Accuracy of the June Acreage Report vs. Final Acres Planted

During the first 2 weeks of June, data was collected by the USDA National Agricultural Statistics Service (NASS) for the annual June Acreage report to be released on June 28, 2013. This report combines 2 surveys; the June Crops/Stocks, a probability survey that includes a sample of over 71,000 farm operators nationwide including about 2,500 operators in Iowa.

In addition, the June Area Survey contains about 9,900 segments of land nationwide and over 400 in Iowa. Operators from both samples respond to personal and phone interviews along with mail and web-based survey instruments between May 30 and June 16, 2013. Questions are asked about the acres planted and the specific crops.

2013 Planted Acreage

According to the survey results released on June 28, corn growers intend to plant 97.4 million acres of corn for all purposes in 2013. That’s a slight increase over 2012 and the fifth straight year that acres have increased. If realized, this will represent the highest corn planted acreage in the United States since 1936 when an estimated 102 million acres were planted.

NASS also estimates the number of acres of corn to be harvested for grain. Excluded in this number are acres that will likely be harvested for seed, food grade, silage, stover and abandoned acres. The balance is then an estimate for harvested acres estimated at 89.1 million acres or 91.5 percent of acres planted. That’s an increase of 1.6 percent over last year’s harvested acres impacted by drought.

NASS Survey Procedures

The June Acreage Report validates the Prospective Planting Report released March 28, 2013, but both reports are still estimates of planted acres. That March report is based primarily on operators planting intentions and is conducted during the first two weeks of March. The March survey is a probability survey that includes a sample of over 83,500 farm operators selected from a list of producers that ensures all operations in the United States have a chance to be selected.

Statistical Methodology & Reliability

The survey used to make acreage estimates for both the March and June reports are subject to sampling and non sampling errors that are common to all surveys. Sampling errors represent the variability between estimates that would result if many different samples were surveyed at the same time. Sampling errors for major row crops such as corn and soybeans are generally between 1 and 3 percent in March and 1 and 2 percent for the June report.

Non sampling errors cannot be measured directly. They may occur due to incorrect reporting and/or recording, data omissions or duplications, and errors in processing. To minimize non sampling errors, NASS uses vigorous quality controls are used in the data collection process and all data are carefully reviewed for consistency and reasonableness.

To evaluate the reliability of acreage estimates in the June Acreage report, the "Root Mean Square Error," a statistical measure based on past performance, is computed. The deviations between the acreage estimates in this report and the final estimates are expressed as a percentage of the final estimates. The average of squared percentage deviations for the latest 20 year period is computed.

The square root of the average becomes statistically the "Root Mean Square Error." Probability statements can be made concerning expected differences in the current estimates relative to the final end of season estimates, assuming that factors affecting this year's estimates are not different from those influencing recent years.

For example, the "Root Mean Square Error" for the corn planted estimate is 0.8 percent. This means that chances are 2 out of 3 that the current corn acreage estimate will not be above or below the final estimate by more than 0.8 percent.

Chances are 9 out of 10 (90 percent confidence level) that the difference will not exceed 1.4 percent. Also, shown in the table above is a 20 year record for selected crops of the difference between the June Acreage estimates and the final estimates. Changes between the intentions estimates and the final estimate released in January during the past 20 years have averaged 532,000 acres. That’s a range from 28,000 acres as the smallest to 1,345 million acres as the largest difference. The prospective plantings estimates have been below the final estimate 5 times and above 15 times. This does not imply that the planted estimate for 2013 is likely to understate or overstate the final estimate.

**Conclusion**

USDA NASS goes to great lengths to compile information and provide results of both the March Prospective Planting and June Acreage Reports. As a result, the reports are deemed statistically accurate. Note that these numbers are still estimates of the final planted and harvested acreage data to be released on January 10, 2014.

However, in 2013 the June survey data was collected before many operators were done planting because of wet spring conditions. This is especially true in some of the northern Corn Belt states such as Iowa, Wisconsin, Minnesota and North Dakota.

NASS indicated on June 28 that they plan to resurvey operators in a total of 14 states, but these efforts will be regarding soybean planted acreage. Some acres, especially corn, operators in early June likely indicated that they planned to plant. Instead, prevented planting acres were claimed and no crop was planted. Other acres originally intended for corn might have been planted to other crops, primarily soybeans.

On August 12, NASS will release the results of the resurvey of soybean planted acres in the August Crop Production report. These acreage estimates, both planted and harvested, will be slightly different from the June Acreage numbers. In addition, NASS will release the first in-field yield estimates collected from the June Area Survey data, that’s the 9,900 segments of land nationwide and over 400 in Iowa.

NASS will also reconcile to the Farm Service Agency (FSA) data obtained by operators at acreage certification. However, the deadline for certifying was extended in states including Iowa beyond the original July 15th deadline. So minor changes in planted acreage estimates for both corn and soybean acres will be reflected beyond the August Crop Production report. The best estimate of corn and soybean planted acreage will not likely be known until the monthly USDA Crop Production reports to be released on September 12 or October 11, 2013.