



ILLINOIS FARM AND FOOD OUTLOOK

COLLEGE OF AGRICULTURE
DEPARTMENT OF AGRICULTURAL ECONOMICS

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HOW BIG WAS THE 1977 SOYBEAN CROP?

THE YEAR-END STOCKS OF SOYBEANS on September 1, 1978, totalled 159 million bushels. This was 25 to 30 million bushels more than had been expected, and the price declined sharply the day after the release. The larger-than-expected stock implies that the 1977 soybean crop was underestimated.

Because the use of soybeans for processing and exports is measured by the Bureau of the Census and because only small quantities are used for other purposes--seed, feed, and shrink--we can back-sight the actual production and compare it with the final crop estimate made by the statistical reporting service and released last January. That report estimated production at 1,716 million bushels.

The carryin and carryout numbers are the smallest, hence least subject to error, so we assume that they were correct at 103 and 159 million bushels, respectively. The carryin plus the crop minus the carryout shows a disappearance of 1,660 million bushels. The Bureau of the Census indicates a crush of 927 million; export inspections were for 703 million bushels. At a national average seeding rate of 1.08 bushels per acre, the seed used to plant the 1978 crop was 70 million bushels. The long-term average for feed and shrink has been 1.4 percent of the crush and export, or 23 million bushels in 1977-78. These four categories of disappearance add up to 1,723 million bushels.

The measured disappearance of 1,723 million is 63 million bushels greater than the 1,660 million derived from the crop estimate, implying that the crop was underestimated by more than 60 million bushels. Since the above figures for seeding rate and shrink are estimates, the discrepancy of 63 million bushels is not precise; but because the estimates are small, the error in the discrepancy must also be small.

The calculation indicates that the 1977 soybean crop was actually 1,779 million bushels, instead of 1,716 million. If the calculation is correct, the error of estimate was 3.7 percent. The USDA will issue a revised estimate of last year's crop on October 11.

If the soybean crop was 1,779 million bushels, the yield per harvested acre was 30.7 bushels. The previous record was 28.8 in 1975. The average yield for 1970 through 1976 was 27.7 bushels, omitting the disaster year of 1974.

What are the implications for the next crop year? First, the larger-than-expected carryover adds to the supply available and is price-restrictive. But the carryover is not large compared to current levels of disappearance.

Beyond this small point, the implications can be construed as either bullish or bearish. One thought is that if last year's crop was underestimated by 3.7 percent, so is the 1978 crop--making it 1,838 million instead of the September estimate of 1,772 million. The opposite thought is that the 1978 crop is actually slightly smaller than last year's, which could mean a shortage in an expanding market for soybean products. The September 1 yield estimate was 28 bushels per acre, slightly above the average of recent years, 1974 omitted.

A new crop and yield estimate will be released on October 11. It will be based on a carefully drawn objective sample of soybean fields on which yields are carefully measured. During the past decade, the change from the October 1 estimate to the final one has rarely been over 3 percent, and has averaged 2 percent. The past record of USDA crop estimates has been very good. Plans for the coming year should accept the October crop estimate at face value, but recognize that there will be small changes subsequently. We won't really know how large the 1978 crop is until late September in 1979.

T.A. Hieronymus

T.A. Hieronymus, Extension Specialist, Prices and Outlook

Cooperative Extension Service
United States Department of Agriculture
University of Illinois
At Urbana-Champaign
Urbana, Illinois 61801

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