



Blueberry Shock Investigation

*Blueberry Virus Update Meeting
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Detection

- Shock virus detected at Trevor Nichols Research Complex (TNRC) summer 2009
 - Based upon symptoms Dr. Schilder suspected a problem. Shock identified by ELISA test at MSU's small fruit pathology laboratory and confirmed by MDA plant pathology lab.

Detection

- 100% blueberry plants at TNRC tested
- Positive plants identified & mapped
- MDA/MSU identified & tested a duplicate trial plot
- All plants in duplicate trial tested negative

Detection

- Shock transmission occurs through cuttings or transfer of infected pollen
- Transmission appears to be from plant to plant
- Location of bee colonies unrelated to pattern of infection
- Bloom time appears to have more effect

Trace back

- MSU Southwest Michigan Research and Extension Center (SWMREC)
 - Plants may have come from TNRC
 - Older plants available
 - Similar symptoms observed
 - All samples from SWMREC were negative

Additional Sampling

- New field located 300 yds north of TNRC
 - 100% tested - negative for Shock
 - Monitor in future
- TNRC blueberry block (one mile south)
 - 100% tested - negative for Shock
 - Monitor in future

Distribution from TNRC

- Draper variety cuttings removed from TNRC several years back
- Virus tested at that time
- No history of Shock associated w/ Draper
- No other material removed from TNRC

Disposition of Blueberry Planting

- All blueberry plants at TNRC will be removed before spring 2010 bloom
- Remove plants before pollen spread occurs

Pollen Transmission

- Pollen – viability is limited to a few hours
- Pollen needs to bloom to inject and transfer the virus
- Don't hesitate to use bees for pollination
- Use a short break between blueberry pollination activities as safeguard

Investigation Conclusions

- Source of shock virus – unknown
 - Movement of pollen between plants likely responsible for spread
 - Pattern indicates bloom time is critical to spread

Investigation Conclusions

- Known distribution of Shock was confined to TNRC blueberry planting
- Monitoring of nearby and related plantings will continue