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Weekly Outlook: A Weather Market for Corn in 2016?

Darrel Good

Department of Agricultural and Consumer Economics
University of Illinois

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Nearby corn futures remain above the early January lows, but continue to struggle under the weight of a number of negative market fundamental factors. Those negative factors include both supply and demand considerations.

On the supply side, domestic corn production has been large for three consecutive years and the USDA now projects 2015-16 marketing year ending stocks of U.S. corn at a 10 year high of 1.837 billion bushels. While those stocks represent a modest 13.6 percent of projected marketing year consumption, they are considered ample in light of prospects for another large South American harvest and projected foreign year-ending stocks of coarse grains that are nearly 40 percent larger than stocks of three years ago. Demand for corn has been weakened by sluggish domestic and global economic growth. Demand has been further weakened by the relatively strong dollar. U.S. corn exports during the current marketing year are now projected at only 1.65 billion bushels, 200 million bushels less than projected last fall. In addition, growth in domestic corn consumption is limited by plateauing ethanol production, slow growth in livestock and poultry production, and weak livestock prices.

With corn demand prospects not expected to markedly improve in the near term, price strength will likely have to come from the supply side. The primary focus will be on the prospective size of the 2016 U.S. corn crop. The first indication of the potential size of that crop will come with the USDA's *Prospective Plantings* report to be released on March 31. While the final estimate of planted acreage of corn has often deviated from the estimate of planting intentions, that report will provide some very useful information. The report will shed some light on how last year's large prevented acreage (6.7 million acres), the decline in winter wheat seedings (2.8 million acres), the decline in Conservation Reserve Program acreage (1.4 million acres), and low commodity prices will impact planting intentions for spring planted crops. That is, the report will shed some light on the prospective size of the 2016 "acreage pie". Additionally, the report will obviously reveal how producers intend to divide that acreage among specific crops.

Ultimately, the size of the 2016 corn crop will be largely determined by summer weather and the resulting U.S. average corn yield. Historically, the corn market was inclined to build some production risk into the

price structure as the planting and growing season began. The "risk premium" would then either increase or disappear as the growing season progressed through the reproductive and grain filling stages. The tendency for the corn market to reflect a risk premium was associated with the wide swings in yields experienced from the mid-1970s through the mid-1990s. Those swings can be illustrated using the linear trend yield of corn from 1960 through 2015. For the 22 years from 1974 through 1995, the U.S. average corn yield was above the calculated trend yield in 9 years, about equal to the trend yield in 3 years and below trend yield in 10 years. In the 10 years of below trend yields, the actual yield was seven bushels or more below trend in seven years and the average shortfall for those seven years was 17 bushels. The unusually high incidence of below trend yields justified an early season risk premium in the corn price structure.

The pattern of corn yields over the past 20 years differed dramatically from the pattern of the previous 22 years. For the period from 1996 through 2015, the U.S. average yield was above trend in eight years, about equal to trend in eight years, and below trend in only four years. For the six years from 1996 through 2001, the U.S. average yield was equal to or above trend each year, except for a small shortfall in 1997. That extended period of good corn yields seemed to convince the corn market that an early season risk premium was unnecessary, with many believing that improved technology had made corn yields less vulnerable to adverse weather, a topic covered in this earlier brief. The U.S. average corn yield was below trend yield in 2002, but at or above trend yield for eight consecutive years from 2003 through 2010. That experience seemed to confirm the role of technology in maintaining high corn yields and that a risk premium in the corn market was not needed. In retrospect, however, the long period of favorable yields reflected a period of benign weather conditions rather than "bullet proof' genetics. That point was solidly made in 2012.

What about 2016? The nature of the 2016 growing season is not predictable, but there are two developments that may point to an elevated risk for the U.S. average corn yield to fall below trend value. First, and most widely cited, is the weakening of the current El Nino event. Historically, El Nino events that existed in January and ended by July, as is expected this year, have been associated with a higher than average incidence of corn yields below trend value. Second, as reported by the private agricultural weather forecasting service T-storm Weather, is the historical record for extremely wet conditions in the Midwest during November and December to be followed by a higher than average incidence of corn yields below trend value. Total November/December precipitation in the Midwest in 2015 was record high. The price of new crop corn futures are currently above the price of old crop futures, but are at relatively low levels and likely reflect little premium for production risk in 2016. Some additional risk premium may be justified. Depending on the magnitude of acreage, a 2016 corn yield eight to ten bushels below trend could alter the balance sheet from one of surplus to one requiring rationing.

References

Tannura, M., S. Irwin and D. Good "Are Corn Trend Yields Increasing at a Faster Rate?" Marketing and Outlook Briefs 08-02, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, February 20, 2008.