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NF93-121 Practices That Reduce Risk of Spreading Rhizomania

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Practices That Reduce Risk of Spreading Rhizomania

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The diagnosis of the sugarbeet disease rhizomania during 1992 in the Nebraska Panhandle has raised new questions for the region's sugarbeet industry.

The true threat to the industry is unclear at the present time, as there are still many unanswered questions. The situation will be more clear when the distribution of the disease within the state, and its impact on local sugarbeet production, are more precisely defined.

In the meantime, many individuals are concerned about spreading the disease to fields or areas not yet infested. Although it is unlikely the eventual spread of rhizomania can be stopped, there is an opportunity to slow the spread of the disease. A brief review of how rhizomania spreads will help explain how to retard its movement during field operations and visits.

How Does Rhizomania Spread?

Rhizomania disease is caused by beet necrotic yellow vein virus (BNYVV). The virus exists within, and is transmitted by, a soil-borne fungus vector, *Polymyxa betae*. If the *Polymyxa betae* spores contain the BNYVV virus, then wherever the fungus spores go, they are accompanied by both the virus and the potential to spread the rhizomania disease.

The fungal resting spores containing the BNYVV virus survive in the soil for 15-20 years and are readily transported in soil or by water. Theoretically, one teaspoon of soil can contain enough of the virus to infest a field, resulting in a significant rhizomania disease problem only a few sugarbeet crops later. Reducing the quantity of soil moved from field to field, whether or not the fields are currently in sugarbeets, will reduce the risk of spreading BNYVV virus and the resulting rhizomania.

Currently, there are no state laws in Nebraska regulating sanitation practices for control of rhizomania. It is up to individual growers to place an appropriate priority on the importance of sanitation practices.

The most practical and easily-applied field practice for reducing the spread of rhizomania is the elimination or reduction of soil movement from an infested field. The effort to remove soil from all implements is important when moving from field to field, but is critical when moving equipment from farm to farm. Transporting the least amount of soil possible can reduce the chance of spreading the disease.

How Can We Limit Soil Movement and Thus Limit Spread of Rhizomania?

Two straightforward practices, if used when leaving a field, will minimize the risk of moving the disease to another field:

1. *Scrape, brush or shake as much soil as possible from implements, tires, shoes, shovels, etc.* ***before*** *leaving the field.* A scraper and long-handled, stiff-bristled brush will help.

2. *Wash soil-engaging parts of implements, tires, boots, etc. with water to remove remaining soil* ***before*** *leaving the field.* A good, stiff-bristled brush, or high-pressure water, will help.

Soil is easily moved on field implements, tractor or pickup tires, shovels, shoes or boots. Most large amounts of soil, however, can be removed quickly and easily from most field implements with minimum effort. Removal of soil from tires, boots and field implements will require some extra time and effort, but may well be worth it if you are able to deter the spread of the disease.

Disinfectants are not recommended at this time. No approved products that will kill resting spores of *Polymyxa betae* have been located. Suitable disinfectants may eventually become available, but are not yet on the market. For a disinfectant to be effective, it must penetrate any remaining soil to contact the fungus for a minimum length of time. This implies soil layers would have to be very thin, probably less than 1/8 inch, for the disinfectant to penetrate during a disinfecting procedure. This further emphasizes the importance of removing as much soil as possible.

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