Pros and Cons of Early Soybean Planting
Joel DeJong, Crop Field Specialist

Delayed corn planting often results in delayed soybean planting. How does this affect our thinking on planting soybeans and their yield potential? Several years ago our former ISU Extension Soybean specialist Palle Pedersen demonstrated that earlier planting dates for soybean can lead to higher yields. Palle concluded that soybeans can easily germinate at soil temperatures around 50ºF at 2 inches - but emergence can take 3 weeks at these low temperatures. The ideal soil temperature for soybean germination and emergence is 77ºF. However, soil temperatures at a 2-inch depth in Iowa do not reach these levels until late May or early June.

Early planting means colder soils and slower emergence than later planting, but in most cases this will not negatively influence yield if stands remain above 100,000 plants per acre. Our recommendation of optimal planting dates for soybean, if soil conditions and forecast are suitable, is during the last week of April for the southern 2/3 of Iowa and the first week of May for the northern 1/3 of Iowa.

Why does early planting increase yield potential? There are several reasons. Plants reach V1 earlier in the season resulting in earlier flowering date (R1 growth stage) and potentially a longer growing season. Earlier R1, in turn, increases the length of the seed-fill period. When plants reach V1 earlier, they accrue more nodes during the growing season resulting in more potential pods and seeds per unit area. Quicker canopy closure with earlier planting captures light earlier and, over the entire season, ensures full interception of solar radiation during the key stages for yield determination (pod set and seed fill). More light "harvested" results in an opportunity to achieve greater yield. Also, earlier planting usually means greater crop transpiration and less soil evaporation. Yield is linearly related to total transpiration. Early canopy closure reduces weed competition and evaporation from the soil surface.

There are some cautions that go with early soybean planting. Early-planted soybean attract early-emerging, overwintered bean leaf beetles (BLB), and therefore the potential of Bean Pod Mosaic Virus. Early planted beans have a higher chance of return to your investment in seed treatments because of increased risks from BLB and early, cool season diseases that can occur on soybean seedlings.

Of course, if there is a late frost in the mix we have some stand loss potential. That is why soil conditions and forecast are more important with an early planting date. For the first 48 hours after planting both corn and soybean need soil temperatures near 50°F to avoid chilling injury during the rapid water imbibition stage. After the first 48 hours, these crops usually have minimal problems continuing the germination process at soil temperatures well-below 50°F — assuming temperatures remain above freezing; germination will be slower, of course, but if a seed fungicide treatment was applied, there should have been no concerns about loss of germinating seedlings. Monitor your field’s soil temperatures on the days preceding planting and on the day of planting plus your forecast temperatures for your area for the next 48 hours to estimate the likelihood of stable or increasing soil temperatures. Regardless of calendar date, neither "mudding in" soybeans — that is, planting when soils are too wet — nor planting in dry soils will turn out well.

We often manage our corn first, and then plant soybean as the “second crop.” Increasing our soybean management can help us achieve better yields if we put as much management thought into this crop as we do for corn.

For more information on this topic, check out the April 2014 updates at https://cropwatch.unl.edu.
Farm Employee Management: Farm Safety and Hiring Youth on the Farm
Melissa O’Rourke, ISU Extension Farm & Agribusiness Management Specialist

At this writing (May 2014) summer is approaching and many farm and other agribusiness operations will consider hiring youth for summer employment. This makes it a particularly good time to review some guidelines related to hiring young people on the farm. This article will outline a few guidelines, and also provide some web-based resources with answers to other questions.

We sometimes see tragic accidents involving young farm workers. Recent Iowa examples include a sixteen-year-old farm employee killed when working on a cattle shed door from inside a raised payloader bucket due to being crushed between the bucket and doorway header as the payloader is accidentally moved forward. A twelve-year-old boy was killed when the ATV he was driving overturned on the family farm. A thirteen-year-old boy died on the family farm after his sweatshirt became entangled in farm machinery. An eighteen-year-old high school senior had his leg amputated above the knee after the leg was crushed between a tractor and trailer.

These kinds of deaths and injuries to young people served as the impetus for regulators to propose strengthening child labor rules related to farm employment in 2011. However, the US Department of Labor (“DOL”) abandoned proposed regulations in favor of increased farm safety programs.

The proposed regulations would not have applied to children working on farms owned by their parents under what is known as the “parental exemption” which allows children of any age who are employed by their parent, or a person standing in the place of a parent, to perform any job on a farm owned or operated by their parent or such person standing in the place of a parent. However, the proposals would have had other impacts in non-family farm employment situations, such as prohibiting youth (in all employment) from using cellphones or other electronic devices while operating power-driven equipment. Children under the age of 16 would have been prohibited from operating almost all power-driven equipment with limited exemptions for student learners. After taking input, the DOL issued a statement regarding withdrawal of the proposals noting that the “administration is firmly committed to promoting family farmers and respecting the rural way of life, especially the role that parents and other family members play in passing those traditions down through the generations.” Rather than adopting the proposed regulations, the DOL sought to work with rural stakeholders to develop educational programs to reduce accidents to young workers and promote safer agricultural working practices.

The need for continued vigilance and enhanced farm safety programs is undisputed. In the meantime – and particularly because of significant media attention given to this issue – farm producers have questions regarding the current rules for youth employment in farm and other ag-related occupations.

The basic guidelines include the following:

- Youths of any age may work at any time in any job on a farm owned or operated by their parents.
- Youths ages 16 and above may work in any farm job at any time.
- Youths aged 14 and 15 may work outside school hours in jobs not declared hazardous by the DOL.
- Youths 12 and 13 years of age may work outside of school hours in non-hazardous jobs on farms that also employ their parent(s) or with written parental consent.
- Youths under 12 years of age may work outside of school hours in non-hazardous jobs with parental consent, but only on farms where none of the employees are subject to the minimum wage requirements of the FLSA – meaning small farms.
- Local youths aged 10 and 11 may hand harvest short-season crops outside school hours for no more than 8 weeks between June 1 and October 15 if the employer has obtained special waivers from the DOL.

Again, minors under the age of 16 may not work in hazardous occupations in agriculture unless the youth is employed on a farm owned or operated by the parents. Also, 14- and 15-year-old student learners enrolled in vocational agricultural programs are exempt from certain hazardous occupation prohibitions when certain requirements are met; and minors aged 14 and 15 who hold certificates of completion of training under a 4-H or vocational agriculture training program may work outside school hours on certain equipment for which they have been trained.

Hazardous occupations in agriculture would include the following particular examples:

- Operating a tractor of over 20 PTO horsepower, or connecting or disconnecting an implement or any of its parts to or from such a tractor;
- Operating or working with a corn picker, grain combine, hay mower, forage harvester, hay baler, potato digger, feed grinder, crop dryer, forage blower, auger conveyor, unloading mechanism of a non-gravity-type self-unloading wagon or trailer, power post-hole digger, power post driver, or non-walking-type rotary tiller;
- Operating or working with a trencher or earthmoving equipment, fork lift, potato combine, or power-driven circular, band or chain saw;
- Working in a yard, pen, or stall occupied by a bull, boar, or stud horse maintained for breeding purposes; a sow with sucking pigs; or a cow with a newborn calf (with umbilical cord present);
- Felling, buckling, skidding, loading, or unloading timber with a butt diameter or more than 6 inches;
- Working from a ladder or scaffold at a height of over 20 feet;
- Driving a bus, truck or automobile to transport passengers, or riding on a tractor as a passenger or helper;
- Working inside: a fruit, forage, or grain storage designed to retain an oxygen-deficient or toxic atmosphere; an upright silo within 2 weeks after silage has been added or when a top unloading device is in operating position; a manure pit; or a horizontal silo while operating a tractor for packing purposes;
- Handling or applying toxic agricultural chemical identified by the words “danger,” ”poison,” or “warning” or a skull and crossbones on the label;
- Handling or using explosives; and
- Transporting, transferring, or applying anhydrous ammonia.

The examples summarized above are based on federal regulations, but there may also be applicable state rules. Depending on the state where the youth employment takes place, those state rules should be consulted, and the law setting the most stringent standard (either state or federal) must be observed.

It is impossible to over-emphasize farm safety for all workers, both
youth and adults. Producers should conduct farm safety audits and institute an on-going farm safety education program. Additionally, producers should consult with their own legal counsel for specific advice on any employment or liability questions that may arise, and consult with their insurance professionals to assure that adequate liability coverage is maintained for the operation.

Finally, here are some web-based resources with more information about hiring youth on the farm:


Federal Youth Employment Laws in Farm Jobs (Fact Sheet #40, US Department of Labor, Wage and Hour Division) [www.dol.gov/whd/regs/compliance/whdfs40.pdf](http://www.dol.gov/whd/regs/compliance/whdfs40.pdf)

Iowa child labor laws and guidelines: [www.youthforiowa.org/laborlaws.html](http://www.youthforiowa.org/laborlaws.html)

Finally, the Practical Farmers of Iowa have a Frequently-Asked-Questions page regarding farm employment that includes information about wages for youth on the farm: [http://practicalfarmers.org/member-priorities/beginning-farmers/farm-employment-faq/](http://practicalfarmers.org/member-priorities/beginning-farmers/farm-employment-faq/)

**Swine Industry Update**

*Dave Stender, Swine Program Specialist*

Swine producers are in a unique situation this summer. Industry-wide devastating baby pig losses from Porcine Epidemic Diarrhea virus (PEDv) this winter have made more finishing barn space available. Weaner and feeder pig prices have been historically high and there is record potential profit for pigs sold this summer.

Behind the scenes of the PEDv disaster and the record hog prices is the work plan agreement between the Iowa Department of Natural Resources (DNR) and Environmental Protection Agency (EPA). In simple terms the agreement mandates the DNR to make inspection visits to all large livestock operations in Iowa and to some of the medium and smaller operations. Prior to an on-site visit, an aerial photo assessment (referred to as a desktop assessment) will be made. It is expected that most of the smaller operations will get a letter from the DNR stating that their desktop inspection was acceptable.

The work plan suggests that more than 8,500 of the larger livestock operations in Iowa will be inspected by a DNR staff person at some point during the next five years. Medium and smaller operations that are close to a water of the state, that have had a discharge or have aerial evidence of manure/process water moving off-site toward water will have an inspection visit scheduled as well. The focus is to prevent manure or process water from reaching water. An example of process water could include rain water that runs off from a manure or compost pile.

It would be a good idea for some livestock operations to start work on reducing the chance of any manure or rain runoff reaching a stream. From the inspection, notes will be taken regarding the site and any problem must be addressed. The discharge permit should be in place for some operations that currently do not have a permit. It would be wise for those operations to think about being proactive in doing a self-assessment to determine if they need a permit before the operation is inspected.

To help producers potentially improve water quality technologies and practices before they have a DNR inspection, ISU Extension and Outreach is offering workshops. These workshops will help producers make improved water quality decisions. Key areas include: outside livestock (if confinement over 1000 animal units (AU), then zero allowed discharge without a permit), manure stockpiles, compost piles, dead animal areas, feed storage, feed processing and manure spilled around the pump-out (or anywhere on building site).

**Workshops require pre-registration due to limited seating (up to 20) and will not be held without at least 10 participants.** Call Dave Stender at 712-261-0225 or Kris Kohl 712-732-5056 for more information.

**Livestock Producer Water Quality Workshops**

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<tr>
<th>Date &amp; Location &amp; Times</th>
<th>Register with extension offices:</th>
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<tr>
<td>June 27 Cherokee</td>
<td>1:30 p.m. 712-225-6196</td>
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<tr>
<td>June 30 Rock Rapids</td>
<td>10 a.m. 712-472-2576</td>
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<tr>
<td>June 30 Orange City</td>
<td>1:30 p.m. 712-737-4230</td>
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<tr>
<td>July 8 Le Mars</td>
<td>10 a.m. 712-546-7835</td>
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<td>July 9 Spencer</td>
<td>1:30 p.m. 712-262-2264</td>
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<td>July 10 Pocahontas</td>
<td>10 a.m. 712-335-3103</td>
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<tr>
<td>July 10 Sac City</td>
<td>1:30 p.m. 712-662-7131</td>
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Mark your calendars now for the Regional Iowa Pork Environment and Health Meetings sponsored by the IPPA (Iowa Pork Producers Association) discussing "Environmental regulations, inspections and nuisance case update” and “PEDv Update: Diagnostics, Transmission and Reporting”

**Regional Iowa Pork Environment and Health Meetings**

**Tuesday, July 15**

Le Mars Convention Center
275 12th Street SE
Le Mars, Iowa

**Thursday, July 17**

Swan Lake Conservation Education Center
22676 Swan Lake Dr.
Carroll, Iowa

**1 to 4:30 p.m. at both locations**

To register for EITHER MEETING—call the IOWA PORK PRODUCER ASSOCIATION at 1-800-372-7675
Hotlines Available For All
Iowa Concern (800-447-1985)
Farm On (877-BFC-1999)
Teen Line (800-443-8336)
BETS OFF (800-BETS-OFF) (800-238-7633)

Hotlines Available to Iowa Residents Only
Families Answer Line (800-262-3804)
Hortline (515) 294-3108
Iowa Healthy Families (800-369-2229)
PORKLine (800-808-7675)

May 7  Farm Safety • Spencer
June 10  Feedlot Monitoring Computer Workshop • Orange City

Visit your county extension website for summer camp opportunities or other agricultural youth events this summer!

www.extension.iastate.edu/yourcountyname

It's almost county fair time! Mark your calendars now for your local county fairs! Stay tuned!

www.extension.iastate.edu/yourcountyname