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Delayed Planting Considerations for Corn

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Quite a bit of Indiana's corn crop remains to be planted, especially in southern Indiana, due to the current rainy spell that put the brakes on what had been a very rapid planting pace. As of 11 May, 42% of Indiana's intended corn acreage was yet to be planted (USDA-NASS, <http://www.nass.usda.gov/in/cropweat/2003/we1903.txt>). While the calendar should not yet be a concern for corn and soybean planting, growers may want to consider the following issues as they impatiently wait for fields to dry out.

- **Corn Hybrid Maturity.** Some growers may be thinking about switching from their fuller maturity hybrids to earlier maturing ones out of concern for the shortening growing season. This concern should be placed on the back burner for a while because most adapted hybrid maturities can be planted in Indiana until at least the end of May with little to no risk of fall frost injury to immature grain. If the rains continue or growers believe they will continue for another couple of weeks, information about hybrid maturity decisions is available in the Purdue Extension publication **AY-312-W**, "*Delayed Planting & Hybrid Maturity Decisions*". Ask for this publication at your local Purdue Extension office or download it from the Web at <http://www.agry.purdue.edu/ext/pubs/AY-312-W.pdf>.
- **Bt Corn Hybrids.** For most Indiana corn production systems, economic benefits from the use of transgenic Bt corn hybrids resistant to corn borers are more likely to occur with delayed plantings. Consequently, growers may want to consider switching some of their late-planted intended non-Bt corn acreage to Bt hybrids as insurance against the higher risk of infestation by late brood corn borers. This is especially true for growers in extreme southern Indiana where southwestern corn borer can be an issue.
- **Corn 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.
- **Corn Seeding Depth.** The key factor that should be used for determining seeding depth for corn is the importance of adequate and uniform soil moisture in the seed

furrow. Some might say this is a moot point given the current soggy soil conditions. Remember, though, how quickly Mother Nature can change and how quickly shallow-placed seed can find themselves in bone-dry soil. A seeding depth of 1.5 to 2 inches is acceptable over a range of soil conditions. Shallower depths are risky if rains stop altogether and surface soils begin to dry rapidly.

- **Corn Insecticides.** For those areas of Indiana where western corn rootworm is a major pest to contend with, continue to use a full rate of soil-applied insecticide for corn plantings through the first week of June to insure against damage from corn rootworm larvae. For more information on managing corn rootworms, see Purdue Extension E-49-W, “*Managing Corn Rootworms – 2003*”. This publication can be obtained at your local Purdue Extension office or download it from the Web at <http://www.entm.purdue.edu/entomology/ext/targets/e-series/EseriesPDF/E-49.pdf>.
- **Corn Replanting Decisions.** Extensive corn death is likely to occur over the next week or so in low-lying fields affected by floodwaters or poorly drained areas within fields that are ponded. If growers are uncertain whether replanting is warranted, the Purdue Extension publication **AY-264-W**, “*Estimating Yield and Dollar Returns From Corn Replanting*” will help growers make this important decision. This publication can be obtained at your local Purdue Extension office or download it from the Web at <http://www.agry.purdue.edu/ext/pubs/AY-264-W.pdf>. Recognize that the decision to replant ponded areas of fields needs to be made in the context of how much of a grower’s original corn and soybean acres remain to be planted. Non-planted acres should usually take priority in the remaining planting schedule over the ones to be replanted.
- **Field Tillage Operations.** Remaining pre-plant field operations should be scrutinized carefully to determine whether they are truly necessary. With today’s modern corn planters, there is little reason to overly-prepare a field to create a picture-perfect seedbed. In delayed planting situations, every day wasted overworking a field is a day lost to planting and represents lost yield potential. Furthermore, unnecessary tillage operations on soils that may be marginally wet increase the risk of creating tire and tillage compaction layers that can haunt root development and corn health later if excessively dry conditions suddenly become the norm. Remember your neighbors’ fields last year?
- **Planter Sidewall Compaction.** Another lesson learned from last year’s wet planting conditions was the dramatic potential for significant root restriction by severe sidewall compaction when a rapid shift from wet to dry conditions occurred after planting. If at all possible, avoid planting fields when soil moisture conditions favor the smearing of furrow sidewalls by the coulters or double-disc openers of the planter.
- **Nitrogen Fertilizer Applications.** Growers that have yet to apply pre-plant nitrogen fertilizer should consider switching to a sidedress application strategy instead to make the best use of available field working days for planting in the coming weeks. If planting is seriously delayed to the end of May or early June, growers may want to consider backing off on their intended nitrogen fertilizer

application rates due to the expected lower yield of the late-planted corn. The rule of thumb most commonly applied to lost yield potential for delayed planting is one bushel per acre per day after May 10 up to 2 bushels per acre per day after June 1. Consider using a **pre-sidedress soil nitrate test** to further fine-tune your nitrogen application rates. Information about this soil test can be found in the Purdue Extension publication **AY-314-W**, “*The Pre-Sidedress Soil Nitrate Test for Improving N Management in Corn*”. Ask for this publication at your local Purdue Extension office or download it from the Web at <http://www.agry.purdue.edu/ext/pubs/AY-314-W.pdf>.

- **Starter Fertilizer.** Where soil phosphorus and potassium soil test levels are adequate or better and tillage is other than pure no-till, consider eliminating starter fertilizer use for the remainder of this season’s corn planting. Soil temperatures at planting from here on will be more than adequate for rapid corn germination and early seedling growth, thus greatly diminishing the value of starter fertilizer. Eliminating starter fertilizer will not only reduce your costs, but will save some time during the planting operation. No-till corn, however, will likely continue to benefit from starter fertilizer applications, especially the nitrogen component, for planting throughout the remainder of the month.

Related References:

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

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