

Planting Progress And Crop Conditions

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Illinois farmers doubled the amount of corn planted, moving from 34 percent planted on May 8 to 69 percent on May 15. Progress was not uniform; some areas are still wet, and heavy rains fell in some places late last week.

Our DeKalb research center was clobbered by 3.8 inches of rain in less than an hour on May 13. Fortunately, such rainfall was not widespread, and planting has resumed in many places this week.

The temperature roller coaster continues, with highs in the 80s or 90s for a few days during the second week of May, followed by highs only in the 50s in much of the past week. Daily growing degree-day accumulations were in the single digits for the first and third weeks of May, but in the mid-20s for several days during the second week of May. Sunday, May 15, provided one of those "zero GDD" days that are more or less wasted in terms of growth of the corn crop. After April accumulations of about 230 GDD, we've managed about 180 GDD so far in May. That's a slower pace than normal, but warm days in the next two weeks can get us back to normal by the end of the month.

In the week of May 7 to May 13, we accumulated 130 GDD at Urbana, enough to get a planted crop up. That means that most of the corn planted the first week of May is now up, and that planted by May 8 or 9 should be up. Stands generally look good, but there may be problems in some areas that received heavy rains.

Previous studies would indicate that corn planted on May 20 will have lost about 15 bushels of yield potential and that delays past that date will cause yield losses at the rate of about 1-1/2 bushels a day. Because GDD accumulations have been below normal most of the time during the last 40 days, we can speculate that this rate of loss might be somewhat lower than average this year. But if that's the case, it's mostly because top-end yield levels might have been compromised by the slow start. In other words, when it's cool in April and May, all corn tends to act as if it had been planted somewhat late; if GDD accumulations are average for the rest of the growing season, crop development is likely to continue to lag some. That's not a problem as long as we have enough water to keep the crop from being stressed.

With only about 400 GDD since the first of April, the most advanced corn in central Illinois is only at the V4 stage. Lack of consistently warm temperatures, along with recent cool ones, has resulted in limited growth, and plants are small for their physiological age. We still don't know if this by itself might limit yield, but it is certainly true that corn planted in early May will likely be almost as big as corn planted a month earlier by the time we reach the end of May.

V4 plant from a March 31 planting, photographed on May 17.

Soybean. Soybean planting has lagged as we try to get corn planted, but considerable progress is expected this week, especially in central and northern Illinois, where most of the corn has been planted. Soils are cooler than we'd like for soybeans, but if the seed can be placed well, with good seed-soil contact and uniform planting depth not deeper than 1-1/2 inches or so, we anticipate good emergence.

While delays in soybean planting reduced yields considerably in research trials in 2010, most data indicates that we have lost little yield potential if planting is delayed to mid-May. Losses due to delay will begin to accelerate now, but they should be relatively modest until the end of May, when further delays will cause appreciable losses.

There has been much commercial interest in getting soybean seed treated with fungicides, insecticides, and inoculants as well as other materials purported to increase growth or help protect the crop from stress.

It makes some sense to apply inoculant if soybeans are going into a field for the first time in more than 5 years, or for the first time ever. But

we've typically been unable to find a response to using bacterial inoculant routinely in fields that were in soybean 2 or 3 years earlier. One problem is that such effects, if any, are typically so small that "proving" the material produced an effect is almost impossible. Some researchers and companies have abandoned the normal standard of (statistical) proof, simply noting that, since it takes only a fraction of a bushel in added yield to pay for such inputs, it makes sense to use them even if they do little or nothing much of the time. Such an approach applies to other inputs, such as micronutrients and growth regulators, for which we've never really seen lack of deficiency.

I don't have a particular problem with this approach, but I would note that it turns this into a rather emotional decision, given that we'll never even see a response if there is one, so we will value the addition of the input mostly based on the satisfaction of having "done our best" to provide for the crop. With high soybean prices and so many "small-or-no-response" products available, though, one does need to be somewhat concerned about possible negative interactions among such inputs. Using as an analogy nutritional supplements, many of



which may or may not have an effect but whose interactions could be dangerous, we need to be a little careful when we load a crop with inputs, especially those that do not have a definable effect on the crop.

Wheat. Although the spring has not been bad for wheat, crop ratings continue to be rather mediocre, with less than half the crop rated as good or excellent as of May 15. Wheat had a rather tough start in the dry soils last fall, and though it survived the winter quite well, the unevenness of emergence carried over to this spring, and many fields show plants in different stages. Heavy rainfall in April has also meant standing water in some fields. This has likely compromised the root systems to some extent and may have resulted in some loss of nitrogen.

The cool weather has also delayed heading some, which might prove to be an advantage if it means flowering is taking place under drier conditions. Flowering usually happens a few days after heads emerge and is indicated by the appearance of anthers outside the head. Under cool temperatures, the interval between heading and flowering is longer. All else being equal, we prefer early rather than late heading, both for earlier double-cropping and because an earlier start to grain-filling means less chance of problems due to drought, flood, and high temperatures in June.

Areas of fields with later-developing plants often show reduced tillering and, as a result, lower head numbers. We generally estimate yield potential by counting heads per square foot and taking that number (somewhat conservatively) as equal to the number of bushels per acre the crop will produce. If the crop emerged late last fall or even early this spring, it likely did little tillering, so if there are 20 plants per square foot and each produces only about two tillers with heads, yield potential may be about 40 bushels per acre. If the main problem is low head numbers due to less tillering, head size will increase somewhat in response to the lower number of heads, and this can mean higher yields than we might estimate. Δ

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