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Planting Soybeans in Cold Soil

Corn planting is moving along well in the area and the early planting date (April 20) for soybeans for crop insurance is quickly approaching. The weather conditions for the near future do not look good for warming the soil, especially with the rain that is also forecast. Last week we discussed the possibilities of planting corn into cold soils, this week I thought I would touch on some potential problems with planting soybeans into cold soil.

One of the diseases that have caused some significant problems in this area is sudden death syndrome (SDS). One of the general guidelines is to plant the fields that have had problems with SDS later when the soil has warmed up. A study was just published out of Iowa State that reinforces this recommendation. In this study, soybeans were inoculated with the sudden death syndrome pathogen, **Fusarium virguliforme** at different stages of growth and grown under different temperatures. Seeds that were inoculated at the day of planting developed symptoms at all of the temperatures tested. Seedlings that were three and seven days old at inoculation, developed more root rot and greater severity of foliar symptoms at cooler temperatures (62 and 73 degrees F) than those inoculated at warmer temperatures (82 degrees F). This study indicates that it may be best to wait until the soils are warmer and plant at optimum conditions for seed germination to help manage SDS.

If planting into cold ground, you should consider a soybean seed treatment. Soybean seed treatment may be beneficial in preventing replanting, especially in fields that have a history of poor stands, those in continuous soybeans and no-till. All of these conditions favor the build-up of inoculums for soil-borne pathogens. The spectrum of potential pathogens may include several water molds (*Phytophthora* and *Pythium*) as well as *Fusarium graminearum* (same fungus that causes head scab, corn ear and stalk rot), *Rhizoctonia* and charcoal rot. Seed treatments can be very effective for protecting seedlings when environmental conditions are very conducive to seedling infection. However, not all seedling treatments products protect against all of the different seedling pathogens. You need to evaluate the disease potential for each field and then select the proper seed treatment. This includes not only selecting the product but selecting the proper rate. Product active ingredient and rates of application are all key components for protecting seedlings when the correct environmental conditions occur for seedling disease to develop.

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