INNOVATIONS IN PEST RISK MANAGEMENT

CASE STUDIES by Country

Nate Nourse, Sales Director, Nourse Farms Inc.
David Prokrym, NCPN Management Team
Nate Nourse

• Sales Director, Nourse Farms in Whately, MA
• Vice Chair, National Clean Plant Network-Berries
• Berry Production Specialist (since 1990)
Private Clean Plant Center

• Tissue Culture Lab
  Virus tested plantlets are propagated under sterile conditions
• Screen House for Virus Tested Foundation Stock Plants
  Supplies the Meristems
• Screen House for Quarantine Plants
  Imported Offshore Varieties
• Heat Treatment Chamber
  Virus Eradication
In House Virus Indexing

- Virus indexing and DNA finger printing utilizing molecular techniques
- PCR - Polymerase Chain Reaction Test
- Elisa- Immune Response Test
- Sap Inoculation and Leaf Grafting to Indicator Plant
- Third Party Testing – USDA Corvallis
Taking Meristems
Growing Meristems
Multiplication
Nursery Ready
Field Multiplication

• Crop Rotation 3-8 Years.
• Soil Fumigation
• Pest Management Plan
• Weed Management Plan
Field Multiplication

- Raspberry parents- Only Tissue Culture
- Strawberry parents- 1\textsuperscript{st} and 2\textsuperscript{nd} Generation
Eradicated Bacterial Angular Leaf Spot
What else?

• Following guidelines for newly proposed national certification process thru NCPN, we have begun to randomly test plantings before they are harvested for sale.

• This process gives us another level of confidence that the final product hasn’t been infected with a virus.

• Nourse Farm’s dedication to this rigorous testing and production process allows us to deliver the healthiest plants available for longer, more productive seasons.
NCPN Pest Risk Benefits

- Over time eradication of Virus naturally reduces risk.
  Once Clean, It is relatively easy to maintain.
- Transfer from Nursery to Grower is almost Eliminated. 99.9% Clean
  Trying to be perfect would cost too much.
Does NCPN have value?

• Sharing virus detection protocols, especially the virus-specific primers for molecular detection methods
• Third-party testing through the NCPN-supported centers to confirm test results and methods
• Developing Next Generation Sequencing
• Shipping to Canada and Mexico will continue to be a profitable and expanding part of our business because producers and regulators accept and value clean plant material
• In North America, our clean stock has a higher perceived value; growers pay our higher prices
• Specifically, sales to Canada and Mexico have not slowed in spite of current currency exchange with 20-25% premiums
Start clean, stay clean

NCPN
National Clean Plant Network