

MSU State Council Meeting



John C. Wise, PhD
MSU Department of Entomology
Trevor Nichols Research Center



John C Wise, PhD

35% Research, 25% Extension/Outreach, 40% Administration

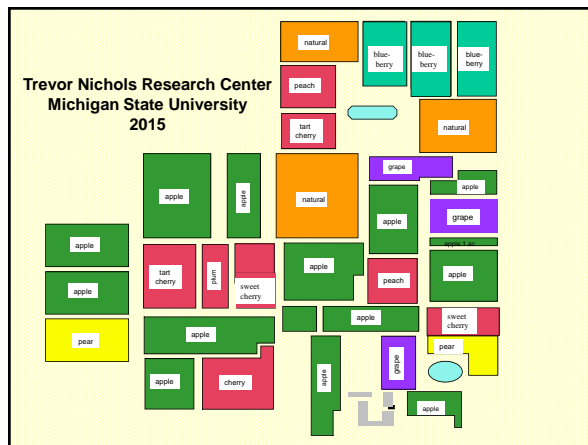
- Full professor in the Department of Entomology
- Research and Extension Coordinator of the TNRC
- Director of IR-4 North Central Region

Ph.D. (Resource Development) 1999, Michigan State University, East Lansing, MI.
M.S. (Entomology) 1990, Michigan State University, East Lansing, MI.
B.S. (Natural Resources) 1984, The University of Michigan, Ann Arbor, MI.



The Trevor Nichols Research Center

- The mission of the TNRC is to develop effective pest management strategies for Michigan's fruit industry, and serve as an extension information hub for the fruit industry's pest management decision-makers.



Trevor Nichols Research Center Facilities

- Offices (9)
- Labs (1 wet & 1 dry)
- Small meeting room
- Conference room (100 capacity)
- Research shop
- Farm management shop
- Pesticide building
- Pole barn
- Fruit barn



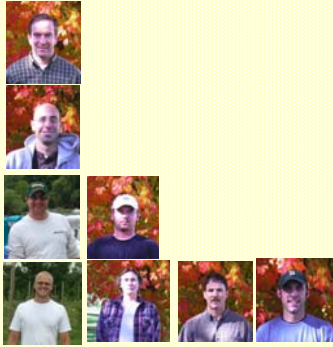
Trevor Nichols Research Center Equipment

- Tractors (3)
- Maintenance sprayers (2)
- Research sprayers (3)
- Cold room
- Walk-in environmental chamber (1)
- Stand-up Percival chambers (4)
- Rainfall simulation chamber
- Biotek microplate reader
- GLP room for IR-4
- Microscopes (4)



Trevor Nichols Research Center Personnel

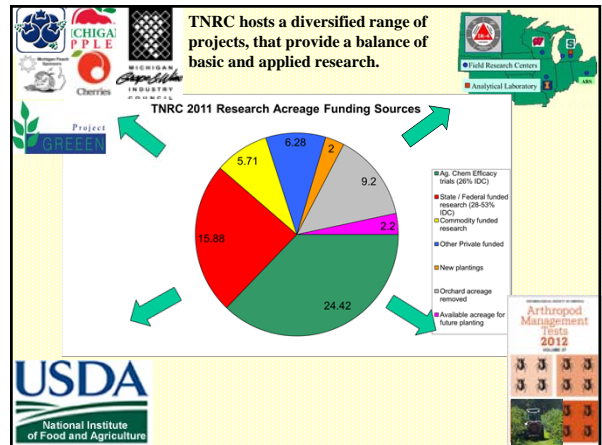
- Center coordinator (1)
- Farm manager (1)
- Farm staff (2)
- Research staff (4)
- Extension staff (0)



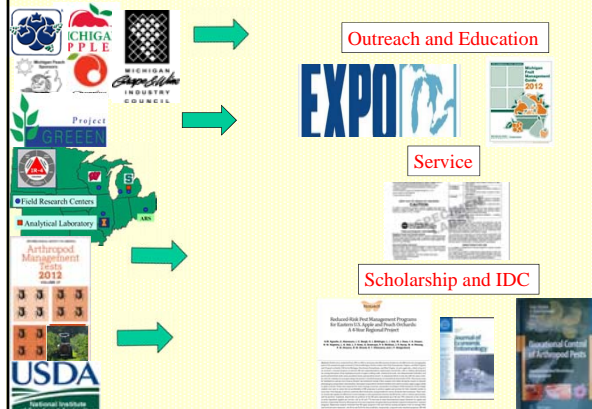
- MSU campus faculty working at TNRC:
 - Larry Gut – tree fruit entomology
 - Rufus Isaacs – small fruit entomology
 - Annemiek Schilder – small fruit plant pathology
 - George Sundin – tree fruit plant pathology
 - Mark Whalon – pesticide alternatives lab
 - Bernie Zandstra – weed science
 - Catherine Lindell – zoology / ornithology

TREVOR NICHOLS RESEARCH CENTER

- Insecticide Performance Research**
 - Conduct efficacy trials with early pipeline pesticide chemistries.
 - Use field-based bioassays to determine performance characteristics of reduced-risk compounds.
- Novel Pest Management Strategies**
 - Pheromone-based tools
 - Attract and Kill
 - Cover crops
 - Pollinator refuges
- Optimized Delivery Systems**
 - Study deposition patterns of ground sprayers.
 - Test new techniques for pesticide deliver (chemigation, trunk injection, solid set delivery system, attract N kill, etc.)
- GLP Pesticide Residue Program**
 - Conduct IR-4 field residue trials.

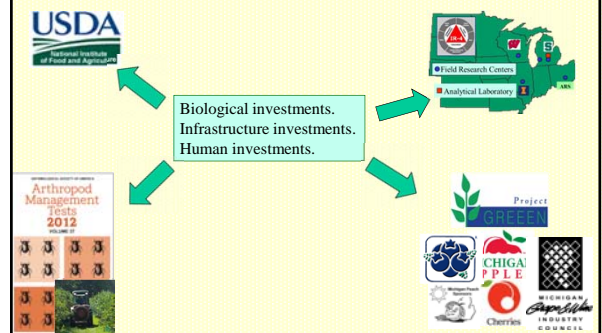


TNRC-hosted Research Yields Impact Generating Outcomes



Modern Strategic Capabilities Help Maintain Competitiveness

Strategic investment in biological, infrastructural, and human resources expand our capacity to attract a diverse set of research and extension opportunities, that together serve MSU scientists, Michigan fruit farming clientele in a sustainable manner.





Example of how infrastructure investment pays back dividends:

Outreach and Education

Scholarship

Granting

\$45K from AgBioResearch

- \$19K IDC from "EPA-PRIA (Increasing Adoption of Reduced-Risk Pest Management Practices)"
- \$21K MWGIC (Impact of Precipitation on the Performance of Grape Insecticides)
- \$15K MAC (Impact of Precip. on Apple Insecticides)
- \$21K National Grape(Precip. effects on Grape Fungicides)
- \$10K MCC (Impact of Precipitation on Cherry Fungicides)

Research Center Strategic Philosophy

Leverage resources in biological, infrastructural, and human assets that expand our capacity to attract a diverse set of research and extension opportunities that optimally serve MSU scientists, Michigan fruit industry, and all clientele.

Biological investments:

- Fruit cultivars susceptible to disease/insect pests.
- Orchard maintenance that sustain pest populations.

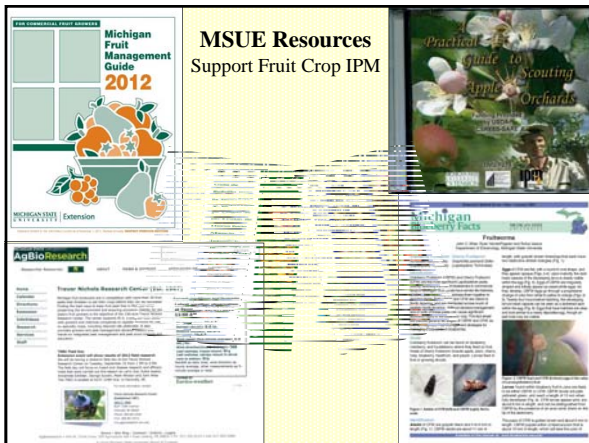
Infrastructure/equipment investments:

- Modified research sprayers.
- Environmental chambers to rear lab colonies.
- GLP facility
- Rainfall simulation chamber.

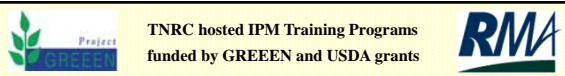

Human resource investments:

- Staff training for enhanced technical capacities.
- GLP training for field residue trial
- Staff training in insect rearing, research calculations, etc.

MSUE Resources Support Fruit Crop IPM

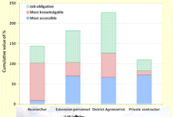


TNRC hosted IPM Training Programs funded by GREEN and USDA grants

Regional and National IPM training venues:

- Ohio and Indiana (2006)
- Wisconsin and Minnesota (2007)
- New Jersey (2008)



International train-the-trainer versions:

- Chile and Mexico (2007)
- Rwanda (2008)
- India (2010)

