

Delayed Corn Planting Issues for Southern Indiana

R.L. (Bob) Nielsen
Agronomy Dept., Purdue Univ.
West Lafayette, IN 47907-2054
Email: rnielsen@purdue.edu

Technically, corn planting in Indiana is beginning to wind down with 73% of the state's crop in the ground as of May 25 (Indiana Agricultural Statistics Service). Unfortunately, the planting progress in southern Indiana continues to lag behind that of the rest of the state, where only 39% of the intended corn acres are planted. Folks are naturally beginning to worry about issues like hybrid maturity choices and when to consider switching to soybean as planting is further delayed.

Yield potential for late-planted corn is always a concern among farmers. Conventional wisdom says that corn yields drop by about 1 bushel/acre/day during the last half of May and up to 2 bushel/acre/day during June. Experience tells us that late-planted corn yields can be all over the map, including being exceptionally good. The bottom line is that planting date is but one of many yield-influencing factors and late planting, by itself, does not guarantee disastrously low yields.

As corn planting is delayed, folks naturally worry about the increased risk of fall frost damage if the grain does not mature prior to a killing fall frost. Indeed, the growing season is becoming increasingly shorter with every passing day, but there is little agronomic reason to consider switching to soybean in southern Indiana until late June. Furthermore, many southern Indiana farmers will not even need to consider switching to earlier maturity corn hybrids until later in June.

Based on historical heat unit accumulation (aka GDD, HU, GDU) from selected planting dates until expected average dates of killing fall frosts, one can estimate the "thermal" length of the remaining growing season for various time periods. That estimate can then be coupled with previous research on the effects of delayed planting on hybrid GDD responses (Nielsen & Thomison, 2003) to arrive at the following hybrid maturity guidelines for southern Indiana corn growers.

* Safe hybrid maturities for planting in southern Indiana through June 1

Southwest: Fuller season maturity than most plant anyway

Southcentral: Fuller season maturity than most plant anyway

Southeast: Fuller season maturity than most plant anyway

*** Safe hybrid maturities for planting in southern Indiana through June 10**

Southwest: Fuller season maturity than most plant anyway

Southcentral: Hybrid maturities from 115 to 118 CRM (Pioneer[®] brand rating)

Southeast: Hybrid maturities from 116 to 119 CRM

*** Safe hybrid maturities for planting in southern Indiana through June 20**

Southwest: Hybrid maturities from 117 to 120 CRM

Southcentral: Hybrid maturities from 109 to 112 CRM

Southeast: Hybrid maturities from 110 to 113 CRM

Farmers should consider the use of Bt corn hybrids for such unusually late plantings because of the increased risk of infestation by European corn borer and Southwestern corn borer, but only if they are certain that marketing grain from such biotech hybrids will not be a problem for them. Growers should also verify that the hybrids to be planted have acceptable levels of disease tolerance because of the greater risk of leaf diseases with late-planted corn (Vincelli, 2003).

Farmers should continue with their usual seeding rates. There is no need to consider changing seeding rates for corn simply because planting is delayed. Optimum seeding rates for most growers' fields range from 28,000 to 33,000 seeds per acre. Lower rates (low to mid-20's) are suitable for fields with yield levels historically near or below 100 bushels per acre.

Nitrogen fertilizer rates (Brouder et al., 2003), for those fields yet to receive nitrogen, should be adjusted downward accordingly to match the farmer's estimate of yield goal for the delayed planting of corn. Sidedress rates of N can be adjusted further downward anyway because of the greater efficiency of use with late N applications. In a corn/soy rotation, farmers can lower their N rates by about 10% for sidedress compared to preplant N applications.

Related References:

- Brouder, Sylvie, Brad Joern, Tony Vyn, and Bob Nielsen. 2003. **Nitrogen Fertilizer Management in Good Economic Times and Bad.** Purdue Univ. Agronomy Dept. Available online <http://www.agry.purdue.edu/ext/pubs/AGRY-01-01.pdf>. [URL verified 5/28/03].
- Indiana Ag. Statistics Service. 2003 (May 27). **Indiana Crop & Weather Report.** U.S. Dept of Ag. Available online at <http://www.nass.usda.gov/in/cropweat/2003/we2103.pdf>. [URL verified 5/28/03].
- Nielsen, Bob, John Obermeyer, and Tony Vyn. 2003. **Delayed Planting Considerations for Corn.** Purdue Univ. Corny News Network. Available online at <http://www.kingcorn.org/news/articles.03/DelayPlant-0512.html>. [URL verified 5/28/03].

- Nielsen, Bob and Peter Thomison. 2003 (rev). **Delayed Planting & Hybrid Maturity Decisions**. Purdue Univ. Cooperative Extension Service publication AY-312-W. Available online at <http://www.agry.purdue.edu/ext/pubs/AY-312-W.pdf>. [URL verified 5/28/03].
- Vincelli, Paul. 2003. **Risk of Leaf Disease in Late-Planted Corn**. Kentucky Pest News. Univ. of Kentucky. Available online at http://www.uky.edu/Agriculture/kpn/kpn_03/pi030519.htm. [URL verified 5/28/03].

Don't forget, this and other timely information about corn can be viewed at the Chat 'n Chew Café on the Web at <http://www.kingcorn.org/cafe>. For other information about corn, take a look at the Corn Growers' Guidebook on the Web at <http://www.kingcorn.org>.

© 2003, Purdue University