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## Weekly Outlook: Anticipating September 1 Stocks for Corn and Soybeans

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The USDA releases the *Quarterly Grain Stocks* report on September 28. The report indicates corn and soybean use during the fourth quarter of the 2017-18 marketing year. Corn and soybean prices are unlikely to find any support with the release of the report on Friday.

The supply of corn available on June 1 of the marketing year is the base for estimating September 1 stocks. Corn stocks started the quarter at 5.306 million bushels based on the June Grain Stocks report estimate. Currently, the Census Bureau estimates for corn imports are only available through July. Imports for the fourth quarter are on pace to total near 7 million bushels. By combining imports with the beginning stocks, total available supply for the fourth quarter comes in at 5.313 billion bushels.

An estimate of corn exports for the fourth quarter is based on the cumulative weekly export inspections available for the entire quarter. Cumulative marketing year export inspections through August totaled approximately 2.28 billion bushels. By using the relationship between Census Bureau corn exports and export inspections during the first eleven months of the marketing year, corn exports equaled 2.413 billion bushels. Since exports in the first three-quarters of the marketing year totaled 1.656 billion bushels, the estimate for fourth quarter corn exports equals 756 million bushels.

The *Grain Crushing and Co-Products Production* report released on September 1 estimated corn used for ethanol production during June and July at 944 million bushels. Weekly estimates of ethanol production provided by the Energy Information Administration shows ethanol production increased by 4.5 percent in August from the preceding year. By calculating the amount of corn used to produce ethanol from these August numbers, corn use in August totaled around 503 million bushels. An estimate for total consumption during the quarter is 1.447 billion bushels.

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Corn used to produce other food and industrial products during the marketing year is estimated at 1.46 billion bushels by the USDA. Using historical corn use data, typically around 25 percent of food and industrial product use occurs in the last quarter of the marketing year. If this historical pattern holds and the USDA projection is correct, corn use for the fourth quarter of the marketing year totaled 365 million bushels.

The current USDA projection for feed and residual use sits at 5.45 billion bushels. Consumption during the first three-quarters totaled 4.696 billion bushels. To reach the USDA estimate for the year, fourth quarter feed and residual use must equal 754 million bushels. By using the historical relationship for fourth quarter feed and residual use during periods of high livestock herd levels combined with recent feed and residual use patterns, the feed and residual use during the fourth quarter is calculated at 725 million bushels.

By adding the estimates for exports and domestic uses, an estimate of the total consumption of corn during the fourth quarter is 3.293 billion bushels. The overall use estimate for the fourth quarter places September 1 corn stocks at 2.020 billion bushels. At this level, September 1 stocks come in 18 million bushels larger than the projected September 1 corn stocks by the USDA. A significant deviation from current stock expectations would indicate a considerable adjustment in feed and residual use.

Soybean supply entering the fourth quarter of the marketing year totaled 1.22 billion bushels based on the June 1 stocks report. An estimate of soybean imports for the fourth quarter using Census Bureau data came in at approximately 4.5 million bushels. The total supply for the quarter comes in at 1.226 billion bushels.

The expected level of soybean crush during the fourth quarter is based on estimates of the domestic crush from the USDA's *Oilseed Crushings, Production, Consumption and Stocks* report for June and July and the NOPA estimate for August crush. For the current marketing year, the USDA monthly crush estimates exceeded the NOPA crush estimates by 6.5 percent. A continuation of the margin for USDA monthly crush estimates above the NOPA August crush estimate indicates a fourth-quarter crush of 516 million bushels of soybeans. The total crush for the marketing year sums to 2.053 billion bushels.

Soybean export calculations are inferred from USDA weekly export inspection reports and Census Bureau export estimates. The USDA's weekly export inspections report shows that cumulative marketing year inspections of 2.073 billion bushels. Through the first eleven months of the marketing year, cumulative Census export estimates exceeded inspections by 56 million bushels. If that margin persisted through August, cumulative exports reached 2.129 billion bushels. Exports during the fourth quarter totaled 368 million bushels.

Calculating the level of seed and residual use of soybeans during the fourth quarter of the year is difficult. The seasonal pattern of seed and residual use is noticeable. Use is positive in the first half of the year and negative in the last half of the year, but the quarterly distribution varies from year to year. Use through the initial three quarters this year is estimated at 191.9 million bushels based on the June 1 stocks estimate. By using second half seed and residual use for the five years preceding years, disappearance in this category during the fourth quarter is estimated at -57 million bushels. Seed and residual use during the marketing year equal 135 million bushels.

Total consumption of soybeans during the fourth quarter of the marketing year is calculated to be near 827 million bushels. With supply estimated at 1.226 billion bushels, September 1 soybean stocks total approximately 399 million bushels. Given the uncertainty of the magnitude of seed and residual use during the quarter, the stocks estimate would be expected to be within a relatively narrow range and close to the USDA's current estimate of 395 million bushels.

YouTube Video: Discussion and graphs associated with this article available at youtu.be/WDEOnu92-o4