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PUTTING CORN AND SOYBEAN CROP SIZE IN PERSPECTIVE

Corn and soybean prices reached a recent low in early July on the basis of excellent crop ratings and market talk of record U.S. average yields in 1999. High temperatures in July and continued dry conditions in some growing areas, primarily the eastern corn belt, resulted in a quick price rally. December corn futures moved up \$.345 while November soybean futures moved almost \$.92 higher. Expectations of a 10 billion bushel corn crop have given way to estimates in the 9.0 to 9.3 billion bushel range. Estimates for the soybean crop have dropped from 3 billion bushels to estimates in the range of 2.8 to 2.9 billion bushels.

The USDA will release its first objective yield and production estimates on August 12. For corn, many believe that the August production estimate will reflect maximum production potential. Poor August weather could result in a smaller crop, while favorable weather would not be expected to add much yield potential. For soybeans, yields may be more sensitive to August weather. Weather so far in August has been mixed. The corn belt has experienced seasonal temperatures, with precipitation remaining generally favorable in western and northern growing areas and below normal in eastern areas.

The two most recent years which experienced an unfavorable end to the growing season were 1991 and 1995. In 1991, the USDA's August *Crop Production* report reflected the crop damage. The corn yield and production estimates changed very little in subsequent reports. For soybeans, the estimates declined in September and increased in subsequent reports. The January production estimate was 117 million bushels (6 percent) larger than the August estimate.

In 1995, corn yield and production estimates declined from the August report through the November report and then were unchanged in January. The November yield estimate was 11.9 bushels (9.5 percent) below the August estimate. As a result, the production estimate declined by 748 million bushels (9.2 percent). For soybeans in 1995, the yield and production estimates increased in September, and then declined steadily through the January report. The January yield estimate, however, was only 1.5 bushels (4 percent) smaller than the August estimate. The January production estimate was 94 million bushels (4 percent) smaller than the August estimate.

Perhaps it is useful to put the prospective size of the 1999 crop in context of the level of expected consumption and the impact on carryover stocks. In its preliminary forecast last

month, the USDA projected corn consumption in the 1999-00 marketing year at 9.41 billion bushels. It now appears that the 1999 crop will be smaller than 9.4 billion bushels, suggesting that year ending stocks will be reduced from the level of stocks at the end of the current marketing year, currently projected at 1.744 billion bushels. To reduce stocks below 1.5 billion bushels (assuming 9.41 billion consumed) the 1999 crop would have to be less than 9.166 billion bushels. Stocks at the end of the 1997-98 marketing year were at 1.308 billion bushels and the season's average price was \$2.45. To reduce stocks to 1.3 billion bushels, the 1999 corn crop will likely have to be under 8.97 billion bushels.

For soybeans, the USDA has projected consumption during the year ahead at 2.744 billion bushels. For now, it appears that production potential is above that level. If so, stocks would be expected to accumulate from the very large (395 million bushels) level expected at the end of the current marketing year. For the 1990-91, 1991-92, 1992-93, and 1994-95 marketing years, year ending stocks ranged form 278 to 335 million bushels (averaged 309 million) and the season's average price ranged from \$5.48 to \$5.75 per bushel (averaged \$5.60). Based on the recent relationship between average price and carryover stocks, year ending stocks next year would probably have to decline under 325 million bushels to result in an average price above \$5.50.

Assuming a continuation of a weaker than normal basis, the corn futures market is currently reflecting a 1999-00 marketing year average farm price of about \$2.20 per bushel. It appears that a significant decline in carryover stocks has already been factored into the corn market.

The current soybean futures market for 1999-00 reflects a season's average price of about \$4.70. The soybean market still reflects expectations that year ending stocks will increase slightly next year.

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