



The Benefits of Clean Planting Stock

Healthy planting stock is key to the cost-effective production of horticultural crops such as fruit trees, berries, and grapevines. Healthy plants are easier to propagate, require fewer chemical inputs, and produce higher crop yields and better crop quality than diseased plants. Healthy planting stock is necessary for U.S. agriculture to remain internationally competitive and economically viable. Clean plant programs across the country support U.S. agriculture by providing healthy planting stock to get nurseries and growers off to a good start and allow them to continue to produce the highest quality product possible. In this issue of the NCPN *Network News*, we hear from our end users to better understand how important clean plant programs are to their success.



John R. Clark, Distinguished Professor, University of Arkansas

“Back in the early to mid-2000s, two major developments occurred that impacted blackberry production, particularly in the South and California. The first was the identification of several new viruses present in blackberries, including blackberry yellow vein associated virus, followed by a number of others along with numerous virus combinations in subsequent years. The second development was a substantial increase in planting of Arkansas-developed blackberries, established for the domestic commercial shipping market. This expansion coincided with the establishment of NCPN. Plantings that were established using non virus-tested material often showed virus symptoms, with the worst infections seen in North Carolina. Plantings showing symptoms often were low in vigor and productivity, as well as short lived. However, with virus testing put in place from the mid-2000s onward, and expanded further as NCPN activities increased, virus-tested plants produced in tissue culture became the standard practice for new variety introductions from Arkansas.”

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“...NCPN accomplishments contributed greatly to this increase in plantings, grower profits, and quality blackberries for U.S. consumers.”



**Janet C. “Jenny” Broome, Ph.D.,
Global Research-Plant Health Dept.
Manager, Driscoll’s**

Jenny Broome, Driscoll’s, Watsonville California

“We take clean stock very seriously. Our independent growers want to grow our berries because they taste great, but also because of our nursery’s commitment to start clean and stay clean.”

Josh Beam, Ph.D, Precision Ag Specialist for Western North Carolina

“Clean plants are the most important start to blackberry farming. Without clean plants you are setting yourself up for failure. Clean plants ensure your farm has the best chance to succeed. We are very grateful that clean plants are available for purchase for our farm and others in the area.”

Jon Umble, Production Planning and Research Manager, Fall Creek Nursery, Lowell Oregon

“We are a global nursery company focused on blueberries. Clean plant systems have been a foundational aspect of our business and have tremendous benefits within the nursery, for our customers and the entire blueberry industry. Recent NCPN-related work in virus discovery, diagnostics and elimination have been critical to facilitating the worldwide movement of new cultivars from breeding programs and into grower’s fields.”



Matthew Garber, Garber Farms, Iota Louisiana

“Garber Farms grows over 1,000 acres of sweet potatoes annually. Our average yields over the past 10 years has steadily increased to around 675 bushels per acre. The Foundation seed program provided by LSU has been the core input of our production practices. Its ability to provide Garber Farms with a viral- and disease-free clean plant product has allowed our transplants to have the potential to produce higher yields. In our climate of high humidity and high temperatures, virus and disease pressures are extreme so we keep our plant production within two generations of the G-1 viral free foundation seed furnished by the LSU Experiment Station.”

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“The clean plant program has given our commercial production the economic confidence to increase all input levels in a constant effort to reach for greater financial returns per acre.”



Duane Hutton, packing shed manager

Duane Hutton, sweetpotato packing shed manager, Livingston California

“Clean seed improves yield, quality, shelf life, and packout efficiency of our sweetpotatoes. Yield is 10-20% better with clean seed. Quality makes the produce buyer’s business more efficient and pleases their consumers. Sweetpotatoes harvested from clean seed last longer in storage bins. Clean seed sweetpotatoes require less labor to pack. With clean seed we have first class yields; no excuse, top quality; good shelf life; and a smooth packing operation.”

Wade Fleming, sweetpotato producer, Calhoun County, Mississippi

“In 2016, we grew foundation and older sweetpotatoes next to one another in the same field. The foundation sweetpotatoes yielded 100 bushels per acre more in the same field.”

Matt Alvernaz, sweetpotato grower, packer, shipper, Merced County California

“The cleaner the seed, the less virus you’ll have, and the more saleable product you’ll have.”



Jason Perrault, Select Botanicals, Toppenish Washington

“At Select Botanicals Group and Hop Breeding Company we have utilized the NCPN extensively as a trusted source of up-to-date information, clean public plant material, and as a path towards developing and maintaining clean stocks of our varieties and germplasm. We’ve seen first-hand the impact widespread infection by virus and viroids can have on hop production, and therefore cannot overstate the importance of NCPN’s role as a critical and trusted link in the hop supply chain.”





Aaron Dillan, Four Winds Growers, Watsonville California

“We have a four-generation experience from our nursery indicating that the only way to run a citrus nursery business properly is to use clean stock material and for this reason we source our material from the Citrus Clonal Protection Program (CCPP) at the University of California. Clean nursery stock is the foundation for any kind of clean plant systems. We propagate the trees and make so many each year that if we were using infected materials we would spread infections very quickly. Starting with clean plant material is therefore vital for any downstream agricultural operation to be successful. “

“At Four Wind Growers, we also have a long history of testing the trees, starting in the old days when Tristeza was spreading and causing great losses, and more recently with the HLB threat in California. This is very important as we keep monitoring our plant material and make sure that what we use is clean.”

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“Support from NCPN allows us to test trees that are inside the screen house using new testing methods, and giving us an opportunity to identify and eliminate potential problems as early on as possible in the citrus production chain. “ --Aaron Dillan



Nate Jameson , Brite Leaf Citrus Nursery LLC, Florida

“We citrus nurserymen all believe that for our industry to stay profitable, we must start with disease-free plant material as part of controlling our costs and keeping production profitable.”

“...not every citrus producing state has the knowledge base or the programs in place to recognize citrus diseases, much less prevent them from spreading. NCPN is a proactive program that works by preventing the spread of disease versus a reactive program that endeavors to remove a disease after it has spread.”

“NCPN is providing the information and support funding and is improving citrus health. This is important funding which will have a long term positive impact toward feeding the world’s population into the future. “



Phil Baugher, President, Adams County Nursery, Aspers Pennsylvania

“In 1999, plum pox virus was discovered for the first time in North America. This discovery was within ten miles of our warehousing and shipping facility and within six miles from one of our farming operations. In the three years that followed, over 1500 acres of bearing peach, nectarine, plum, and apricot orchards were removed...”

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“The key to the success of our retooling efforts was the collection of virus certified material located in Prosser and the now National Clean Plant Center.”



Rick Hamman, Viticulture Manager, Hogue Ranches, Prosser Washington

“The National Clean Plant Network is a valuable resource for our wine industry of Washington and other areas of the PNW and the nation. Virus-clean grapevine material from the Clean Plant Center Northwest (CPCNW) has given the Washington wine industry a future and direction in battling the most significant disease (Grapevine leafroll) facing the industry. This is important to me and many others for the long-term sustainability of our farming operations. We farm over 1300 acres of wine grapes and 250 acres of Concord and we cannot afford to overlook the significance of clean, virus-free planting material.”

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“I know firsthand that the long-term sustainability of the wine grape industry depends on the availability of clean, virus-free grape plants.”

Chris Bowland, grape grower and vineyard manager, Sonoma County, California

“I've had to replant a number of young vineyards due to unclean plant material. It's heartbreaking. Starting with known, clean material, is fundamental in maintaining the longevity of a vineyard.”

Kevin C. Judkins, Owner/Operator, Inland Desert Nursery, Benton City Washington

“Inland Desert Nursery is the largest grapevine nursery in the Pacific Northwest delivering annually 2 million plus field-grown and green-potted vines to customers across North America. The National Clean Plant Network is critical to the future of our business. Having the support of the Clean Plant Center Northwest in Prosser WA and Foundation Plant Services in Davis CA is essential to our mission of providing clean vines to our clients.”

Dennis Rak, Double A Vineyards, New York

“Double A Vineyards is one of the largest grapevine nurseries in the East, with sales of over 100 varieties. The National Clean Plant Network is important to Double A Vineyards' future business success. We are currently doubling our vineyards from 40 to 80 acres to supply the growing demand for grapes for planting east of the Rockies. NCPN will provide us a clean source of plant material for future plantings and will benefit the entire grape industry. This is not something we could do ourselves and the program is a great example of the industry working together for the benefit of all.”



Chris Bowland, Sonoma County, CA

A Look Ahead: Upcoming Events

- **July 2, 2017** [VII Int'l Symposium on Rose Research & Cultivation](#), Angers, FR
- **July 30, 2017** [56th International Hop Growers Convention](#), Yakima, WA
- **August 1-2, 2017** [NCPN-Roses Tier 2](#), Longwood Gardens, Kennett Square, PA
- **August 5-9, 2017** [American Phytopathological Society Annual Meeting](#), San Antonio TX

National Clean Plant Network

USDA-APHIS-Plant Protection
and Quarantine
Science and Technology
4700 River Road, Unit 152, Room 5C-0341
Riverdale, MD 20737
nationalcleanplantnetwork.org