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Agronomy Update

is a monthly publication provided to producers free of charge. AgVenture, Inc. and its nationwide network of Regional Seed Companies are dedicated to providing producers exceptional seed products – genetics and technologies, professional service, and local knowledge of agronomic conditions impacting producer profitability.

**Some Say It.
We Do It.**



Planting with Perfection AgVenture knows that planting with perfection leads to greater crop health, maximizes yields and improves overall profitability. With planting time upon us, and growers anxious to make progress, many are considering the benefits of getting an early start planting corn. The chart includes some of the key benefits from early planting, and points out some of the primary risks. Talk with your AgVenture Yield Specialist about making the best decision for your acres.

Early Planting & Crop Insurance

Calendar dates and planting conditions do not always align when it comes to ideal planting conditions. If you have crop insurance, AgVenture reminds you to check the earliest dates your crop insurer allows you to plant your crop. 2017 final planting dates can be found on the USDA Risk Management Agency (RMA) website at <http://www.rma.usda.gov>. If weather conditions are ideal prior to the RMA planting date, and you opt to plant early, you give up replant coverage. Once the crop emerges, you still have full coverage except for replant. Early planting does not affect a farm's actual production history (APH), yield or revenue insurance guarantee if all other good management practices are followed throughout the growing season. Once the crop is planted, that revenue guarantee is still in effect, and any indemnity payments will depend on final harvested yield and the harvest price. <http://www.extension.iastate.edu/sites/www.extension.iastate.edu/files/polk/120404ReplantProvision.pdf>

Freeze Facts Air temperatures of 28 degrees F or less may result in damaged tissue or plant death of emerged seedlings if the growing point is affected. The length of time that temperatures are below freezing (32 degrees F) plus the type of exposed tissue determines the degree of crop freezing injury. As an example, soybean seedlings in the cotyledon stage may likely experience less injury than seedlings with unifoliate or first trifoliates exposed to the cold air. Staggered planting dates can help stagger emergence dates and reduce risk if a late spring freeze occurs (source: University of Nebraska).

Cover Crop Termination Resource Growers have made dramatic and widespread adoption of incorporating cover crops into their production system in the last five years. Cover crops have been found to help reduce soil erosion and increase nutrient recycling on fields. Improvements may also occur in soil structure, and microbial and earthworm environments. Effective termination of cover crops is crucial to preparing the seedbed at planting. The Midwest Cover Crop Council offers a broad range of publications regarding cover crop selection, planting, equipment, management and termination. Visit <http://mcc.msu.edu> for information on several species and states.

Benefits and Risks of Early Planting

Benefits	Risks
More days available to plant compared to starting later	Greater risk of temperatures turning cold and/or wet for prolonged periods of time
More days available for crop development compared to later planted corn.	Lengthy germination and emergence periods of up to two to three weeks highly stress crop development and reduce stand
Crop may emerge ahead of many warm season weeds, reducing competition	Uneven soil temperatures within the seed zone may result in uneven germination and emergence causing potential yield losses of 8-10 percent
Reduced insect pressure may result as crop maturity is ahead of some insect lifecycles	Nodal root development is delayed when temperatures are sub-optimal (below 50 degrees F)
Pollination occurs earlier in the summer when temperatures and soil moisture are typically more favorable for growth and development	Seedlings are very susceptible to kernel or mesocotyl damage
The shorter plant height of early-planted corn improves the standability of the crop nearer to harvest	Lengthy cold and wet conditions increase exposure to diseases and insects
Grain fill will occur during longer day-length periods	Plant death or stunting from stresses reduces optimal stands and yields
Maturity occurs earlier in the season and grain dry down occurs more quickly due to the relatively warmer temperatures	Greater risk of frost or freeze damage

Adapted from AgVenture, University of Nebraska, Lincoln, Purdue University and Mississippi State University.

AgVenture, Inc.

AgVenture, Inc. is the nation's largest network of independently owned

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AgVenture provides this growing network of Regional Seed Companies with seed products meeting exacting standards for quality, together with leading-edge genetics and technology.

Since 1983, this unique marketing approach has allowed each individual company to match the hybrids and varieties it sells to the specific needs of the geographical area it serves. Combined with professional seed representation at a local level, AgVenture strives to help every grower realize more profit from every field.

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Winter Annuals Detrimental

The risks of winter annuals' interference with optimal crop production increases in both dry and wet springtime conditions. In a dry spring, weeds deplete soil moisture reserves. In wet spring conditions, delays in planting allow additional, excessive weed growth which exacerbates ideal seedbed preparation, keeps fields wetter, cooler, and opens the pathway to disease and insect pressures for young seedlings. Walking fields to determine which weed species are present and their density will help you determine the appropriate management protocol. Research from Iowa State University suggests that if winter annuals are found on more than 25% of a field, some form of control will likely be beneficial. Decisions on the need to control winter annuals early should be based on the density of the weeds, the percentage of the field infested, and competitiveness of the species.



Field pennycress photos of the same spot, same field on April 5 (left) and April 15 (right). Ten days time allowed the plant to start flowering and to provide complete ground cover. At this stage the plant is difficult to kill with herbicides and the foliage is slow to decompose. (photos: Iowa State University)

Winter Annuals as SCN Host

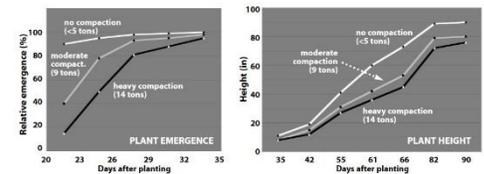
Soybean cyst nematodes (SCN) are the country's top yield robber in soybeans. Winter annuals including field pennycress, henbit, purple dead nettle, common chickweed, small-flowered bittercress, and shepherd's purse all can serve as alternative hosts for SCN. Greenhouse studies prove that SCN reproduction on henbit and purple deadnettle may exceed that on soybeans. Interrupting the SCN lifecycle by controlling winter annuals prior to planting may help prevent nematode populations from significantly increasing.

Early Black Cutworm Activity

The pheromone traps are out and the first black cutworm adults are moving in. Once their arrival is noted, the date is combined with accumulated heat units to predict the beginning of larval activity. Where black cutworm activity is anticipated to be heavy, growers may consider a treatment before or at planting. Scout fields to determine infestation and damage levels to make the decision whether a rescue treatment is needed. While cutworms are small and not yet active, foliar insecticides are especially effective when applied early. Systemic activity of insecticidal seed treatments work well to protect young seedlings from small larvae feeding, but black cutworms are persistent and fields will attract egg-laying moths for multiple flights.

Avoid Compaction

Consequences of soil compaction can have significant negative impact on soil productivity now and for years to come. University of Wisconsin noted a 30-bushel per acre corn yield decrease in a compacted, no-till field during a dry year, and an average 20-bushel per acre yield loss in the same field during a wet year where compaction was evident. Compaction will impede ideal emergence and may prohibit uniform stand establishment. The diagrams show the effect of compaction on corn emergence and plant height (graph and source: University of Wisconsin).



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