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Questions related to soybean replanting

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Questions related to soybean replanting

Abstract

With low soybean seed germination and high soil moisture, some growers may have stand establishment problems this spring. There is also concern about seedling diseases in regions that have had excessive rain. This article addresses some common soybean replanting questions at planting and emergence.

Keywords

Plant Pathology

Disciplines

Agricultural Science | Agriculture | Agronomy and Crop Sciences | Plant Pathology

INTEGRATED CROP MANAGEMENT



Questions related to soybean replanting

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What causes a poor stand?

When making a replanting decision, be sure to determine the cause(s) of stand reduction to prevent repeat problems. This season, poor stand problems may occur from poor-quality seed and seedling diseases. The average seed sand germination is 78 percent this year, with some lots as low as 20 percent, according to the ISU Seed Science Center. The main source of low germination is acute low moisture in the seed. With the wet spring, seedling diseases can complicate these low seed-quality problems.

How can you determine the cause of a poor stand?

Because the planting season is short in Iowa, it is difficult to conduct laboratory tests to figure out the source of stand problems. Instead, spot identification is used to make replanting decisions. Following rules of thumb can help to determine the reasons for poor stand establishment. For example, if poor emergence is due to low germination rate (poor seed quality), poor emergence should occur uniformly across a field. If poor stand establishment is due to diseases, the problematic areas are patchy, often in low spots in a field or on the slope of a hill, as for *Phytophthora* damping-off.

In addition, fields that had seedling disease problems in the past are more likely to have disease problems again, especially when soil moisture is high. If soybean seedlings die after emergence, the problem is caused by diseases rather than low germination rate. If you observe seedlings damping on the soil surface, it suggests disease as the cause of poor stand development.

In rare cases, poor stand problems occur in fields where seed treatments were used with high-quality seed. Such stand reduction is probably due to factors other than diseases or seed quality. For example, poor stand may be due to improper use of herbicides (label was not followed).

When should a seed treatment be used?

If poor stand is due to diseases, seed treatments with fungicides should be used in replanting to avoid future infections. Use seed treatments that are effective against *Phytophthora*, *Rhizoctonia*, and *Pythium*, three fungi that account for 90 percent of seedling disease problems in Iowa soybean. When poor stand is due to low germination rate, use of seed treatment cannot improve seed vigor nor seed germination rate. The best option is to switch to a different seed source.

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