



Effect of Irrigation, Vine Kill, and Fungicides on Pink Rot



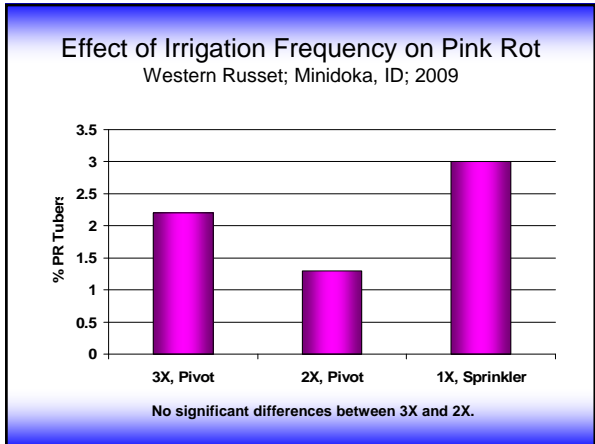
Jeff Miller and Terry Miller



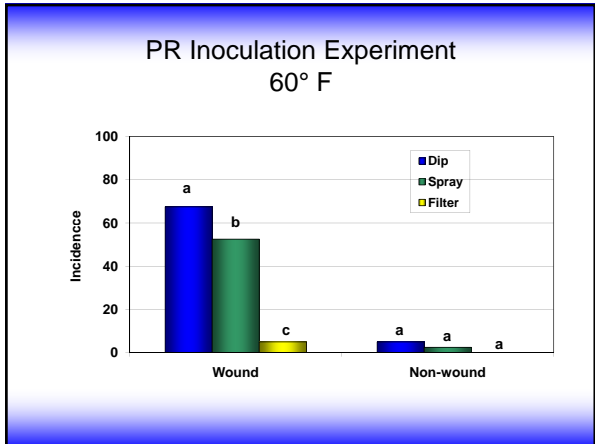
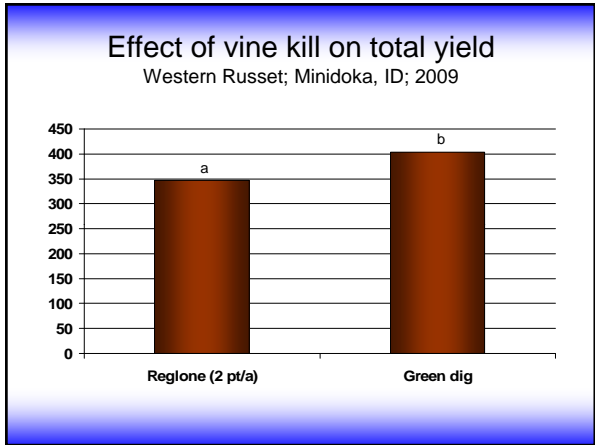
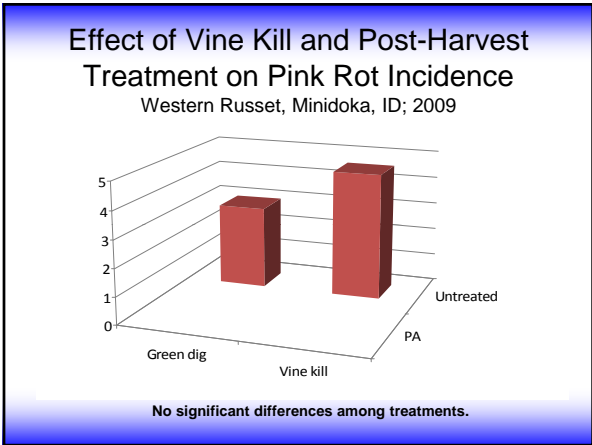
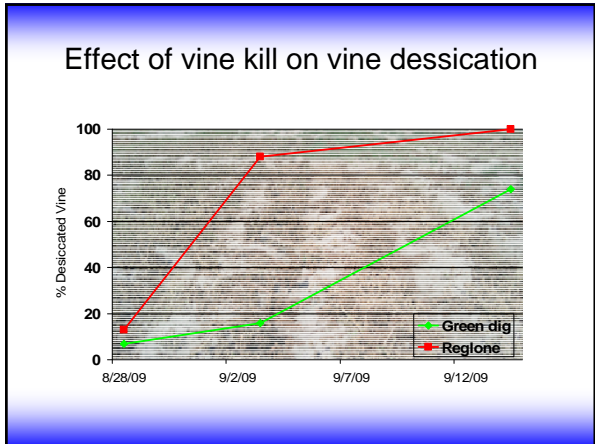
"Nurse, get on the internet, go to SURGERY.COM, scroll down and click on the 'Are you totally lost?' icon."

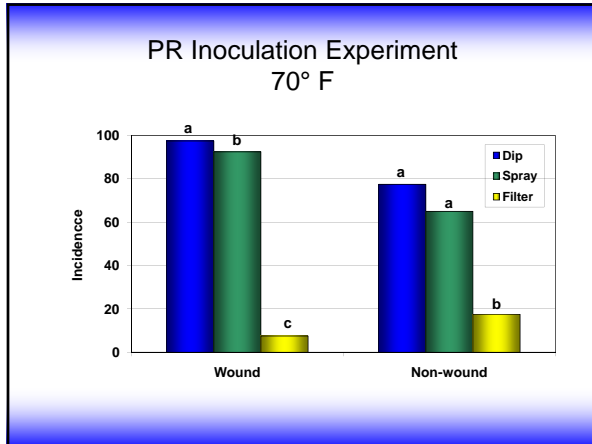
Can irrigation be adjusted to manage pink rot?

- ### Pink Rot Survey, 2006
- 25 fields evaluated
 - Pink rot incidence significantly correlated with:
 - Number of irrigations ($r = 0.69, P = 0.0022$)
 - Amount of irrigation ($r = 0.96, P < 0.0001$)
 - Irrigation is important!



Does vine killing affect pink rot?



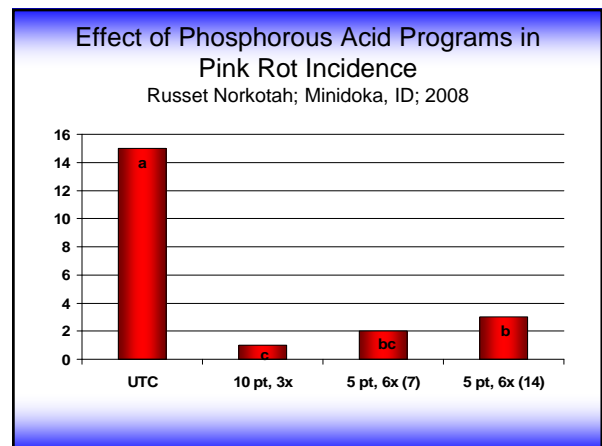
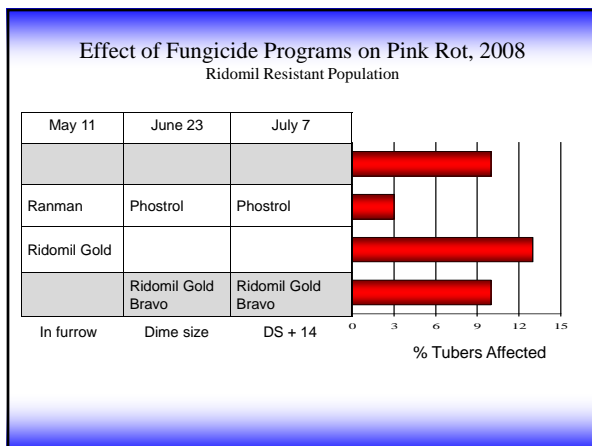
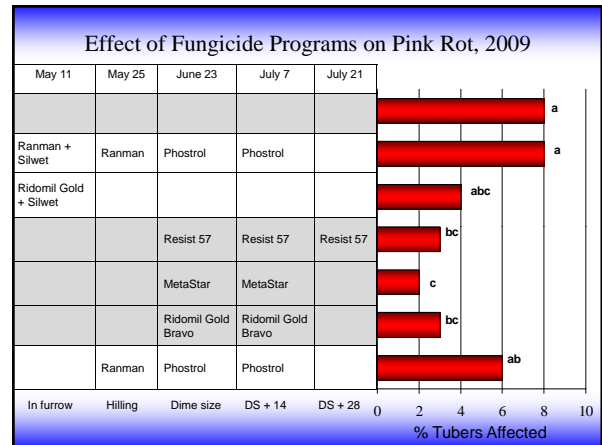


Impact of Wounding and Temperature

- At 60 F, wounding and inoculum are critical
 - Non-wounded tubers are much more resistant to pink rot.
 - More inoculum is needed to cause disease.
- At 70 F, pink rot develops more easily
 - Wounds not as critical for infection.
 - Less inoculum required for disease.

- Harvest in cooler temps (below 65 F)
- Minimize wounding

What are the best fungicides for pink rot control?



Foliar Pink Rot Fungicides

1. Foliar systemics
 - Ridomil, MetaStar
 - Phosphorous acid (Phostrol, Crop-phite, Resist 57, Fosphite, Prophyt, System Ready)
2. In-furrow mefenoxam (Ridomil Gold EC)
3. Ranman
 - Not as consistent as foliar systemic
 - Use at hilling combined with foliar systemic
4. Presidio

Phosphorous Acid for Pink Rot

- Foliar PA can protect against pink rot.
 - Systemic protection of tubers.
- Post-harvest PA can protect tubers
 - Important if PR present prior to harvest.
- PA effective for mefenoxam resistance
- Use for PR provides LB protection

Do not use phosphorous acid on current season seed pieces!

- Seed treatment not effective
 - Phytotoxicity has been observed
 - No significant disease control
- Can be used at the end of the season on tubers destined for seed
 - No adverse effects the following spring
 - Can help management of diseases in the seed storage

Phosphorous Acid Products with Research Results in Potato

- Crop-phite
- Fosphite, Topaz
- Phostrol
- Prophyt
- Resist 57
- System Ready products

Best Use of Phosphorous Acid

- Foliar:
 - 10 pts/acre applied 3 times
 - Begin when largest tubers are dime-size
 - Repeat on 14 day intervals
- Post-harvest:
 - 3.2-12.8 fl oz/ton tubers
 - Apply in 0.5 gal of water/ton tubers

Summary and Conclusions

- Irrigation frequency did not affect pink rot.
- Vine kill did not reduce pink rot.
 - More yield with green dig.
- Foliar applications most effective
 - Mefenoxam (i.e. MetaStar, Ridomil Gold Bravo)
 - Phosphorous acid, 3X foliar (Resist 57)
- Some non-performance with phos acids?
 - Improvement with Ranman or Ridomil early?

Additional Thoughts

- Uneven plant death, continued irrigation may lead to increased pink rot.
 - Green vines use water.
 - Tubers under dead plants rot.
- Early season irrigation (near emergence) may be associated with increased pink rot.



Acknowledgments

- Idaho Potato Commission
- Actagro Plant Nutrients
- Arysta LifeSciences
- ISK
- FMC