | October | 337 | 0 | 0 | 3 |
| Fertilizer materials | October | 228 | -0.6 | -3 | 3 |
| Agricultural chemicals | October | 457 | -0.2 | -1 | 0 |
| **Consumer prices** *(1967=100)* | October | 326 | 0.3 | 3 | 8 |
| Food | October | 310 | 0 | 2 | 6 |
| **Production or stocks** | | | | | |
| Corn stocks *(mil. bu.)* | October 1 | 1,379 | N.A. | 91 | -56 |
| Soybean stocks *(mil. bu.)* | September 1 | 318 | N.A. | 81 | -8 |
| Beef production *(bil. lbs.)* | October | 2.11 | 6.2 | -3 | 2 |
| Pork production *(bil. lbs.)* | October | 1.36 | 13.5 | -4 | -2 |
| Milk production *(bil. lbs.)* | October | 12.0 | 0.7 | 10 | 6 |

N.A. Not applicable


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