

# RHIZOCTONIA ROOT AND CROWN ROT

*Rhizoctonia solani*



photo by: M. E. Stanghellini

## Identification

- Rhizoctonia root and crown rot is the most common root disease of sugarbeets in the US
- Rhizoctonia is a fungus

## Detection

- Sudden wilting of leaves
- Noticed late in growing season during final cultivation or later
- Disease typically runs down the beet row



- Several black lesions will appear on the root
- As the disease progresses, these lesions may grow together and cover the entire surface of the root
- This dry rot has a sickly sweet odor that is produced from rotting beets
- Sugarbeet roots remain firm until the plant dies, unless bacteria enters
- The inside of the root will appear white and healthy until advanced stages of decay, when it turns brown and the root rots completely
- A dark brown to black discoloration of the youngest leaves and petioles near the center of the crown often are observed
- Symptoms include chlorosis of the leaves and sudden wilting with many leaves turning black and dying around the crown

## Cause of Infection

- Overwinters in soil and in plant tissue
- In the spring and summer it resumes growth and infects through leaf petioles, crowns, or roots



photo by: E. G. Ruppel



photo by: C. Schlagel

- Over hilling of plants with cultivation often aggravates the disease
- Favors warmer or hot temperatures

#### **Beet Damage**

- Root and crown tissue rot
- Adjacent roots become infected and can die
- Up to a 50% loss is possible
- Infected roots may lower quality if found in beet sample

#### **Control**

- Cultural control (less dirt on crown)
- Tillage (without hilling) and fertilizing to promote good plant growth
- Adequate soil drainage
- Crop rotation with corn and small grains (no beans or potatoes)
- Plant resistant varieties

