



How *Not* to Introduce Invasive Species to Other Planets

Sixty years ago this month, on February 20, 1962, the Mercury Atlas 6 (MA-6), Friendship 7 launched the mission in which astronaut John H. Glenn became the first American to orbit the earth. In fact, this past year marked the **60th anniversary of NASA**, formed by the passage of the National Aeronautics and Space Act. What does space exploration have to do with the mission of the **National Clean Plant Network**, you might ask? Well, it provides a nice segue to ponder our earthly commitment to mitigating the spread of pathogens that threaten our food sources, in the U.S. and across the globe— perhaps even the universe and beyond!

“Invasive species are a major problem worldwide. Human trade and travel imports species – often by accident – from one corner of the world to another. The effects can be devastating, wiping out local flora and fauna, reducing biodiversity, and forever altering ecosystems. What lessons can we learn from these very real challenges, to help us prepare for the possibility of an interplanetary equivalent?”

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As the article quoted above, in *Universe Today*, postulates, interplanetary biological invasions *may* be improbable. But we know that the danger of importing economically devastating pathogens via cuttings, seeds, and plants is a very real risk to U.S. agriculture, making it well worth a commitment to *start clean* when sourcing new propagative material.

Learn more: Anthony Ricciardi, Phillip Cassey, Stefan Leuko, Andrew P Woolnough. “[Planetary Biosecurity: Applying Invasion Science to Prevent Biological Contamination from Space Travel.](#)” *BioScience*.

Yorizane! Exciting New Almond Variety Available at FPS

California almond growers are excited about a new self-pollinating almond variety called Yorizane that was released by the USDA in October of 2020. Bred by Craig Ledbetter of USDA’s Agricultural Research Service, Yorizane has high yield production, excellent vigor, outstanding flavor, and an excellent crunch. A long time in the making, Ledbetter selected Yorizane for trialing in 2003 due to its outstanding qualities. Ledbetter introduced the almond variety to Foundation Plant Services’ *Prunus* program in January 2020 along with two other almond varieties.

Yorizane went through a rigorous testing process including high throughput sequencing, PCR testing for a panel of targeted viruses, and biological indexing. No virus like agents were detected by any testing method and this highly desirable selection was fast-tracked for release. Yorizane budwood is available in limited quantities from [Foundation Plant Services](#). Nurseries have been reproducing Yorizane trees to make them ready for orchard planting this year.

[USDA ARS Press Release](#)



National Citrus Nursery Grower's Initiative (NCNGI)

The National Citrus Nursery Grower's Initiative (NCNGI) is a non-profit industry effort for providing a platform to exchange information and build networks within the U.S. citrus nursery industry. NCNGI brings members of the citrus nurseries in different citrus-producing states together to facilitate constructive discussions on several citrus nursery production practices, regulations, and novel technologies topics. It also opens communication with interested government, non-government, scholars, and private stakeholders.



What is the purpose of the NCNGI? The initiative's main objective is to discuss common concerns and issues affecting the US citrus nursery operations. It focuses on activities that lead to sustainable solutions to challenges brought by the devastating impacts of the citrus greening. It also attempts to break down barriers among citrus-associated stakeholders to develop multifaceted approaches that can deliver short and long-term positive outcomes for the four big citrus-producing states; Florida, California, Texas, and Louisiana.

Committee participants include representatives from 4 Texas citrus nurseries, members of Texas Nursery & Landscape Association (TNLA), 45 Florida citrus nurseries members of the Florida Nursery, Growers & Landscape Association (FNGLA), 5 leading citrus nurseries from Louisiana Nursery and Landscape Association (LNLA), while the California Citrus Nursery Society (CCNS) represents California's 17 leading citrus nurseries.

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Brent Pemberton, NCPN-Roses Advocate, Retires from His Day Job

After almost four decades of studying and advancing the science related to ornamental plant varieties, Brent Pemberton, Ph.D., Texas A&M AgriLife Research horticulturist, has retired from his position at Texas A&M. Brent has been an active participant and supporter of the National Clean Plant Network since the inception of NCPN-Roses in 2015. As a member of the NCPN-Roses Advisory Board, Brent has provided leadership and guidance as growers, scientists, and regulators collaborate to tackle common issues such as rose rosette disease and to maintain foundation blocks of pathogen-tested rose collections.



Dr. Pemberton has extended his contribution to the Network by serving as a member of the Education & Outreach committee and participating in a series of workshops to create an NCPN communications plan. He was also involved in recent efforts to update the NCPN Strategic Plan, serving as a vital link to represent the needs of the rose community.

While Brent is now enjoying more time with family, he has also generously agreed to remain involved with NCPN-Roses as a member of the Advisory Board and the E&O committee. Thank you, Brent, for all you have done, and continue to do, to help promote and protect the use of clean planting material for rose enthusiasts!

[Read more in the Nov 29, 2021 issue of *AgriLife Today*](#)

Roguing and Replanting Curtail Spread of Grapevine Leafroll Disease

Grapevine leafroll disease, which reduces yield and delays ripening of grapes, is one of the most important viral grapevine diseases worldwide. In New York, estimated economic losses range from \$10,100 to \$16,200 per acre over the 25-year lifespan of a Cabernet franc vineyard. The disease is introduced to vineyards through virus-infected planting material and is spread by mealybugs and soft scale insect vectors.

Economic studies suggested that roguing infected vines and replacing with planting material derived from virus-tested vine stocks would be economically optimal if disease incidence was less than 25%, limiting virus incidence and spread and lowering the economic impact of leafroll disease. A field trial in New York, compared 'rogue-and-replace' and insecticide targeted at mealybug vectors in combination and individually. Roguing consisted of eliminating diseased vines and two neighboring vines on each side. Over five years, roguing and roguing+insecticide reduced the percentage of leafroll-infected vines from 4% to nearly zero, while it increased from 5 to 16% in the 'control' treatment. In the combination treatment, roguing was the dominant factor in reducing the virus inoculum.

Critical to the success of roguing is the cleanliness of the replants. Clean vines used as replants in the New York study were grafted with cuttings and budwood from vine stocks that have been extensively tested for viruses and met the high standards set forth by some certification programs. Clean plant centers of the National Clean Plant Network work closely with certification programs and are critical in providing virus-tested source material to certification program nursery participants.



Read the full details of the study published by *Appellation Cornell*:
[Vineyard trial to curtail spread of leafroll](#)

Development of New Hop Certification Programs



Over the past three years, a working group comprised of state regulators, university, and federal researchers, and hop industry members have developed a national model for hop germplasm certification. The draft plan outlines maintenance, testing, and traceability procedures for hop material at the clean plant centers and for nurseries and propagators.

Certification is important for hop propagators and their customers, because it allows traceability of propagative material from the original 'clean' source to nurseries and propagators, to the growers. This provides assurance and confidence for end users of the material and allows the rapid identification and mitigation of problems, such as a pathogen detection at a nursery. It is also important for increasing interstate and international trade in hop propagative material, as quarantines currently prevent movement of material into the Pacific Northwest for example, due to the risk of inducing specific pathogens. Certification programs in major hop producing states will aid in preventing or reducing the risk of spreading of harmful pathogens within the U.S., benefitting stakeholders across the country who work in this vibrant and growing industry.

NCPN-SP Shares Sweet Successes in Las Vegas

In late January, over 25 NCPN-Sweetpotato stakeholders gathered to share insights and discuss how to continue the achievements realized since the first clean seed program for sweet potato was started in the 1960s. The NCPN-SP Tier 11 Advisory Committee, formed when sweet potatoes became a recognized crop of the National Clean Plant Network in 2015, meets annually. This year's meeting was held in conjunction with the U.S. Sweet Potato Council's 60th Annual Convention in Las Vegas, Nevada. Industry representatives and certified seed producers, along with staff from the NCPN Clean Seed Centers, USDA representatives, and scientists from several universities serve as members and advisors to the leadership group.

Dr. Jennifer Nicholson, NCPN national coordinator, presented an overview on the funding made available via the USDA Farm Bill. Rebecca Wasserman, Project Manager & Researcher at Cornell Dyson School of Applied Economics & Management, and Chris Clark, PhD, LSU AgCenter, shared information about an economic study on the use of virus-tested sweet potato seed initiated by Cornell University. Additionally, Mark Shankle, PhD, provided a report on the growth of clean seed production occurring at Mississippi State University Pontotoc Ridge-Flatwoods Branch Extension Center.

Per the bylaws of the Advisory Committee, leadership is revisited every 2 years. As the group wrapped up their business meeting, they elected C. Scott Stoddard, County Director and Farm Advisor for Vegetable Crops and Soils with University of California, to serve as committee Chair and Chris Clark as Vice-Chair for the current term. In 2022, the Advisory Committee anticipates meeting virtually, every 4 months.



After more than two years of meeting virtually, members of the NCPN-Sweetpotatoes Tier 2 Committee enjoyed the opportunity to briefly discuss, in-person, during a meeting break, the value of starting with clean seed.

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During the first-year meetings, the initiative representatives created a list of priorities and ranked them. It became clear that although there are many issues to tackle, the primary concern was the USDA rule for the Interstate Movement of Citrus Plant Material and the need to work with both nurseries and USDA to better implement and adjust such regulations. This rule is not being enforced uniformly across the USA. Historically, there has been very little to no citrus nursery industry input on the USDA Interstate Movement Rule. The NCNGI addresses the citrus nursery concerns on the Interstate Movement rule to start the dialogue with USDA.

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