

Walking Your Fields®



June 1, 2010

Selecting growing environments and soil types are top criteria of local advancement of Pioneer® brand corn and soybean products for northern Illinois. From the start of the growing season until the end, Pioneer agronomists, managers and sales representatives are walking customers' fields and plots to fully



understand the strengths and weaknesses of individual products for northern Illinois. Before a hybrid is commercially released it has to go through several years of extensive local testing. Only the best products suited for the geography will make it to commercial

launch. Pioneer hybrids P0461XR^, P0916XR^, P1184XR^, P1162XR^, and P1395XR^ are exciting new commercial releases for the 2010 growing season.

Watch first-planted soybean fields for bean leaf beetles. Many researchers anticipated a large overwintering population of bean leaf beetles. Keep an eye on emerging soybeans in early-planted fields—bean leaf beetles are attracted to these fields first. These ¼-inch long beetles come in a wide range of colors, but will always have a black triangle located behind the head on the wing covers. Soybeans can withstand considerable foliage damage in the seedling stage without affecting yield. The University of Illinois estimates it would require 16 bean leaf beetles per foot of row to justify an insecticide treatment on seedling soybeans in areas that don't have a history of problems with bean pod mottle virus.

Note black triangle



Photos by J. Obermeyer, Purdue University.

Corn rootworm eggs typically hatch after 500 to 600 GDUs have accumulated. This normally occurs in late May or early June depending on temperatures, and usually coincides with the appearance of the first lightning bugs. Lightning bugs have already been observed for a few weeks in some areas, so feeding has likely begun, or will begin soon. Both northern and western corn rootworms can be found in our area. The eastern variant of the western corn rootworm has developed the behavior of laying

eggs in soybean fields. This behavior allows damage to cornfields that are in rotation with soybeans. Rootworm larvae thrive in dark, loamy soils, and thus can be most problematic in the most productive fields. The larvae have a hard time moving through sandy soils to feed on roots, and do not survive long in saturated soils (e.g. poorly drained or high clay-content soils that stay wet).



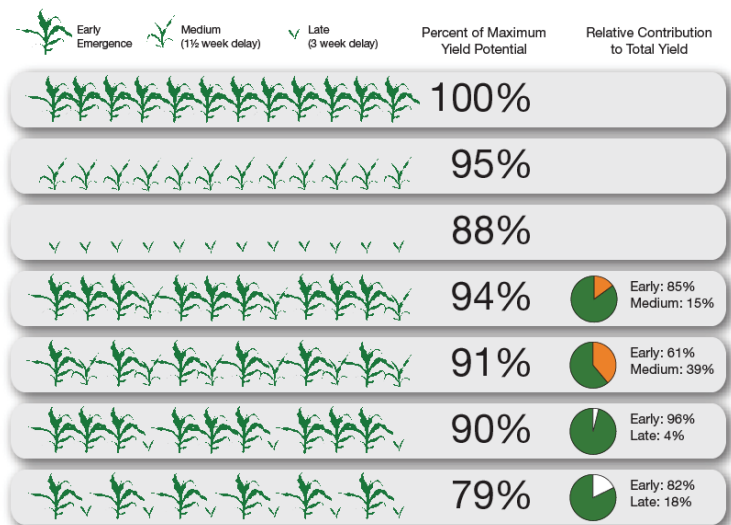
Western corn rootworm beetle



Northern corn rootworm beetle

Uneven emergence of corn plants across a field can be caused by several factors including variation in soil moisture, poor seed-to-soil contact due to working or planting into wet soil, differences in soil temperature caused by uneven crop residue distribution, soil crusting, and insects or disease. It's not too late to take counts and determine if you need to make changes for next year. Inner row competition between developing corn plants can put late-emerging corn at a disadvantage by reducing leaf area and yield. When one in four plants emerge 1½ weeks later than neighboring plants, the field yield is reduced by 6%. The late-emerging plants, which are 25% of the stand, are expected to contribute only 15% of the final yield.

What is the impact of uneven emergence on yield?



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Avoid crop injury from off-label glyphosate or Roundup® branded products. Following herbicide label directions is important for crop safety as well as weed control. For postemergence applications of Roundup branded products or glyphosate in corn:

- The application needs to be applied from emergence through V8 growth stage; or until corn reaches 30 inches in height, whichever comes first.
- Drop nozzles are recommended for good spray coverage and weed control when corn is 24 to 30 inches.
- For corn heights of 30 to 48 inches, apply with drop nozzles aligned to avoid spraying directly into the whorl of the corn plant.

If soybean planting is delayed, stay with your planned maturity group. Later planted soybeans take fewer days to mature. In addition, differences in days to maturity between different maturity groups become less apparent with later planting.



Soybean seed treatments still bring value even with later planting dates. Fungicide or insecticide seed treatments are often seen as most valuable for early-planted soybeans. However, soil conditions, not calendar date, determine the benefits of a seed treatment. Phytophthora reproduces very well in soils that are wet and about 68° F. Both Phytophthora and Pythium are of greater risk to stressed seedlings in wet and compacted soils.

Soybean growth and development. A soybean seed needs to absorb about 50% of its weight in water to germinate. The radicle root is the first to emerge from the seed. Next the hypocotyl begins to elongate toward the soil surface. One to two weeks after planting, the cotyledons will emerge above the soil surface (VE). The unfolding of the cotyledons exposes the growing point (part of the epicotyl) to the environment. This is why soybeans are more vulnerable than corn to environmental stress at emergence.

Next to develop and unfold are the unifoliate leaves (VC) and then the first trifoliate leaf (V1). Cotyledons are major contributors for seedling growth until the trifoliate leaves develop. Loss of one cotyledon has little effect on the plant, but loss of both will slow growth and reduce yields significantly. A new trifoliate will appear about every five days until V5. Flowering (reproductive) stages will usually occur after the longest day of the year (June 21) because nights (darkness) begin to lengthen. Some flowers may appear before June 21, and a soybean plant usually will not set flowers until about the V3 stage.

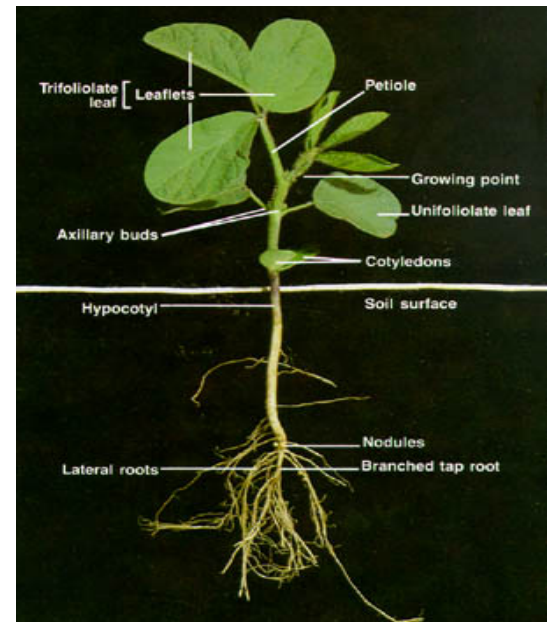


Photo by Iowa State University Photo Service.

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