The Clean Plant Network in Hawaii

Michael Melzer
Department of Plant & Environmental Protection Sciences
melzer@hawaii.edu
agrosecurityhawaii.com
Clean Germplasm

- Many fruit crops are vegetatively or clonally propagated

- Prone to the accumulation of systemic, graft-transmissible pathogens:
  - Fastidious bacteria
  - Viruses
  - Viroids
Clean Germplasm

• Most systemic, graft-transmissible pathogens are not lethal, but negatively impact production

• Growers want the best starting material available

• Industries do not want movement of infected germplasm
Clean Germplasm

- In 2005, the grape and fruit tree industries met with the USDA and requested a national network of clean plant centers.

- In 2008, the National Clean Plant Network (NCPN) was established in the Farm Bill as a 5 year “experiment”
Our Mission:

The NCPN provides high quality asexually propagated plant material free of targeted plant pathogens and pests that cause economic loss to protect the environment and ensure the global competitiveness of specialty crop producers.
What Do NCPN Centers Do?

- Diagnostics
- Therapeutics
- Maintenance
- Distribution
Clean Germplasm

• Economic Impact
  – increased yields and productivity
  – reduced management costs for growers:

  – $0.8-4.7 billion for fruit tree growers in the US Pacific Northwest since the inception of the NCPN  
    Seavert and Julian, 2012

  – $227 million/year for fruit tree growers in the US Pacific Northwest  
    Cembali et al., 2004

  – $50 million/year for grape growers in Northern California, or ~$300 per acre  
    Fuller et al., 2013
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Citrus Germplasm

As part of the National Clean Plant Network - Citrus, we currently maintain 15 citrus varieties in an insect-proof greenhouse at the University of Hawai‘i. This clean germplasm is routinely indexed and certified to be free of targeted citrus pathogens. Budwood can be purchased for $0.25/budeye, with a minimum order of $10 (plus any USPS shipping charges). We do not sell rootstock material or grafted plants. Please contact us if you would like to place an order or require additional information about this service.

Allen 'Young line' (Watanabe) lemon
- Group: Eureka lemon
- Binomial: Citrus limon
- USDA Accession Number: PI 658386

Buddha’s hand
- Group: Citron
- Binomial: Citrus medica
- USDA Accession Number: PI 539443

Kaffir lime
- Group: Papaya
- Binomial: Citrus hystrix
- USDA Accession Number: PI 658398