



# WEEKLY OUTLOOK

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## **U.S. CORN YIELDS**

The primary focus in the corn market is the prospective yield of the 1996 U.S. crop. Some recent history of corn yields provides a useful background in assessing yield prospects for 1996. Over the past 15 years, the U.S. average corn yield has ranged from a low of 81.1 bushels (1988) to a high of 138.6 bushels (1994). The average yield has been below 100 bushels in three years and above 130 bushels in two years since 1980.

There is some evidence that the corn yield estimate (or at least the production estimate) may be slightly biased at both the low and high end of the spectrum. The major supporting evidence of a bias is the apparent wide range in residual use of corn on an annual basis. Feed and residual use is combined in reporting, since feed use is not actually measured. For the period 1982-83 through 1989-90, the number of grain consuming animal units (GCAU's) as reported by the USDA was relatively stable, ranging from 74.4 million to 77.4 million. During that same period, feed and residual use of corn ranged from 3.9 to 4.8 billion bushels. Large use occurred in years of large supplies and small use occurred in years of small supplies. For the period 1990-91 through 1994-95, the number of GCAU's ranged from 80.1 to 84.6 and feed and residual use of corn ranged from 4.6 to 5.5 billion bushels. Over the 13 year period, feed and residual use of corn per GCAU ranged from 52 bushels to 64.4 bushels.

Part of the variation in use per GCAU is explained by substitution of other feed ingredients for corn in years of short supply. Still, the feed and residual use of all grains per GCAU ranged from 1.6 metric tons to 2.09 metric tons. Feed and residual use of all concentrate per GCAU ranged from 2.07 to 2.58 tons. Again, high rates of feeding occurred in years of large supplies and vice versa. Part of the explanation is in feeding practices — slaughter weights are reduced (increased) when feed supplies are small (large) and prices high (low). In addition, nontraditional feeds and pasture are used more frequently in years of high feed prices. Still, the extreme range in feeding rates suggests that large corn crops may be overestimated and small crops underestimated.

For the 1996 corn crop, a trend yield is calculated at 126 to 128 bushels per acre. It is generally accepted that the 1996 yield will fall short of trend. Private estimates range as low as 112 bushels per acre. The U.S. corn yield futures contract is currently trading near 120 bushels. Based on the USDA's harvested acreage estimate of 73.269 million acres, the range in crop expectations is from 8.2 to 8.8 billion bushels.

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Based on crop conditions in late July, the USDA estimated yield potential at 118.7 bushels and production potential at 8.695 billion bushels. The yield estimate was lower than expected. The market had expected a larger yield estimate, partly because the late July crop condition ratings were very similar to those of a year ago, when the August yield estimate was 125.6 bushels per acre. The lower estimate this year (6.9 bushels) may reflect the lateness of the crop and expectations that some of the crop will not mature before the first normal frost date.

Last year, the crop condition ratings deteriorated from mid-August through late September. During that period, the percentage of the crop rated good or excellent declined from 67 percent to 53 percent. The U.S. yield estimate was ultimately lowered to 113.5 bushels. From July 30 through August 27 of this year, the crop condition ratings have been very stable, with 61 to 64 percent of the crop rated good or excellent. One clue to any changes in yield potential this year will be the crop condition ratings over the next four weeks. The other important factor will be the first frost date. Based on the crop condition reports, the USDA's September yield estimate may be very close to the August estimate. The final outcome is still a long way from being determined.

The next question the market will address is: How large of a corn crop is needed in 1996? With a 60 percent increase in sorghum production, a 4 to 5 percent increase in foreign production of feedgrains, some liquidation of animals, and the cut back in processing of corn, demand for corn during the first quarter of the marketing year may be much weaker than during the same period last year.



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