

Corn Kernels

Late Planted Corn in 2015

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How Important is Planting Date in Corn?

The selection of planting date and the appropriate hybrid maturity for that planting date remain two of the most important decisions a corn grower will make during the growing season. The goal for corn should be to choose a planting date and hybrid maturity that allows the plant to grow for the longest period of time possible (maximizing the amount of light captured) while avoiding stress, particularly stress during the critical one-week period prior to silking. In North Carolina corn can be planted anytime soil temperatures reach 55° F or greater up until fall frost prevents the crop from reaching maturity (from mid March to early July). The key then becomes finding a planting date that avoids stress during the critical silking period.

Recent changes in corn hybrids and rainfall patterns have caused a shift in optimum planting dates for corn, New stacked trait corn hybrids have the ability to tolerate late season insect infestations and hybrids have better drought tolerance. Changes in rainfall patterns have resulted in higher probabilities for rainfall in mid to late July. Over the past four years, corn planted in mid-May has often produced higher yield than corn planted in April (Fig 1). While recent weather patterns suggest that planting corn later might be desirable, it is clear from this previous research that there is a limitation to how late corn can be planted to achieve economic yield. Growers must plant early enough to insure that soil moisture is adequate for good growth through the silking stage and that the rapid accumulation of growing degree units (GDD) does not severely limit the number of days over which the crop can intercept light. This year excessive rainfall in many areas of the state has delayed corn planting with only about 15 to 20% of the corn crop planted in many regions by April 20. In this situation the problem is when to consider switching from corn to soybean due to this delay in planting.

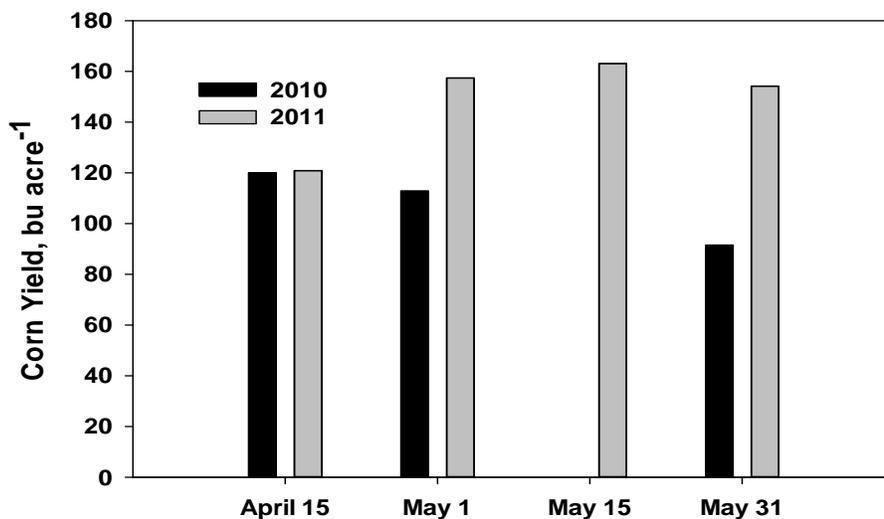


Figure 1. Corn yield response to planting date in eastern North Carolina in 2010 which was a drought year and 2011 which was a year with good summer rainfall.

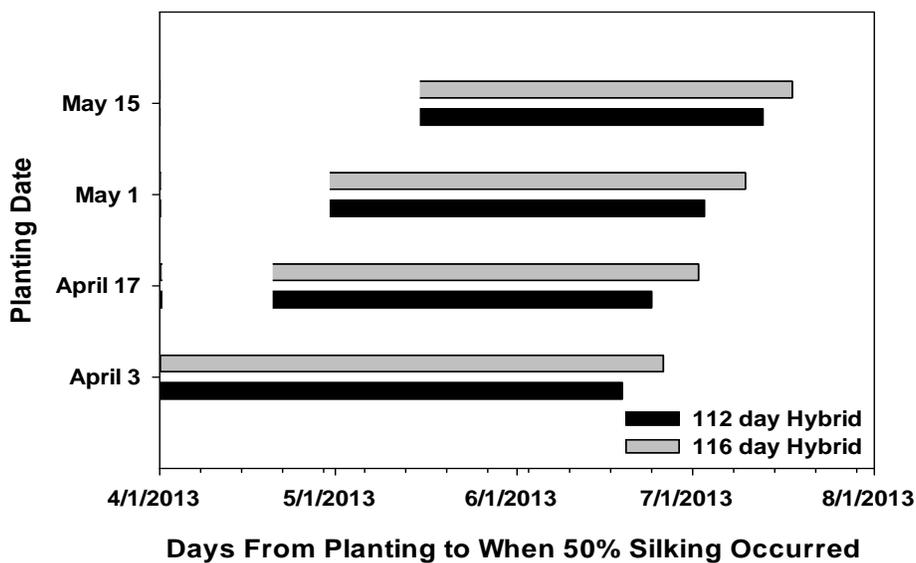


Figure 2. Length of period from planting to silking and date silking occurred on hybrids with differing maturities in 2013.

With the Delay in Planting How Late Can I Plant Corn in 2015?

Despite the weather there is some good news for corn growers in 2015! Given the good to excessive soil moisture conditions present at this time and the cool weather pattern we are experiencing there is no question that corn planted as late as May 15 will have the moisture necessary to reach pollination. As Figure 2 shows corn planted on May 15 will pollinate during the middle of July. Current forecasts suggest a good probability of rainfall in this period. Therefore, corn growers should not hesitate to continue planting through May 15 with the expectation of full yield potential. This season is similar to the weather we experienced in 2014. If we look at how late planted corn yielded in 2014 we find that there we saw some of the highest corn yields in the state from corn planted between May 5 and May 15. Some of which were over 300 bu per acre.

However, after May 15 there are several factors that begin to negatively affect corn yield. First, the decrease in days between planting and silking starts to have a major impact on yield. In general corn yield will be reduced by 2 bushels per acre for each day planting is delayed past May 15. Second, late-season corn diseases such as southern rust become concerns when planting after May 15. Third, the potential for hurricane damage becomes greater, and finally, the last planting date for full coverage for crop insurance is May 15. All of these factors suggest that growers should look at May 15 as the cutoff date for corn planting. While certainly corn can be planted later than this growers should expect lower yield, higher risk of diseases, and need to contact their crop insurance agent to make sure they understand the implications of planting late on their coverage. We have produced 120 bushel per acre corn in the coastal plain and piedmont when the corn was planted in June but the risks are greater and growers should understand and be prepared to accept those risks.

What Adjustments Should I Make When Planting in May?

Increasing plant populations could help overcome the limitation in the number of days that the crop is exposed to light. Planting date studies suggest that growers should increase plant populations from 1000 to 2000 extra seeds per acre when planting after May 1. Placing the tassel to silking period in a period of rainfall would help sustain those higher populations.