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## Feed Outlook

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## Corn Ending Stocks Lowered to 981 Million Bushels

Domestic changes this month are based on the National Agricultural Statistics Service's (NASS) annual crop production report and the NASS stocks report. Total 2003/04 feed grain production was lowered due to a drop in the forecasted corn crop. At the same time, total feed grain utilization increased from 275.7 million tons to 279.3 million tons. This led to a substantial tightening of feed grain stocks as well as higher 2003/04 seasonaverage prices.

This month's trade year (Oct.-Sept.) U.S. corn exports are up 1.5 million tons to 50 million, and U.S. sorghum exports are up 0.2 million to 5.2 million due to reduced competition and strong import demand. Corn exports are forecast lower for China and Argentina, but are increased for Brazil. Global coarse grains trade in 2003/04 is up 0.7 million tons to over 102 million. Foreign coarse grain production is up almost enough to offset the drop in U.S. corn. Global coarse grain use is projected up over 6 million tons this month, with foreign consumption up over 4 million. World ending stocks are projected down, and at 100 million tons, are the lowest since 1975/76.

Figure 1
U.S. feed grain production


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## 2003/04 Feed Grain Production Lowered Nearly 4 Million Tons

U.S. feed grain production in 2003/04 is estimated at 275.5 million tons, down nearly 4 million tons from last month. All of the month-to-month change came from corn; sorghum production was raised 11 million bushels. Total feed grain supply for 2003/04 is now projected at 308.8 million tons.

Feed grain use for 2003/04 was raised to 279.3 million tons, up from 275.7 million last month. This month-to-month change is caused by increases in feed and residual and food, seed, and industrial use (FSI) and exports. Lower production and increased use dropped 2003/04 ending stocks to 29.5 million tons from 37.2 million last month. These tighter stocks increased season-average farm prices for corn, sorghum, barley, and oats.

## Feed and Residual Up in 2003

On a September-August marketing year basis, feed and residual use for the four major feed grains plus feed wheat was forecast at 159.5 million tons, up from 157.2 million tons last year. The projected index of grain consuming animal units (GCAU) is

Figure 2
Feed and residual and feed per animal unit


Source: Economic Research Service, USDA.
89.4 million, up from 87.9 million in 2002/03. Feed and residual per GCAU is 1.78 tons.

Pork and poultry production is expected to increase in calendar year 2004, but beef production is expected to decline. Beef production in 2004 is projected at 25.4 billion pounds, down from 26.2 billion pounds in 2003. Other projections for animal product production are summarized below:

- 2004 pork production is 20.05 billion pounds, up from 19.9 billion,
- broiler production is expected to be 33.6 billion pounds in 2004, up from 32.6 billion,
- 2004 egg production is projected at 7,265 million dozen, up from 7,229 million,
- milk production is projected at 171.2 billion pounds, up from 169.8 billion in 2003.


## A Smaller Corn Crop and Greater Use Lead To Higher Corn Prices

Corn production for 2003/04 was lowered 164 million bushels to 10,114 million, though it is still record large. This month-to-month decline stems from a 700,000 -acre decline in harvested area (now estimated at 71.1 million acres) and a 1-bushel-peracre decline in yield (now estimated at 142.2 bushels per acre but still a record). Beginning stocks were raised fractionally and total supply is now projected at 11,211 million bushels. Hot and dry August conditions throughout much of the Corn Belt only had a small effect on yield because the poor weather occurred after corn pollination.

Total use for 2003/04 was raised 155 million bushels to 10,230 million. This month-to month change stems from increases in feed and residual use, FSI, and exports. Feed and residual use was raised 75 million bushels to 5,775 million because December 1 stocks implied higher than expected use in the SeptemberNovember quarter. FSI was raised 30 million bushels to 2,480 million due to greater ethanol and sweetener use (see below for a greater description of this

Figure 3
U.S. corn: Central Illinois cash and average farm price, September 1995 and November 2003


Source: Agricultural Marketing Service and National Ag ric ultural Statistic s Service, USDA.
change). Projected exports are up 50 million bushels from last month because of less competition from Argentina and China, increased world import demand and the strong pace of sales to date. The smaller crop and increased use dropped 2003/04 ending stocks to 981 million bushels, the lowest since 1996. The 2003/04 stocks-to-use ratio is now 9.6 percent compared with 12.9 percent last month. As a result,

Figure 4


19821985198819911994199720002003
Source: Economic Research Service and Foreign Agricultural Service, USDA.

Figure 5
Corn area and yield


Source: National Agricultural Statistics Service, USDA.
season-average farm prices were raised 15 cents on the low end and 5 cents on the high end to $\$ 2.15$ $\$ 2.45$ per bushel.

## Corn FSI Increases to Another Record

Several changes were made to corn FSI based largely on updated ethanol production data from the Bioenergy Program. The following changes were made with corn FSI:

- 2001/02 was lowered from 2,054.2 million bushels to 2,046.4 million,
- 2002/03 was raised from 2,298.6 million bushels to $2,346.1$ million,
- 2003/04 was raised from 2,450 million bushels to 2,480 million bushels.

This month's revisions in ethanol use mainly reflect some shifting between feedstocks from grain sorghum to corn. Sorghum FSI, which mostly consists of ethanol use, had been estimated at 45 million bushels in 2001/02 and 2002/03. These estimates were reduced to 23 million and 24 million bushels, respectively. This balance was shifted into corn used for ethanol production. In addition, there were also slight changes in the amount of ethanol produced per bushel of corn in both years, reducing the number of bushels used in 2001/02, while increasing the number

Figure 6
Corn use for ethanol
Mil. bu


Source: Economic Research Service, USDA.
of bushels in 2002/03. The net impact of the feedstock shift and the updated conversion was a decrease of about 8 million bushels in corn ethanol use in 2001/02 and an increase of about 52 million in $2002 / 03$. There was no change in the actual volume of ethanol produced in either year.

For 2003/04, the forecast of corn used for ethanol was raised 20 million bushels, reflecting a corresponding reduction in expected sorghum ethanol use. The sorghum FSI forecast thus went from 45 million bushels to 25 million. The balance of this month's 30-million-bushel increase in corn FSI use stems from a larger (than expected) use in the first quarter sweetener use (see table 5).

On a year-to-year basis, corn FSI is up or unchanged in all use categories except seed, which is down only fractionally. The bulk of the FSI increase over last year is from record production of ethanol. The rapid increase in ethanol production has stemmed from the decisions of many States to phase-out use of the MTBE oxygenate additive in their gasoline. This has left ethanol as the primary fuel additive available to meet oxygenate requirements.

Figure 7
Sorghum area and yield


Source: National Agricultural Statistics Service, USDA.

## 2003/04 Sorghum Production Raised 3 Percent

Sorghum production was raised 11 million bushels to 411 million. This month-to-month change is caused by a 1.7-bushel-increase in yield, which was partially offset by a slight decrease in harvested area.
Sorghum yield is now forecast at 52.7 bushels per
Figure 8
U.S. sorghum: Kansas City cash and average farm price, September 1995 and November 2003

Dol/bu


Source: Agricultural Marketing Service and National Ag ric ultural Statistics Service, USDA.
acre, up 2 bushels per acre from 2002/03, and harvested area is 7.8 million acres, up 7 percent from 2002. These changes raised 2003/04 total supply to 454 million bushels.

There were several offsetting changes on the use side. Sorghum feed and residual is raised 10 million bushels because of greater-than-expected use in the first quarter of the marketing year. Strong exports to the European Union (EU) led to a 10 -million-bushel increase in sorghum exports, which are now projected at 210 million bushels. Offsetting these increases, however, was a 20 -million-bushel reduction in FSI based on less than expected sorghum used for ethanol. Ending stocks are 54 million bushels and the stocks-to-use ratio is 13.6 percent. Because of the tighter overall feed grain situation, the season-average sorghum price was raised 15 cents on the low end and 5 cents on the high end to $\$ 2.20-\$ 2.50$ per bushel.

## Minor Changes Made to Barley and Oats

The following changes were made this month to the 2003/04 barley and oats balance sheets:

- barley imports were lowered 5 million bushels to 25 million,
- barley feed and residual was lowered 10 million bushels to 75 million,
- barley season-average farm price was raised 5 cents on both high and low ends to $\$ 2.70-\$ 3.00$ per bushel,
- oats imports were lowered 5 million bushels to 95 million,
- oats feed and residual were lowered 5 million bushels to 140 million,
- oats season-average farm price was raised 10 cents on the low end to $\$ 1.35-\$ 1.55$ per bushel.


## Hay and Silage

Stocks of all hay stored on farms totaled 110.8 million tons on December 1, 2003, up nearly 7 percent from the previous year. Disappearance of hay from May 2003-December 2003 totaled 68.5 million tons, compared with 69.8 million tons for the same period a year ago. Disappearance is down from last year due to improved pasture conditions, which decreased the
need for supplemental hay feeding. Thirty of the 48 reporting States had higher hay stocks than last year.

Fgure 9
Silage production 1980-2003


Source: National Agric ultural Statistics Service and Economic Research Service, USDA.

Figure 10
December 1 hay stocks and silage per RCAU


Source: National Agric ultural Statistics Service and Economic Research Service, USDA.

Most of the States reporting an increase in stocks compared with last year were located in the northern and central Rocky Mountains, northern and central Great Plains, eastern Corn Belt, Ohio Valley, and the Southeast. Stocks were significantly higher in Virginia and North Carolina due to a sharp increase in production during 2003.

Figure 11
December 1 hay stocks and RCAU


Source: National Agric ultural Statistic s Service and Economic Research Service, USDA.

Roughage consuming animal units (RCAU) in 2003/04 are estimated at 71.5 million, down from 72.2 million in 2002/03. Hay stocks are 1.56 tons per RCAU, up from 1.44 tons last year, and fractionally above the previous high in 1987.

Hay production totaled 157 million tons in 2003/04 compared with 151 million tons the previous year. This year-over-year increase stems from higher yields, which went from 2.34 tons per acre in 2002/03 to 2.48 tons per acre in 2003/04. Harvested hay area declined from 64.5 million acres in 2002/03 to 63.3 million acres.

Production of alfalfa and alfalfa mixtures is up 3 percent in 2003/04 to 76.3 million tons due to increased harvested area and yield. The 2003 alfalfa yield is 3.24 tons per acre and harvested area is 23.6 million acres. Other hay production is up nearly 5 percent from 2002's 77.1 million tons. Average yields were 2.03 tons per acre in 2003 compared with 1.86 tons per acre the previous year.

Corn for silage in 2003 totaled 105.8 million tons, up fractionally from the previous year. Acreage was down 13 percent, but yields were up nearly 16 percent. Sorghum for silage in 2003 totaled 3.5 million tons compared with 3.4 million tons in 2002. Area was down 3 percent in 2003 to 343 million acres. However, the 2003 yield of 10.4 tons per acre was up 9.5 percent from 2002. Total silage per RCAU in 2003 was 1.53 tons, up from 1.5 tons in 2002.

Mid-month prices for all hay reported by farmers in December 2003 were $\$ 81.30$ per ton, up from $\$ 80.70$ in November but down from $\$ 91.10$ the previous December. Alfalfa hay prices averaged $\$ 9.50$ per ton below a year earlier during May through December. Prices received for alfalfa in December 2003 were $\$ 87.90$ per ton, down from $\$ 88.00$ per ton in November and $\$ 98.00$ per ton in December 2002. Other hay prices averaged 66 cents per ton below a year earlier during May through December. In December 2003, the price for other hay was $\$ 66.90$ per ton, up from $\$ 64.90$ per ton in November, but down from $\$ 76.30$ per ton in December 2002.

## International Outlook

## Foreign Coarse Grain Production Up This Month

Foreign coarse grain production (world less U.S.) in 2003/04 is expected to reach 608 million tons, up over 3 million this month. Large increases for Brazil, Russia, and India were partly offset by reductions for Argentina and South Africa. Foreign corn production increased over 1 million tons, and barley was up more than 2 million, but rye declined nearly 1 million.

Corn production in Brazil is up 2.5 million tons this month to 40 million. Despite strong soybean prices, area planted to corn was revised up and is now only slightly less than last year,. Moreover, rains for the main crop have been favorable, boosting yield expectations. Corn production in India increased 1 million tons to a record 14 million. Area increased as corn has.become more commercialized. Yields were boosted by a favorable monsoon. However, corn production prospects declined 1 million tons in Argentina to 12.5 million as drought in and near Cordoba delayed plantings. In addition, poor establishment is expected to contribute to greater-than-average abandonment (although the abandoned area could be harvested for silage). Drought has also delayed corn plantings in South Africa, dropping production prospects 0.9 million tons to 8 million. Small reductions in corn harvests were reported for Serbia and Nigeria.

Russia’s barley production was increased 2.4 million tons to 17.9 million based on preliminary harvest data published by the State Statistical Committee. Despite some planting delays, spring barley growing conditions were mostly favorable, in sharp contrast to winter grains. Russia's rye production was revised down 0.8 million to 14.2 million.

## Foreign Coarse Grain Consumption Up

Foreign coarse grain use in 2003/04 is projected up over 4 million tons this month to 704 million. Foreign corn consumption is up almost 3 million tons to 432 million, with barley up nearly 2 million to 146 million, while rye is down almost 1 million to 18 million, and oats and sorghum are little changed this month.

Brazil's corn use is projected up 1 million to 38 million as production prospects increased and the poultry sector continues to grow. India's corn consumption is up nearly 1 million to over 13 million for the same reasons. Increases in corn consumption were also forecast this month for Israel and Russia.

EU barley consumption is forecast up 0.5 million tons to over 48 million because high prices are expected to reduce the incentives for the EU Grain Commission to subsidize exports and because demand for grains for feeding remains strong in the EU.

Projected barley consumption in Russia increased over 1 million tons this month to nearly 19 million tons because of sharply higher production prospects. However, projected Russian rye consumption was reduced 750,000 tons.

## Global Coarse Grain Stocks Are Down, But Foreign Stocks Increase

While 2003/04 global coarse grain ending stocks are projected down 5.5 million tons this month, foreign stocks are up 2.2 million. Projected corn stocks are up 0.5 million tons in Brazil because of improved production prospects, up 0.5 million in China because of reduced exports, and are up for Mexico and South Korea because 2002/03 revisions boosted 2003/04 beginning stocks. Russia’s barley stocks are also up this month.

Even with 2003/04 foreign ending stocks revised up this month, U.S. stocks are down sharply, reducing projected global coarse grain ending stocks to 100 million tons, the lowest since 1975/76. World corn ending stocks are forecast down 7 million tons to 67 million, also the lowest since 1975/76. World barley ending stocks increased 1 million tons to 20 million this month, but remain the lowest since 1995/96.

## World 2003/04 Corn Trade Up This Month

Global corn trade is up 0.5 million tons this month to 77.5 million tons. Imports for Israel and Russia were increased because the pace of early season purchases has been faster than expected. Increased poultry output is boosting corn demand in Russia.

Figure 12
Corn production of major competitors


Source: Economic Research Service, USDA.
World sorghum trade is up slightly this month to over 6 million tons as EU imports are up 0.4 million to 1.1 million tons. The import levy is smaller for sorghum compared with other feed grains so the EU has been buying sorghum aggressively from the United States and other countries, including Brazil. However, the high prices for U.S. sorghum have reduced prospects for Mexico's imports, as Mexican buyers have turned to cheaper corn or corn products. This month's larger U.S. sorghum crop and reduced U.S. domestic use facilitated an increase in projected U.S. sorghum exports to 5.2 million tons.

While world barley trade is little changed in aggregate this month, significant adjustments were made to some country forecasts. Russia's barley exports increased 0.8 million tons to 2.8 million. A larger crop and strong shipments to Saudi Arabia boosted Russia's exports. However, EU barley exports were reduced 0.5 million to 2.5 because of high internal prices and the reluctance of the EU Grain Commission to approve subsidies for export.

World oat trade declined slightly this month as Canadian shipments to the United States have been lower than expected.

## U.S. 2003/04 Corn Export Forecast Boosted 1.5 Million Tons to 50 Million

U.S. corn exports are expected to reach 50 million tons in 2003/04, up 1.5 million this month, and 21
percent greater than the previous year. Part of this month's increase is because of stronger-than-earlierexpected import demand, and reduced competition.

Corn exports by China were reduced 0.5 million tons this month to 8 million amidst mounting evidence that it is withdrawing from the export market for the time being. Argentina corn exports for 2003/04 (OctoberSeptember) were reduced 1 million tons to 9 million because of reduced production prospects. However, Brazil's exports for the same period were increased 0.5 million tons because of increased production.

The pace of U.S. corn exports has been strong during the first months of 2003/04 (October-September). According to Census data for October and November and inspections for December, corn shipments reached 12.7 million tons, up 19 percent compared with a year ago. Moreover, as of January 1, 2004, outstanding export sales were 9.2 million tons, up 56 percent compared with a year earlier. U.S. corn exports are expected to be stronger later in the season than the normal marketing pattern would indicate because of reduced competition from Argentina and China.

Figure 13
Corn exports of major competitors


Source: Economic Research Service, USDA.

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## Data

The Feed Grains Data Delivery System (http://www.ers.usda.gov/db/feedgrains/) is a queryable database that contains monthly, quarterly, and annual data on prices, supply, and use of corn and other feed grains. This includes data published in the monthly Feed Outlook and the annual Feed Yearbook reports.

## Recent Reports From the Economic Research Service

The 2002 Farm Act: Provisions and Implications for Commodity Markets provides an initial assessment of the legislation's effects on agricultural production, commodity markets, and net farm income over the next 10 years. The report is available at http://www.ers.usda.gov/publications/aib778/.

The 2002 Farm Bill: Provisions and Economic Implications, a side-by-side comparison of the new farm bill with 1996-2001 farm legislation, is available at http://www.ers.usda.gov/Features/FamBill/.

Agricultural Productivity and Efficiency in Russia and Ukraine: Building on a Decade of Reform (http://www.ers.usda.gov/publications/aer813/) reviews the evidence on the productivity of agricultural production and explores some of the causes of inefficient practices. Implementing institutional reforms would allow productivity and efficiency in the agricultural sector to improve.

## Related Websites

WASDE (http://www.usda.gov/oce/waob/wasde/latest.pdf)
Grain Circular (http://www.fas.usda.gov/grain/circular/2004/01-04/graintoc.htm)
World Agricultural Production (http://www.fas.usda.gov/wap/circular/2004/04-1/toc.html)
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Table 1--Feed grains: Marketing year supply and disappearance 1/


| Sorghum: 2000/01 |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Sep-Nov | 65 | 471 | 0 | 536 | 17 | 194 | 63 | 274 | 262 | 1.69 |
| Dec-Feb | 262 | --- | 0 | 262 | 11 | 15 | 69 | 95 | 167 | 1.95 |
| Mar-May | 167 | --- | 0 | 167 | 4 | 23 | 63 | 91 | 76 | 1.79 |
| June-Aug | 76 | --- | 0 | 76 | 3 | -10 | 42 | 35 | 42 | 2.03 |
| Mkt. yr. | 65 | 471 | 0 | 536 | 35 | 222 | 237 | 494 | 42 | 1.89 |
| 2001/02 |  |  |  |  |  |  |  |  |  |  |
| Sep-Nov | 42 | 515 | 0 | 556 | 6 | 173 | 63 | 242 | 314 | 1.86 |
| Dec-Feb | 314 | --- | 0 | 314 | 6 | 36 | 78 | 120 | 194 | 1.84 |
| Mar-May | 194 | --- | 0 | 194 | 6 | 29 | 53 | 89 | 105 | 1.78 |
| June-Aug | 105 | --- | 0 | 105 | 5 | -8 | 47 | 45 | 61 | 2.25 |
| Mkt. yr. | 42 | 515 | 0 | 556 | 23 | 230 | 242 | 495 | 61 | 1.94 |
| 2002/03 |  |  |  |  |  |  |  |  |  |  |
| Sep-Nov | 61 | 370 | 0 | 431 | 5 | 143 | 51 | 199 | 232 | 2.43 |
| Dec-Feb | 232 | --- | 0 | 232 | 5 | 17 | 47 | 69 | 163 | 2.38 |
| Mar-May | 163 | --- | 0 | 163 | 8 | 33 | 40 | 81 | 82 | 2.21 |
| June-Aug | 82 | --- | 0 | 82 | 6 | -15 | 48 | 39 | 43 | 2.13 |
| Mkt. yr. | 61 | 370 | 0 | 431 | 24 | 178 | 186 | 388 | 43 | 2.32 |
| 2003/04 |  |  |  |  |  |  |  |  |  |  |
| Sep-Nov | 43 | 411 | 0 | 454 | 7 | 154 | 60 | 221 | 234 | 2 |
| Mkt. yr. | 43 | 411 | 0 | 454 | 25 | 165 | 210 | 400 | 54 | 2.20-2.50 |
|  |  |  |  |  |  |  |  |  |  | ntinued-- |

Table 1--Feed grains: Marketing year supply and disappearance (cont.) 1/

| Year/ Qtr. | $\begin{array}{r} \text { Beg. } \\ \text { stocks } \end{array}$ | Production | $\begin{array}{r} \text { Im- } \\ \text { ports } \end{array}$ | Supply | FSI | Feed \& resid. | $\begin{array}{r} \text { Ex- } \\ \text { ports } \end{array}$ | Total disp. | $\begin{array}{r} \text { End. } \\ \text { stocks } \end{array}$ | Farm price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Barley: |  |  |  | ------Million bushels---- |  |  |  |  |  | \$/bu |
| 2001/02 |  |  |  |  |  |  |  |  |  |  |
| June-Aug | 106 | 249 | 8 | 364 | 44 | 63 | 11 | 118 | 245 | 2.24 |
| Sep-Nov | 245 | --- | 5 | 250 | 39 | 9 | 7 | 55 | 195 | 2.27 |
| Dec-Feb | 195 | --- | 6 | 201 | 37 | 17 | 5 | 59 | 142 | 2.16 |
| Mar-May | 142 | --- | 5 | 147 | 52 | -1 | 3 | 54 | 93 | 2.16 |
| Mkt. yr. | 106 | 249 | 24 | 380 | 172 | 88 | 26 | 287 | 93 | 2.22 |
| 2002/03 |  |  |  |  |  |  |  |  |  |  |
| June-Aug | 93 | 227 | 9 | 328 | 44 | 54 | 7 | 104 | 224 | 2.48 |
| Sep-Nov | 224 | --- | 3 | 227 | 39 | 11 | 7 | 57 | 170 | 2.68 |
| Dec-Feb | 170 | --- | 5 | 175 | 37 | 6 | 8 | 51 | 123 | 2.88 |
| Mar-May | 123 | --- | 2 | 125 | 53 | -6 | 9 | 56 | 69 | 2.85 |
| Mkt. yr. | 93 | 227 | 18 | 338 | 173 | 65 | 30 | 269 | 69 | 2.72 |
| 2003/04 |  |  |  |  |  |  |  |  |  |  |
| June-Aug | 69 | 276 | 3 | 349 | 44 | 60 | 3 | 107 | 242 | 2.89 |
| Sep-Nov | 242 | --- | 6 | 248 | 39 | 4 | 7 | 50 | 198 | 2.84 |
| Mkt. yr. | 69 | 276 | 25 | 370 | 173 | 75 | 25 | 273 | 97 | 2.70-3.00 |
| Oats: |  |  |  |  |  |  |  |  |  |  |
| 2001/02 |  |  |  |  |  |  |  |  |  |  |
| June-Aug | 73 | 117 | 18 | 207 | 17 | 73 | 1 | 91 | 116 | 1.29 |
| Sep-Nov | 116 | --- | 48 | 165 | 17 | 33 | 1 | 50 | 114 | 1.59 |
| Dec-Feb | 114 | --- | 18 | 132 | 15 | 23 | 1 | 39 | 93 | 1.92 |
| Mar-May | 93 | --- | 12 | 105 | 24 | 18 | 0 | 42 | 63 | 1.99 |
| Mkt. yr. | 73 | 117 | 96 | 286 | 72 | 148 | 2.8 | 223 | 63 | 1.59 |
| 2002/03 |  |  |  |  |  |  |  |  |  |  |
| June-Aug | 63 | 119 | 14 | 195 | 17 | 66 | 0 | 84 | 112 | 1.70 |
| Sep-Nov | 112 | --- | 41 | 152 | 17 | 31 | 1 | 48 | 104 | 1.82 |
| Dec-Feb | 104 | --- | 23 | 127 | 15 | 28 | 1 | 44 | 83 | 2.05 |
| Mar-May | 83 | --- | 18 | 101 | 23 | 28 | 0 | 51 | 50 | 2.01 |
| Mkt. yr. | 63 | 119 | 95 | 277 | 72 | 152 | 2.7 | 227 | 50 | 1.81 |
| 2003/04 |  |  |  |  |  |  |  |  |  |  |
| June-Aug | 50 | 145 | 21 | 216 | 17 | 66 | 1 | 84 | 132 | 1.47 |
| Sep-Nov | 132 | --- | 30 | 162 | 17 | 25 | 1 | 43 | 119 | 1.38 |
| Mkt. yr. | 50 | 145 | 95 | 289 | 73 | 140 | 2.0 | 215 | 74 | 1.35-1.55 |

Totals may not add due to rounding.
1/ Corn and sorghum are on a September 1 to August 31 marketing year.
Barley and oats are on a June 1 to May 31 marketing year.
Source: Economic Research Service, U.S. Department of Agriculture.

Table 2--Feed and residual use of wheat and coarse grains

| Year beginning Sept. 1 | Corn | Sorg. | Barley | Oats | Feed grains | Wheat | Total grains | Animal units | Feed/ animal unit |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | ------- | ---- Mill | metric | ----- | ------- |  | Mil. | Tons |
| 2001/02 |  |  |  |  |  |  |  |  |  |
| Sep-Nov | 56.0 | 4.4 | 0.2 | 0.6 | 61.2 | -0.6 | 60.5 |  |  |
| Dec-Feb | 39.1 | 0.9 | 0.4 | 0.4 | 40.8 | -0.2 | 40.6 |  |  |
| Mar-May | 29.6 | 0.7 | 0.0 | 0.3 | 30.6 | -0.7 | 29.9 |  |  |
| June-Aug | 24.3 | -0.2 | 1.2 | 1.0 | 26.3 | 5.3 | 31.6 |  |  |
| Mkt. yr. | 149.1 | 5.9 | 1.7 | 2.3 | 158.9 | 3.8 | 162.7 | 89.4 | 1.82 |
| 2002/03 |  |  |  |  |  |  |  |  |  |
| Sep-Nov | 51.4 | 3.6 | 0.2 | 0.6 | 55.9 | -2.0 | 53.8 |  |  |
| Dec-Feb | 39.3 | 0.4 | 0.1 | 0.5 | 40.3 | 0.3 | 40.7 |  |  |
| Mar-May | 29.0 | 0.8 | -0.1 | 0.4 | 30.1 | -0.2 | 29.9 |  |  |
| June-Aug | 22.4 | -0.4 | 1.3 | 1.0 | 24.4 | 8.4 | 32.8 |  |  |
| Mkt. yr. | 142.1 | 4.5 | 1.5 | 2.5 | 150.6 | 6.5 | 157.2 | 87.9 | 1.79 |
| 2003/04 |  |  |  |  |  |  |  |  |  |
| Sep-Nov | 55.5 | 3.9 | 0.1 | 0.4 | 59.9 | -1.8 | 58.2 |  |  |
| Mkt. yr. | 146.7 | 4.2 | 1.9 | 2.3 | 155.0 | 4.5 | 159.5 | 89.4 | 1.78 |

Source: USDA, Economic Research Service.

Table 3--Cash feed grain prices


Table 4--Selected feed and feed byproduct prices

|  | Soybean meal high protein Decatur, IL 1/ | Cotton- seed meal, $41 \%$ slv. Memphis 1/ | Corn <br> gluten <br> feed, <br> IL <br> pts. 1/ | Corn <br> gluten <br> meal, <br> IL <br> pts. 1/ | Meat \& bone meal, Central U.S. 1/ | Dists. dried grains, Lawrenceburg, IN 1/ | Wheat <br> midlgs, <br> Kansas <br> City 1/ | Alfalfa farm price $2 /$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | \$/ton |  |  |  |  |  |  |  |
| Mkt. yr. |  |  |  |  |  |  |  |  |
| 2000/01 | 174.15 | 145.17 | 58.89 | 248.43 | 177.19 | 84.47 | 61.77 | 88.90 |
| 2001/02 | 165.53 | 134.06 | 59.71 | 242.86 | 167.55 | 78.48 | 59.31 | 104.00 |
| 2002/03 3/ | 178.87 | 147.23 | 65.27 | 241.65 | 170.81 | 74.94 | 64.02 | 100.00 |
| Monthly: |  |  |  |  |  |  |  |  |
| 2002: |  |  |  |  |  |  |  |  |
| Aug. | 186.25 | 159.75 | 61.75 | 275.00 | 168.84 | NQ | 61.25 | 101.00 |
| Sept. | 185.45 | 156.38 | 65.38 | 272.50 | 164.54 | NQ | 72.68 | 101.00 |
| Oct. | 168.20 | 150.10 | 67.00 | 268.50 | 160.40 | 77.60 | 71.50 | 102.00 |
| Nov. | 163.20 | 150.00 | 68.50 | 256.25 | 156.40 | 96.50 | 66.70 | 101.00 |
| 2003: |  |  |  |  |  |  |  |  |
| Aug. | 189.70 | 151.70 | 61.60 | 226.90 | 194.10 | NQ | 63.00 | 91.00 |
| Sept. | 235.20 | 165.00 | 67.10 | 246.90 | 207.00 | NQ | 68.70 | 89.00 |
| Oct. | 225.20 | 163.50 | 76.90 | 263.40 | 222.00 | 91.00 | 71.30 | 88.80 |
| Nov. 3/ | 242.00 | NQ | 100.00 | 321.88 | 263.70 | 105.00 | 86.50 | 88.00 |

1/ Marketing year beginning September 1. 2/ Marketing year beginning May 1. 3/ Preliminary. NQ=No quote.
Sources: U.S. Department of Agriculture, Agricultural Marketing Service and National Agricultural Statistics Service.

Table 5--Corn: Food and industrial uses

| Year |  Glucose <br> and <br> HFCS <br> dex.  |  | Starch | ---Alcohol--- |  | Cereals \& other products | Total food \& industrial |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Fuel | Bev. \& Mfg. |  |  |
|  | Million bushels |  |  |  |  |  |  |
| 2001/02 |  |  |  |  |  |  |  |
| Sep-Nov | 127.2 | 56.0 |  | 62.4 | 168.3 | 32.0 | 46.2 | 492.1 |
| Dec-Feb | 119.9 | 49.7 | 57.9 | 175.2 | 33.6 | 46.2 | 482.4 |
| Mar-May | 143.3 | 54.6 | 61.3 | 179.9 | 35.1 | 46.8 | 520.9 |
| June-Aug | 150.3 | 56.8 | 64.1 | 182.6 | 30.3 | 46.8 | 530.9 |
| Mkt. year | 540.6 | 217.1 | 245.7 | 705.9 | 131.0 | 186.0 | 2,026.3 |
| 2002/03 |  |  |  |  |  |  |  |
| Sep-Nov | 126.6 | 57.7 | 63.5 | 225.9 | 32.0 | 46.5 | 552.2 |
| Dec-Feb | 121.1 | 50.1 | 63.0 | 249.3 | 33.6 | 46.5 | 563.6 |
| Mar-May | 139.7 | 57.1 | 64.1 | 256.5 | 35.1 | 47.0 | 599.6 |
| June-Aug | 144.4 | 60.0 | 65.0 | 263.8 | 30.3 | 47.0 | 610.6 |
| Mkt. year | 531.8 | 225.0 | 255.7 | 995.5 | 131.0 | 186.9 | 2,326.0 |
| 2003/04 |  |  |  |  |  |  |  |
| Sep-Nov | 127.6 | 57.7 | 65.4 | 268.7 | 32.3 | 46.7 | 598.4 |
| Mkt. year | 535.0 | 225.0 | 260.0 | 1,120.0 | 132.0 | 188.0 | 2,460.0 |

Source: U.S. Department of Agriculture, Economic Research Service.

Table 6--Wholesale corn milling product and byproduct prices

|  | Corn meal, yellow, New York | Brewers' grits, Chicago | Sugar, dextrose, Midwest | HFCS, 42\% <br> tank cars, Midwest | Corn starch, fob Midwest 3/ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | \$/cwt | \$/cwt | cents/lb | cents/lb | \$/cwt |
| Mkt. yr. 1/ |  |  |  |  |  |
| 2000/01 | 15.85 | 11.75 | 16.83 | 9.25 | 12.44 |
| 2001/02 | 15.74 | 11.75 | 18.61 | 10.58 | 12.46 |
| 2002/03 21 | 16.45 | 12.86 | 20.36 | 11.65 | 13.21 |
| Monthly |  |  |  |  |  |
| 2002: |  |  |  |  |  |
| Sept. | 17.30 | 14.10 | 19.13 | 12.30 | 13.69 |
| Oct. | 16.84 | 12.74 | 18.88 | 12.30 | 14.05 |
| Nov. | 14.91 | 14.54 | 18.88 | 11.70 | 13.48 |
| Dec. | 15.37 | 12.91 | 20.38 | 11.50 | 13.18 |
| 2003: |  |  |  |  |  |
| Sept. | 16.60 | 12.49 | 20.88 | 11.50 | 12.49 |
| Oct. | 16.52 | 12.42 | 20.88 | 11.75 | 12.64 |
| Nov. | 16.64 | 12.54 | 21.98 | 11.81 | 12.16 |
| Dec. $2 /$ | 16.81 | 12.71 | 21.98 | 12.75 | 12.34 |

1/ Marketing year beginning September 1. 2/ Preliminary. 3/ Bulk-industrial, unmodified.
Source: Milling and Baking News.

Table 7--U.S. feed grains imports by country of origin

| Country/region | ------2001/2002----- |  | ------2002/2003------ |  | 2003/2004 |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mkt. yr. | June-Oct. | Mkt. yr. | June-Oct. | June-Oct. |
| Oats: | Thousand tons |  |  |  |  |
| Canada | 1,138 | 672 | 843 | 493 | 624 |
| Finland | 264 | 142 | 360 | 142 | 75 |
| Sweden | 217 | 98 | 381 | 129 | 71 |
| Total 1/ | 1,654 | 913 | 1,640 | 765 | 769 |
| Barley, malting: |  |  |  |  |  |
| Canada | 488 | 240 | 317 | 229 | 76 |
| Total 1/ | 489 | 240 | 360 | 229 | 127 |
| Barley, other: $2 /$ |  |  |  |  |  |
| Canada | 32 | 1.8 | 42 | 12 | 7 |
| Total 1/ | 32 | 1.8 | 42 | 12 | 7 |

1/ Totals may not add due to rounding. 2/ Mainly consists of barley for feeding and also includes seed barley. Source: Bureau of the Census, U.S. Dept. of Commerce.

Table 8--U.S. feed grain exports by selected destinations 1/

| Country/region | ------2001/02------- |  | ------2002/03------- |  | $\begin{array}{r} 2003 / 2004 \\ \text { Sept.-Oct. } \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mkt. yr. | Sept.-Oct. | Mkt. yr. | Sept.-Oct. |  |
|  | 1,000 metric tons |  |  |  |  |
| Corn: |  |  |  |  |  |
| Japan | 14,893 | 2,244 | 14,508 | 2,211 | 2,207 |
| Mexico | 4,464 | 1,228 | 5,255 | 894 | 894 |
| Taiwan | 4,680 | 719 | 4,014 | 530 | 893 |
| Egypt | 4,468 | 873 | 2,702 | 330 | 807 |
| S. Korea | 1,355 | 270 | 270 | 1 | 73 |
| Canada | 3,909 | 638 | 3,923 | 692 | 549 |
| Colombia | 1,698 | 225 | 1,585 | 188 | 205 |
| Venezuela | 460 | 47 | 608 | 121 | 187 |
| Algeria | 1,367 | 240 | 898 | 277 | 345 |
| Saudi Arabia | 714 | 150 | 131 | 40 | 91 |
| Dominican Republic | 1,030 | 156 | 937 | 186 | 134 |
| Israel | 832 | 11 | 268 | 31 | 164 |
| Syria | 786 | 161 | 517 | 126 | 237 |
| Turkey | 747 | -- | 981 | -- | -- |
| Morocco | 600 | 81 | 76 | -- | 84 |
| Costa Rica | 463 | 79 | 529 | 98 | 86 |
| Tunisia | 714 | 137 | 123 | -- | 71 |
| Peru | 261 | 58 | 42 | 27 | 20 |
| Iran | 63 | -- | -- | -- | -- |
| Sub-Saharan Africa | 695 | 24 | 339 | 189 | 19 |
| Former USSR | 86 | 20 | -- | -- | 6 |
| Chile | 34 | -- | -- | -- | 19 |
| EU | 26 | 2 | 8 | -- | 1 |
| East Europe | 15 | -- | -- | -- | 6 |
| China | 20 | -- | -- | -- | -- |
| Others | 3,790 | 439 | 2,599 | 330 | 664 |
| Total | 48,172 | 7,802 | 40,315 | 6,273 | 7,762 |
| Sorghum: |  |  |  |  |  |
| Mexico | 4,653 | 680 | 3,194 | 658 | 463 |
| Japan | 1,264 | 273 | 1,015 | 260 | 324 |
| Israel | 30 | 5 | 39 | -- | 61 |
| EU | 9 | -- | 182 | -- | 225 |
| Others | 71 | 25 | 104 | 15 | 38 |
| Total | 6,027 | 982 | 4,535 | 933 | 1,111 |
|  | ------2001/2002------ |  | ------2002/2003----- |  | 2003/2004 |
|  | Mkt. yr. | June-Oct. | Mkt. yr. | June-Oct. | June-Oct. |
| Barley: |  |  |  |  |  |
| Saudi Arabia | -- | -- | -- | -- | -- |
| Japan | 293 | 185 | 358 | 124 | 153 |
| Mexico | 70 | 24 | 25 | 3 | 9 |
| Taiwan | -- | -- | -- | -- | -- |
| Canada | 94 | 56 | 195 | 87 | 26 |
| Other | 113 | 79 | 73 | 23 | 14 |
| Total | 571 | 344 | 650 | 237 | 202 |

1/ Totals may not add due to rounding.
Source: Bureau of the Census, U.S. Dept. of Commerce.


[^0]:    Source: National Agricultural Statistics Service, USDA.

