

Planting Sugarbeets in Warm Soil Will Increase Seedling Diseases

Sugarbeets planted in warm moist soils will have an increased risk of seedling diseases such as Rhizoctonia, Pythium, Aphanomyces and Fusarium.

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Sugarbeet planting in 2013 has been delayed significantly compared to our normal planting period of early April. The advantages of early planting not only improve yield and quality of sugarbeets but also help reduce the amount of seedling disease because of cooler soils. Many of the sugarbeet seedling diseases flourish in warm wet soils. Sugarbeets are susceptible to several seedling diseases; this will include seed decay, pre and post emergence damping off, along with infections of the hypocotyl. The severity of these diseases in any given year or field are hard to predict. Many factors such as inoculum level, variety susceptibility and favorable environmental conditions will influence specific seedling diseases.

Identification of which seedling disease that is attacking is often difficult to determine since they all cause seedling death. Environmental conditions can favor one disease over another. Aphanomyces requires warm wet soils. Infections rarely occur if temperatures are below 59 degrees. Fields planted early into cold soils rarely have a problem with Aphanomyces. Often seedling emergence is not affected but 1-3 weeks after emergence a dark grey, water soaked lesion develops on the hypocotyl. Shortly thereafter the entire hypocotyl appears dark brown/black and is threadlike in appearance. These plants often tip over and die. Those that survive are usually stunted and have reduced vigor. Sugarbeet seed treated with Tachigaron can offer some short term protection.

Rhizoctonia can cause seedling death prior to emergence but most often affects seedlings after emergence. This disease often occurs in fields with a history Rhizoctonia and when soils are warm and wet. A dark brown lesion begins just below the surface and extends up the hypocotyl with a sharp line between diseased and healthy tissues. The hypocotyl will become girdled and the seedling will die. Research conducted by Michigan State University Extension Sugarbeet Advancement program has shown that Quadris applied in furrow is very effective in controlling this disease. Seed treatments such as Dynasty (strobilurin) and a new seed treatment called Metlock Suite (Metconazole/Tolclofos-methyl) may offer some short term protection.

One of the most common seedling diseases is Pythium. This disease is also favored by moist conditions but because of different strains it has a wide temperature range for infections. Seed rot and pre-emergence damping off is the most common way this disease expresses itself. All of the seed companies standard seed treatments offer protection from this disease.

Be aware that many of the seed treatments are selective in what they control and combinations of two or three seed treatments may be require for broad spectrum control. Currently most of the seed treatments available offer short term protection against seedling diseases for up to 30 days. Consult with your local Agriculturist for help in determining seedling disease issues.