The National Clean Plant Network: Progress and Accomplishments

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Start clean, stay clean
NCPN
National Clean Plant Network

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.

Specialty crops currently include:

Grapes

Wine, table, raisin and juice grapes are included in the NCPN grapes sections. With input from grape nurseries and growers beginning in 2008, grapes was one of the first crops to establish and join the NCPN. The headquarters for NCPN Grapes is at Foundation Plant Services, UC Davis. There are NCPN Grapes activities at the Clean Plant Center Northwest, Washington State University, USDA Horticultural Crops Research Unit, USDA/ARS, Corvallis, Oregon, Cornell, Missouri State University, and Florida A & M.

Fruit trees

The NCPN Fruit Trees include *Prunus* (peach, plum, cherry, almond), *Malus* (apple) and *Pyrus* (pear). With input from tree nurseries and growers beginning in 2008, fruit trees was one of the first crops to help establish and join the NCPN. The headquarters for NCPN Fruit Trees is at the Clean Plant Center Northwest, Washington State University, Prosser, Washington. There are NCPN Fruit Trees activities at the Southeast Budwood Program, Clemson University, SC, and Foundation Plant Services, UC Davis.

Citrus

The headquarters for NCPN Citrus is at the Citrus Clonal Protection Program, University of California, Riverside. There are NCPN Citrus activities at the Certified Budwood Program, Yuma, Arizona, Citrus Center, Texas A&M University-Kingsville, Citrus Germplasm Introduction Program and Citrus Nursery Stock Certification Program, Florida, Louisiana State Univ. Burden Research Station, Alabama Ag. Exp. Station, Auburn Univ, and Dept of Plant and Environmental Protection Sciences, Univ. Hawaii.

Berries

The NCPN berries include the genera *Fragaria* (strawberries), *Rubus* (blackberries and raspberries), and *Vaccinium* (blueberries). The headquarters for NCPN Berries is at the Berry Crops Testing, Therapy and Diagnostics Development Program at the USDA Horticultural Crops Research Unit, USDA/ARS, Corvallis, Oregon. There are NCPN Berry activities at the University of Arkansas, North Carolina State Micropropagation Unit, and Foundation Plant Services, UC Davis.

Hops

Currently there is one center in the network, the Clean Plant Center Northwest (CPCNW) at the Washington State University research and extension center in Prosser, Washington.

What is the NCPN?

The National Clean Plant Network (NCPN) is an association of Clean Plant Centers, growers, nursery and industry representatives, scientists, educators, and state and federal regulators concerned with the healthy of planting stock of specialty crops that have joined to produce, provide and promote the use of pathogen-tested, healthy plant material in the United States. The NCPN operates under the auspices of three agencies within the United States Department of Agriculture - Animal and Plant Health Inspection Service (APHIS), Agricultural Research Service (ARS) and National Institute of Food and Agriculture (NIFA).

Benefits of the Clean Plant Programs

Healthy planting stock is key to the cost-effective production of horticultural crops. The most efficient approach to producing healthy planting stock is through programs which screen valuable plant selections for viruses and other diseases that can be spread by contaminated plant stock. Quarantine services provided by clean stock programs reduce the chance of introduction of exotic pests that can be difficult and costly to control.

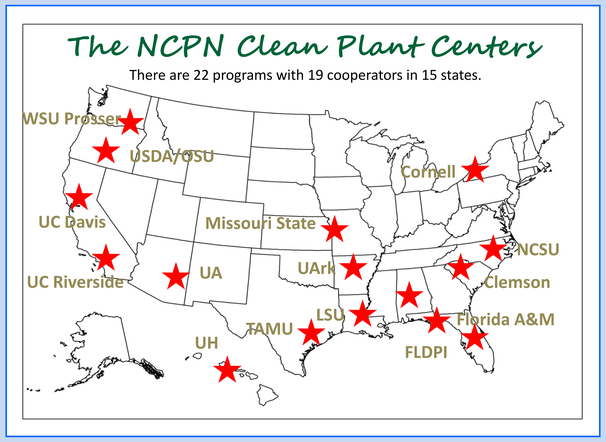
Healthy planting stock :

- Is easier to propagate
- Requires fewer chemical inputs
- Produces higher crop yields and better crop quality than common planting stock
- Is necessary for U.S. agriculture to remain internationally competitive and economically viable

We establish and maintain extensive Foundation blocks with regular disease monitoring.

We provide clean, tested propagation material to nurseries and growers throughout the U.S. and world.

We eliminate viruses and other pathogens using microshoot tip therapy.



We import and quarantine new varieties to reduce the risk of bringing in pests and diseases.

We rigorously test plants using standards that are stricter than state and federal requirements.

We develop state of the art techniques for detecting pathogens.

Outreach

NCPN has an active Outreach and Education Committee that conducts regional and national programs for nurseries, growers, regulators and others on NCPN goals and emerging issues of concern such as new pathogens and new detection techniques. Activities include: special sessions at professional meetings, talks and booths at trade conferences, on-site nursery visits, publications, and webinars.

Background

It takes many years to establish the healthy live plant collections that are the core of clean stock programs. The goal of the National Clean Plant Network (NCPN) is sustained national funding for clean planting stock programs of key horticultural crops, such as berries, citrus, fruit trees, grapevines and hops.
Funding supports centers with the expertise, facilities, and desirable climates to efficiently produce, maintain, and distribute healthy planting stock. Advisory committees that include industry representatives and researchers from throughout the country are an essential part of the equation for communicating priorities to the NCPN.

The impetus for the NCPN came from the grape and fruit tree industries, who in 2005 initiated a series of meetings to explore the formation of a national group devoted to focusing on foundation materials that are tested, treated and maintained as a healthy source of plant materials for growers in the United States. In 2008, the grape and fruit tree networks were developed by stakeholders, industry members, scientists and other interested parties. In 2010, berries, citrus and hops were added.

The technology used to create healthy planting stock is becoming faster, more accurate, and more expensive. U.S. clean plant programs must use state-of-the-art technology to ensure that our producers stay competitive in the global market. Program continuity is critical because these collections must be continually protected from infection, monitored for disease, farmed, and documented. It would take decades of work to recover from disruptions in funding for a single year because of the risk to these collections.

Operations

Each specialty crop network has its own board with representatives from industry, state and federal regulatory agencies, and research and extension areas in different regions of the country.

The NCPN operates under the auspices of three agencies within the United States Department of Agriculture - Animal and Plant Health Inspection Service (APHIS), Agricultural Research Service (ARS) and National Institute of Food and Agriculture (NIFA). A memorandum of understanding (MOU) between the three federal agencies was signed in 2009 containing an agreement to cooperatively support research, quarantine and outreach activities for the newly-organized NCPN.

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