



It's proposal time! These words can instill optimism or dread in the hearts of Network stakeholders, depending on their role in the effort. Whether submitting a painstakingly crafted application or reviewing all those applications in fine detail, everyone involved agrees that the USDA Cooperative Agreement process is a critically important link in the chain of success for U.S. specialty crops. Along this chain of events which ultimately results in clean planting stock for growers and nurseries, cooperative agreements help ensure efficient and effective use of limited resources. The National Clean Plant Network (NCPN) connects Centers throughout the U.S. that produce healthy plants to ensure the highest quality and yield of tree fruit, grapes, berries, hops, sweet potatoes, citrus and roses.

The application period for 2018 Network funding opened on July 17, 2017 and remains open until October 6, 2017. Once the application period ends, the Network Governing Board will embark on a detailed critique of the work plans submitted by as many as 35 entities, including, but not limited to, Land-Grant Universities, Colleges of Agriculture, and State Ag Experiment Stations. The resulting recommendations will be shared with decision-makers in APHIS, who determine the best use of funds provided by the Farm Bill. The Network portion of the Farm Bill allocations is generally around \$5 million, so there are some tough decisions to make in awarding a relatively small budget to historically around 22 qualifying programs.

In this issue of the *Network News*, we will take a closer look at how those funds are put to work, how priorities are established and how workplans are harmonized within a funded crop group.

Clean Plant Centers are Dynamic

The director of each Center manages a team of scientists, researchers, plant specialists, and administrators who are in continual pursuit of better, faster, more effective ways to produce virus-free plant material. The Center staffs follow rigorous protocols in the laboratory and the field or greenhouse, but must also remain attuned to new virus threats and emerging methodologies that keep their efforts current. And while the highly trained Center personnel are completely engaged in the day-to-day process of diagnostics, therapy, and propagation, they must also make time to write proposals for funding and provide ongoing status reports to their stakeholders, grantors, and regulatory agencies.



From left to right: David Ziesak, Deborah Golino, Brent Pemberton, and Sue Sim, attending the NCPN-Roses Tier 2 meeting in August 2017 at Longwood Gardens, PA

“Funding for FPS programs has traditionally come from a combination of sales of plant materials and services, industry assessments and grants, donations and user fees. One of the most notable financial developments for FPS in the past decade has been the availability of federal funding from the National Clean Plant Network (NCPN). NCPN funding has been critical to securing the quality of our programs.”

Deborah Golino, Director, Foundation Plant Services, UC Davis

Industry Leaders Play a Large Role

Each of the seven crop groups in the Network has a leadership team comprised of representatives from industry (growers, distributors, nurseries), regulatory agencies, and researchers. Network-funded clean plant program managers review their annual work plans and progress with this leadership team, ensuring that efforts are relevant and aligned with industry needs. Before a grant proposal is submitted, this leadership group will provide feedback and suggestions, keeping in mind the big picture of how all Centers within the group interact and complement each other in the clean plant mission. This group is especially vigilant about unnecessary redundancies and economic efficiencies.



Eric Amberg, NCPN-Grape
Tier 2 Representative

“As a NCPN-Grapes board member for the past 6 years and as a Nurseryman, it has been a pleasure to interact with other members of the industry, regulators and University experts from across the country. The collaboration of all of these groups has produced a system that is beneficial to all. The ad hoc review process of the proposals brings together these groups to review and comment. Having such a diverse group helps to evaluate the proposals from a broad perspective and an understanding of the grape industry's needs, helping to ensure that the limited funds from the Farm Bill are utilized in the most productive manner.”

Eric Amberg, Operations Manager, Grafted Grapevine Nursery, LLC

Regulators are More Than Rule Makers

Representatives from State Departments of Agriculture are considered part of the team in the clean plant process. State officials provide advice and guidance on how best to move clean material within and across state lines, and how to mitigate the spread of unclean material. Likewise, representatives from USDA and various Federal agencies, provide resources that control the movement of foreign plant material into and out of the country, balancing the need to protect U.S agricultural interests and support international trade. Without this interaction, U.S. consumers would have limited varieties to select from at the grocery store.



Ruth Welliver, NCPN Tier 1
Governing Board Representative

“State regulators are currently serving on the NCPN governing board and on the NCPN commodity network boards. This builds better understanding of industry needs and a stronger connection between state and federal certification programs. Knowing our nursery growers are sourcing G1 material from an NCPN clean plant center gives us greater assurance that we are safeguarding the nursery system.”

Ruth Welliver, Director, Bureau of Plant Industry,
PA Department of Agriculture

Collaboration is Essential

The Network supports seven specialty crops (tree fruit, grapes, berries, hops, sweet potatoes, citrus and roses). Generally, there are multiple programs or clean plant centers within a given crop. For instance, there are eight geographically dispersed centers supporting the Citrus commodity group. Variation in growing conditions across the country often creates unique challenges for each program. But even as each Center concentrates on cultivars favored by their growers, and focuses on pathogens of concern in their region, there are commonalities between the Centers that can benefit from collaboration. By working together, the Centers can develop best practices, conduct more robust research, and share workloads to increase throughput. Therefore, the funding application process promotes an exchange of plans and ideas between Centers and allows proposal reviewers to make further



As a member of the Ad Hoc Committee, Melinda Klein helps review proposals for NCPN funding to Citrus Clean Plant Centers.

"I have been impressed with how well the Citrus Clean Plant Centers come together and support one another during the RFP process. The directors and scientists preparing the proposals appreciate the difficulties facing smaller programs and if there is a larger issue or need facing any one of the Centers, the group works together to take that need into consideration as well. The Clean Plant Network provides invaluable service to both the California citrus industry and the U.S. citrus industry as a whole."

Melinda Klein, Ph.D., Chief Research Scientist, Citrus Research Board

Results are Evident

With the vast number and diverse specialties of people involved in the clean plant mission, one might question if the network suffers the legendary inertia of bureaucracy. Fortunately, Network work plans yield highly quantifiable outputs and the results are impressive. Here are just a few statistics to consider:

- **Fruit Tree Centers** maintain about 2,250 clean fruit tree accessions in foundation programs that have delivered more than 500,000 cuttings, scions, and plantlets as well as more than 1.7 million buds to nurseries and growers.
- **Grape Centers** maintain about 1,000 selections of clean grapevine accessions in foundations and have distributed more than 700,000 clean grape-wood cuttings, buds, plants, or special seed to industry.
- **Berries Centers** diagnose and clean about 75 new berry accessions annually and maintained clean plant foundations that provide mother plants to industry that have produced nearly 30 million clean berry plants annually.
- **Citrus Centers** maintain about 1,000 clean citrus tress accessions in foundations and have delivered 'starter material' to industry that has resulted in more than 60 million clean citrus trees over the past 7 years.
- **Hops Center** maintains over 50 clean hop selections in the foundation collection, used to accommodate about 30 percent of the world's need for clean hops. Over five thousand clean propagative units have been distributed to industry; each unit can be expanded rapidly to provide thousands of plants for planting annually.
- **Sweet Potato Centers** add about 40 new sweet potato accessions annually to existing foundations, with 170 accessions currently available for use by industry in addition to numerous heirlooms and introductions maintained. In excess of 200,000 clean plants were delivered to industry in 2016-2017 for further increase.
- **Rose Centers** continue advanced testing of about 600 rose selections currently maintained in foundations, with 6 acres currently ascribed to housing rose clean plant material with a goal of reaching an industry need of 15 acres in foundational material in the near future.

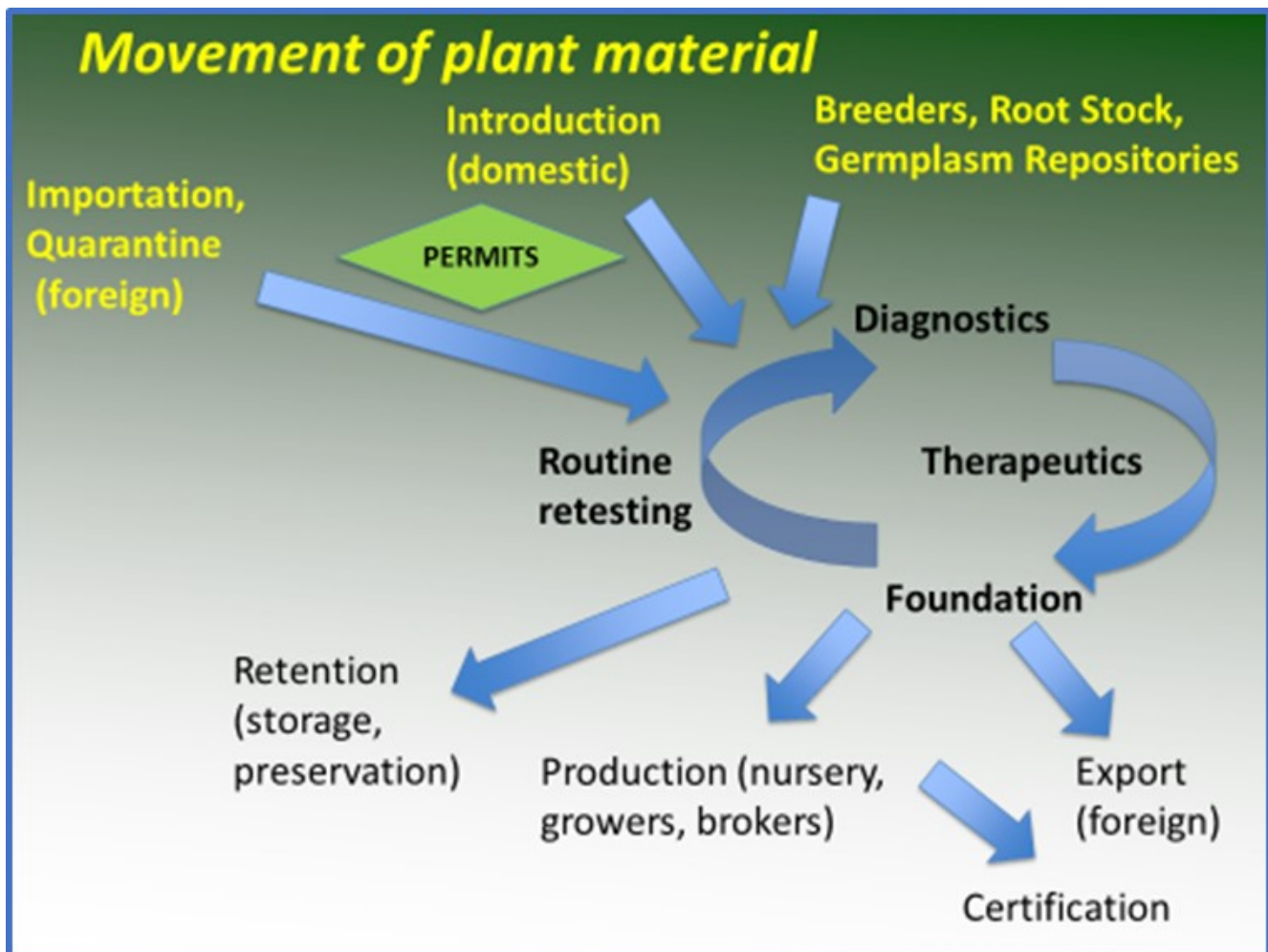
NCPN Priorities and Limitations

The \$5 million in Farm Bill funds that are allocated annually to clean plant programs generally cover anywhere from 10% to 50% of the needs of a given Center. NCPN encourages resource independence and expects programs to demonstrate increasingly diversified funding sources. Most Centers rely on multiple cooperators to maintain a viable operating budget. In addition to Network funds, Centers often generate revenue from service fees and the sale of clean plant material. Other funding sources may include in-kind donations from hosting universities, industry contributions, and other government grants.

In making funding decisions, the Network Governing Board members place the highest priority on pathogen diagnostics and therapy. They also want to see that a program is responsive to industry needs and benefits small- and medium-sized local agricultural operations. The grant application process specifically disallows funding for construction of new buildings, DNA fingerprinting services, and development of State nursery certification programs. It is anticipated that programs will pursue other funding sources for these important activities.

How Clean Plants Move through the System

The graphic below provides a simplified illustration of how plant material becomes declared “clean” and is distributed into the agricultural supply chain.



The Next Step: *Stay Clean!*

The Network motto is “Start clean, stay clean.” Networked Centers continue to refine and streamline the ‘start clean’ process, and for the most part, the goal of producing clean plants is now quite achievable. However, the ‘stay clean’ part of the mission remains an ongoing challenge, requiring heightened awareness, disciplined agricultural practices, and commitment by all stakeholders to not taking shortcuts. Clean plant centers often serve as advocates and mentors, educating growers on how to detect viruses and virus-caused diseases. Through workshops, consultation, publications, and field day events, growers learn how to mitigate the transmission of viruses by controlling vectors, following optimal planting strategies, and ensuring humans do not spread viruses through mechanical means. At the end of the day, it takes diligence, education, and commitment to keep crops clean of viruses that negatively impact the bottom line.



Meeting of the grapevine harmonization group in The Dallas, OR (July 2016). Pictured left to right: Cindy Cooper, WSDA; Aaron Paul, WSDA; Sadie Drury, grower-Oregon; Nancy Osterbauer, ODA; Bob Martin, USDA-ARS; Dipak Poudyal, ODA; Kevin Judkins, grower/nursery-Washington; Naidu Rayapati, WSU; Patrick Williamson, grower-Idaho.

“Knowing our fruit and berry nursery growers are sourcing G1 material from an NCPN center is the basis of state-level certification programs. It allows states to help nurseries with the ‘stay clean’ part of the clean plant equation.”

Cindy Cooper, Washington State Department of Agriculture
and NCPN Governing Board Representative

State-level Nursery Certification In Action

New York nurseries will now offer growers NY-certified virus-tested vines. Growers throughout the Eastern US will benefit by being able to start vineyards with clean, virus-tested vines.

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<https://grapesandwine.cals.cornell.edu/newsletters/appellation-cornell/2017-newsletters/>



A Look Ahead: Upcoming Events

- **October 17-19, 2017** NCPN Core Strategic Planning Team, Washington, D.C.
- **November 13-17, 2017** Network Governing Board, Washington, D.C.

National Clean Plant Network

USDA-APHIS-Plant Protection
and Quarantine
Science and Technology

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