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Performance of Selected New-crop Corn and Soybean Pricing Strategies, 1985-2001

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Updated research for the 1985-2001 crop years continues to show statistically and economically significant gains in income vs. harvest sales have been available to farmers through selected pre-harvest corn and soybean pricing strategies. Earlier research through 1997 showed an **\$18,000 to \$19,000 average yearly gain** in net income for a 1,000 acre cash grain operation (half corn & half soybeans) vs. **harvest cash sales**. These results came from pricing 80 percent of a 10-year moving average of production with corn put option purchases in mid-May, and 20% with hedge sales in July for harvest delivery. Soybeans were priced with synthetic puts (hedge sale on November futures, plus purchase of call options two strike prices out of the money, with calls held until the first week of July to see how the U.S. crop is developing. Calls were held to take advantage of possible weather rallies in late spring or early summer, and were sold the first week of July to avoid a strong seasonal tendency toward declining call premiums into late summer and fall. From July onward, price protection was retained through the hedge sales.

If the previous year's U.S. production was a weather-reduced short crop (production fell below the previous year's utilization due to adverse weather over a sizeable part of the Corn Belt, but not necessarily in your area), the computer pulled the marketing trigger in late February before harvest with hedge sales on December futures. Hedge sales were closed in late October, and gains from pre-harvest pricing represented higher income than harvest cash sales at that time. ***Additional post-harvest marketing gains were available in many years, especially the post-1995 Freedom-to-Farm years, by taking advantage of post-harvest basis improvement and market carry. These gains were not considered in the pre-harvest study, but pre-harvest strategies used would allow farmers to store and gain from basis improvement after harvest. (For information on how to implement these post harvest strategies, see MRP modules on our web site noted above).***

For the analysis, we used two actual northwest Iowa farms, one in Lyon County and one in O'Brien County. The O'Brien County farm had higher and more stable yields than the Lyon County farm, but gains from marketing were similar for both farms. The analysis also was done for a farm in northwest Ohio, and the results were quite similar to those for the Iowa farms.

In our updated study, the statistically most significant strategy for the 1985-2001 period was the use of synthetic puts on both corn and soybeans rather than puts for corn and synthetic puts for soybeans, as the previous study had indicated. Using the same timing and pricing amounts but synthetic puts instead of puts, annual income gains for these farms were around \$19,000 to \$20,000 per year vs. harvest sales. In the years following short U.S. crops, if synthetic puts (call purchases two strike prices out of the money) were used, with calls held until early July, the average annual income gains were reduced by slightly more than a thousand dollars per year vs. straight hedge positions placed in late February. Purchase of at the money corn puts in May rather than using out of the money synthetic puts reduced annual average income gains vs. harvest sales to around \$16,000 to \$17,000 per year over the 1985-2001 time period. Statistical tests (two-tailed t tests) were used to see if these income gains might be due to random chance. Test results indicated the probability of occurrence by random chance ranged from less than one percent to about four percent. In other words, the tests indicated that a seasonal pattern in new-crop prices has persisted over this time period. ***It should be emphasized that: (1) these strategies did not provide higher prices than the harvest cash market every year, and (2) past performance does not guarantee future results. Over the study period, gains over harvest cash sales occurred about 80 percent of the time for corn and in about 2/3 of the years for soybeans.***

In the years since Freedom-to-Farm, there has been a strong tendency for the best pre-harvest pricing opportunities to come very early in the life of the contract—often a year or more ahead of harvest, and with winter prices offering somewhat better opportunities than during the planting season. Our results for the entire 1985-

2001 period showed moderately lower returns from routinely pricing in February rather than May, since this pattern has developed only in the last five years. Market behavior in creating private-sector incentives for long-term grain storage to replace CCC inventories suggests this pattern may continue in the future. That pattern may possibly create even larger economic incentives for pre-harvest pricing than those shown in our study, for those farmers who feel comfortable pricing well ahead of harvest and understand appropriate risk management tools for doing so. *For farmers who price a substantial part of production before harvest, Crop Revenue Coverage Insurance or Revenue Assurance with the harvest price option may be a useful tool for managing production risk. These two tools replace lost production at harvest replacement value by increasing insurance coverage if prices rise from winter to the following fall.*