

Important potato diseases

- Late blight
- Early blight
- Brown rot and wilt
- Common scab
- Leaf roll

Late blight (*Phytophthora infestans*)



- **Survival:**

- Oospores in soil
- Mycelium in tubers

- **IPM Practices:**

- **Cultural practices:** Weed free potato fields, potato should be grown in high ridges, mulching between rows, avoid contact between foliage and tubers during harvesting, delay in harvesting
- **Application of fungicides:** Ridomil MZ 72 WP @0.25%, Blitox-50 @0.2-0.5%
- **Use of resistant cultivars:** No immune cultivars
- **Biological Control:** Seed treatment and foliar application of *Bacillus cereus*, *Pseudomonas fluorescens* reduces disease severity

Early blight (*Alternaria solani*)



- **Survival:** Overwinter on potato refuse in the field, in soil, on tubers, and on other solanaceous plants
- **IPM Practices:**
 - **Cultural practices:** Crop rotation, removing and burning infected plant debris, and eradicating weed hosts. Maintain optimum growing conditions including proper fertilization, irrigation, and management of other pests. Grow later maturing, longer season varieties. Avoiding irrigation in cool, cloudy weather.
 - **Application of fungicides:** Mancozeb, Iprodione, Chlorothalonil
 - **Use of resistant cultivars:** Suitable for local conditions
 - **Biological Control:** Foliar spray and soil application of *Pseudomonas fluorescens*, *Trichoderma harzianum*

Brown rot and wilt (*Ralstonia solanacearum*)



- **Survival:** Soil, seed tubers and alternate cultivated or wild host plants
- **IPM Practices:**
 - **Cultural practices:** Crop rotation with non-host plants, Intercropping, Control of weed and root knot nematode populations, Planting at non-infested production sites, Removal of weeds or crop residue where inoculum persists, Selection of appropriate planting time to avoid heat, Deep plowing of crop residues, Satisfactory soil drainage, Early- and late-season irrigation management, Ca supplementation to soil
 - **Application of chemicals:** Thymol oil + Actigard 50 WG
 - **Use of resistant cultivars:** No immune cultivars
 - **Biological Control:** Pouring, dipping and seed bacterization with *Bacillus cereus*, *B. subtilis* and *Pseudomonas fluorescens*

Common scab (*Streptomyces scabies*)



Figure 1.



Figure 2.



Figure 3.

- **Survival: Soil**
- **IPM Practices:**
 - **Cultural practices:** Use disease-free seed potatoes.
 - Rotate root crops by planting in alternate locations to limit the disease.
 - Most prevalent in dry, alkaline soils. Decrease soil pH (<5.2) by adding elemental S.
 - Tilling in a cover crop — mustard, canola, alfalfa — prior to planting potatoes.
 - Spreading agricultural gypsum prior to planting will raise the calcium content of soil and help build strong cell walls in plants.
 - Adequate irrigation during early tuber development and keep the soil damp for 2-6 weeks.
 - **Application of chemicals:** Seed treatment with sulfur fungicides, Brassicol (PCNB) @ 20-30 kg/ha
 - **Use of resistant cultivars:** Use locally suitable cultivars
 - **Biological Control:** Not very effective