Using All the Tools in the Pink Rot Management Tool Box

Jeff Miller



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Pink Rot Phytophthora erythroseptica







Pink Rot Management

- 1. Field selection/crop rotation
- 2. Adjust soil pH by lime application in low pH soils
- 3. Plant less susceptible varieties
- 4. Proper irrigation management
- 5. Use appropriate fungicides
- 6. Avoid "disease-favorable" conditions at harvest
- 7. Apply post-harvest fungicides
- 8. Reduce tuber pulp temperatures to 55 F or lower
- 9. Grade out infected tubers going into storage





2. Adjust soil pH by lime applications in low pH soils



From Benson et al., 2009, Am. J. Potato Res. 86:472-475 and Benson et al., 2009, Am. J. Potato Res. 86:466-471

3. Plant less susceptible varieties



Test conducted 2002 in Rexburg, ID with natural infection.

4. Proper Irrigation Management



Irrigating more frequently with less water decreases pink rot pressure.

Test conducted 2010 in Minidoka, ID with natural infection.

5. Use Appropriate Fungicides



Effect of Fungicide Programs on Pink Rot, 2010



Mixed population (mefenoxam sensitive and resistant)

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Effect of Phosphite Rate and Timing on Pink Rot Russet Norkotah, natural infection, Minidoka, ID, 2008



Effect of Fungicide Timing on Pink Rot



Rescue = July 30, August 6, August 13

Rescue = July 30, August 6, August 13

Effect of Irrigation Frequency on Pink Rot



Same amount of water applied each week. Difference was frequency of irrigation.

Fungicides may not save you from the effects of improper irrigation.

Pink Rot Fungicide Trial, 2017



5. Use Appropriate Fungicides

- Mefenoxam/metalaxyl
 - Ridomil Gold products
 - Ultra Flourish
 - MetaStar
- Phosphorous acid
 - Phostrol
 - Resist 57
 - Phiticide
 - Others
- Oxathiapiprolin + Mefenoxam (in-furrow only)
 - Orondis Gold

- Cyazofamid
 - Ranman

6. Avoid Disease Favorable Conditions at Harvest

60° F

70° F



Wounding increases likelihood of disease.

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Warmer pulp temperatures increase likelihood of disease.

7. Apply Post-Harvest Fungicides

- Phosphorous acid:
 - -12.8 fl oz/ton tubers
 - Apply in 0.5 gal water/ton tubers



7. Apply Post-Harvest Fungicides



Dis<u>infect</u> vs. Dis<u>infest</u>



Effect of Post-Harvest Applications on Pink Rot 1-Ton Bin Trial



Effect of Post-inoculation Interval on Incidence of Pink Rot



Incidence

8. Reduce Tuber Pulp Temperatures in Storage

- Operate fans and humidity as soon as the first duct is covered.
- Reduce tuber pulp temperatures to 55° F in a stair step manner, setting temps 2° cooler than your coolest tubers.
- During the ramping period, ensure the temperature differential between the top and bottom of the pile is 0.5-2° F.

Nora Olsen, University of Idaho

9. Grade Out Infected Tubers Prior to Storage



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Citations and Additional Information

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Post-harvest spray application volumes



Effect of Wounding/Temperature on Pythium Leak

