



FPS Update for CDFA Improvement Advisory Board

November 7, 2025

Maher Al Rwahnih



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Classic Foundation Vineyard – 2025 Virus Testing

- Of 4,991 vines at Classic Foundation Vineyard:
 - 1 positive for GLRaV-3
 - 1 positive for GRBV
 - = 2 vines removed in August, immediately upon virus detection
- CDFA notified of detection & removal.
- Customers who received material have been notified.



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Classic Foundation Vineyard Testing History

Year	Vines Tested	Total Vines*	GRBV Positive Vines	GRBV Incidence	GLRaV-3 Positive Vines	GLRaV-3 Incidence
2017	3,604	4,088	1	0.02%	0	0%
2018	4,127	4,075	0	0%	0	0%
2019	4,167	4,075	1	0.02%	0	0%
2020	4,301	4,270	0	0%	0	0%
2021	4,594	4,594	0	0%	0	0%
2022	4,660	4,660	0	0%	0	0%
2023	4,634	4,634	0	0%	0	0%
2024	4,881	4,881	0	0%	1	0.02%
2025	4,991	4,991	1	0.02%	1	0.02%

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Location of GLRaV-3 Positive Vines



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Remember: grape material sourced from FPS is tested twice!

- Foundation grapevines are inspected and re-tested regularly to confirm they remain virus-free and are eligible in CDFA certification program.
- FPS testing exceeds CDFA requirement
 - First test: in the **fall** we use leaf petiole samples to test **every vine** for GRBV and GLRaV-3, **every year**.
 - Sample both sides of vine, 6 petioles each
 - Second test: dormant material from every vine that material is distributed from is tested again, to ensure it is free of GRBV and GLRaV-3.



FPS Grapevine Collection



Classic Foundation Vineyard
2,504 selections



Foundation Greenhouse
~1,200 selections
Most, duplicating Classic material

Coming Soon: Foundation Screenhouse

- 12,000 square feet
- Fully screened for insect exclusion
- \$2.7 million bid for construction
 - \$2.5 million loan from College allowed us to start the project.
- Construction team on site September 1.
- Expected completion April 2026



Propagation Work Continues

- LR3 and GRBV detections are a problem! We need to secure the collection indoors!
- CDFA PD Board funded 1 more year of propagation work, \$115,837
- NCPN, funds available at **very** last minute (September 19) were granted to FPS for propagation, \$174,000.



NCPN Funding to Secure Grapevines

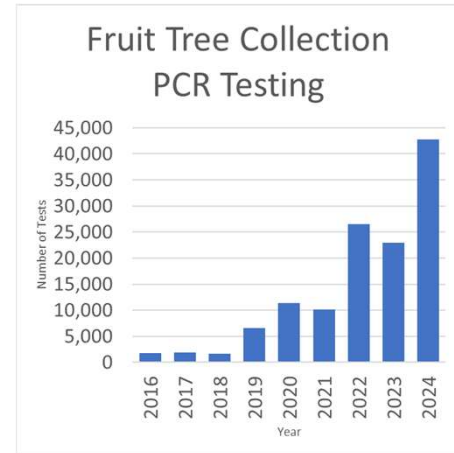
- *We expressed an urgent need, and NCPN rose to meet it*
- **September 8** Maher attended NCPN meeting in North Carolina
 - Shared with the group the news of the 2025 LR3 and GRBV detections at Classic Vineyard
 - Viruses at Classic Foundation Vineyard make it imperative that we propagate and secure the grapevine collection as soon as possible
- NCPN Program Manager indicated that \$174,000 of funds could be applied for to meet this emergency need.
 - Process needed to be completed ASAP for agreements to be signed and in place by end of September
 - Office of Sponsored Programs responded quickly to our needs on the UC Davis side, and we were able to receive the funds.

This week on the work site:



Fruit Tree Program – Annual Testing

- Testing in diagnostic lab has dramatically increased as the program grows
- PCR used to screen introductions
- PCR used on annual testing
 - LChV-1, LChV-2, phytoplasmas added to testing panel due to little cherry disease outbreak in PNW.
 - CVA added due to risk of pollen transmission.



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Annual Testing

PRUNUS

Cherry virus A
Little cherry virus 1
Little cherry virus 2
Prunus necrotic ringspot virus
Prune dwarf virus
Plum pox virus
Phytoplasma Western X
Phytoplasmas (universal)

POME

Apple chlorotic leaf spot virus
Apple green crinkle associated virus
Apple hammerhead viroid-like circular RNA
Apple mosaic virus
Apple rubbery wood virus 1
Apple rubbery wood virus 2
Apple stem grooving virus
Apple stem pitting virus
Apple scar skin viroid
Citrus concave gum-associated virus
Cherry rasp leaf virus
Pear blister canker viroid
Phytoplasmas
Tomato ringspot virus
Tobacco ringspot virus
Citrus virus A
xylella fastidiosa

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Fruit Tree Maintenance Testing - 2025

Pome Testing

- Foundation testing began June 11, on 33 composite samples.
 - 1 pear sample tested positive for phytoplasma (PHYTO) from the composite and was confirmed on June 20th.
- August 26, we recollected all 9 Pear cultivars as composite samples again and 7 tested positive PHYTO.
- September 2, we collected and tested the individual trees and 18 trees tested positive PHYTO.
- This made a total of 19 PHYTO positive Pear trees in 2025
- Pathogen is *Candidatus Phytoplasma pyri*

Fruit Tree Maintenance Testing - 2025

Prunus Testing

- Began May 28, 2025 on composite samples.
- Individual trees were tested for any positive composite tests, and those trees recollected to confirm a positive result.
- By June we had discovered 2 phytoplasma-infected Prunus.
- Testing again in August (based on Pear experience!) found no more PHYTO positive Prunus.
- Pathogen is *Candidatus Phytoplasma pruni*

Fruit Tree Maintenance Testing – 2025

Prunus Testing - continued

- 6 trees positive for PDV
 - Mahaleb seed trees at Goheen, retired two years ago.

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Fruit Tree Maintenance Testing – 2025

Pome & Prunus Testing: Trees Removed

- 6 PDV+ Mahaleb seed trees at Goheen
- 2 Phytoplasma+ Prunus tree at Goheen
- 19 Phytoplasma+ Pyrus trees at Russell Ranch
 - All RRO pears have been removed

CDFA & affected customers have been notified

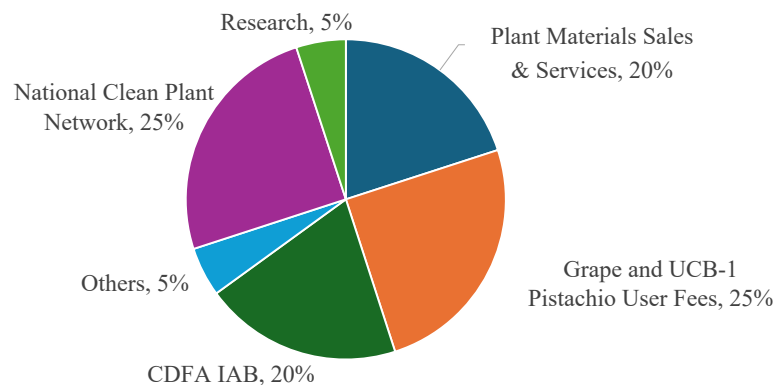
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Maintenance Testing is Key to this Clean Collection!

- No tolerance for false negatives
- We are using a lot of resources to maintain the collection –
 - Let's review FPS's current funding

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Average FPS Funding by Category



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IAB Funding

- We expect IAB funding to be reduced next year because of the state of the industry

Year	Total Proposed	Total Awarded	% Awarded
2021 2022	\$1,343,470	\$1,343,470	100%
2022 2023	\$1,771,350	\$1,771,350	100%
2023 2024	\$1,832,402	\$1,564,342	85%
2024 2025	\$1,993,657	\$1,564,342	78%
2025 2026	\$1,993,083	\$1,256,504	63%
2026 2027	TBD	TBD	TBD

How we are managing the FPS budget

The most important thing is to try to keep the FPS team, minimizing layoffs, during this tough time

- Now offering Berry Import & Quarantine service
- Applying for more research funding from different sources
- Increase the request from NCPN, easily justified by the amount of work that FPS does
- Working hard to increase UCB#1 sales internationally

NEW: FPS Berry Program

- FPS has handled exclusively UC strawberries since 1990s.
- After being approached with requests about berries, we are now using our capacity to expand the FPS berry program.
- All testing is with HTS, which requires much less space than traditional indexing.



The screenshot shows the 'FPS Berries Program' page on the Foundation Plant Services website. The page features a navigation bar with links: HOME, GRAPE, PRUNUS, PISTACHIO, UC STRAWBERRY, ROSE, SWEET POTATO, BERRIES (highlighted), VARIETY ID, and VIRUS DIAGNOSTICS. The main content area includes a paragraph about FPS's expanded berry program, a section for 'Import & Quarantine Services' detailing the process for berries entering the US, and a 'Current Service Prices' box listing import and virus therapy costs. A contact information box at the bottom right provides a phone number and email address. A small image of blueberries is also present.

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HOME GRAPE PRUNUS PISTACHIO UC STRAWBERRY ROSE SWEET POTATO **BERRIES** VARIETY ID VIRUS DIAGNOSTICS

FPS Berries Program

In addition to its program for UC strawberry varieties, FPS offers import & quarantine and diagnostic testing services to other domestic and international stakeholders and breeding programs.

Import & Quarantine Services

Berries (*Rubus*, *Vaccinium*, *Fragaria*) entering the US for planting must complete testing to screen for regulated pathogens, followed by microshoot-tip tissue culture therapy if regulated pathogens are present in the source material. FPS is one of the centers permitted by USDA.

Current Service Prices
Effective May 1, 2025

- **Import of Plant Material:** \$5,000 per selection
- **Virus therapy:** \$2,000 per selection

To initiate this service contact FPS:

Phone (530) 752-3590
fps@ucdavis.edu

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NEW: FPS Berry Program

- Two berry shipments received
- Five other berry shipments anticipated
- Custom HTS and PCR for other programs



This screenshot is identical to the one on slide 21, showing the 'FPS Berries Program' page on the Foundation Plant Services website. It includes the same navigation bar, introductory text, 'Import & Quarantine Services' section, 'Current Service Prices' box, and contact information.

Foundation Plant Services

HOME GRAPE PRUNUS PISTACHIO UC STRAWBERRY ROSE SWEET POTATO **BERRIES** VARIETY ID VIRUS DIAGNOSTICS

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Current Research Funding

Project	Sponsor	Start Date	Amount
Sweetpotato HTS vs. Indexing – Year 1	USDA PPA7721	9/1/25	\$143,941
New Kapa Kit on Hamilton liquid handler: HTS Validation – Year 1	USDA PPA7721	9/1/25	\$75,271
Strawberry Nursery Survey – Year 3	USDA PPA7721	9/1/25	\$240,000
Berry HTS vs. Indexing – Year 3	USDA PPA7721	9/1/25	\$124,122
Berry HTS Ring Test – Year 1	USDA PPA7721	9/1/25	\$116,449
Agave Virus Screening – Year 1	CDFA	1/1/25	\$39,910
Hiplex PCR – Strawberry Year 2	CA Strawberry Commission	2/1/25	\$80,760
Hiplex PCR – Grape Year 2	PD Board	7/1/25	\$99,339
Sudden Vine Collapse	AVF	6/15/25	\$59,000
	TOTAL		\$978,792

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PPA7721 Research Suggestions Submitted for FY26-27

Project	Amount
Sweetpotato HTS vs. Indexing – Year 2	\$150,313
New Kapa Kit on Hamilton liquid handler: HTS Validation – Year 2	\$79,023
Berry HTS Ring Test – Year 2	\$133,782
Hiplex PCR – Berries Year 1	\$103,135
TOTAL	\$466,253

- PPA 7721 funding was increased in the recent reconciliation package (“Big Beautiful Bill”), from \$75 million to \$90 million.
 - NCPN allocation is increased to 10 million

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NCPN Funding (a subdivision of PPA 7721)

Year	Total Proposed	Total Awarded	% Awarded
2021 2022	\$1,643,769	\$1,620,647	99%
2022 2023	\$2,031,918	\$1,820,646	90%
2023 2024	\$2,168,695	\$1,885,768	87%
2024 2025	\$2,438,756	\$2,277,000	93%
2025 2026	\$3,140,928	\$2,664,495 due to addition of two special projects: -Database programming (\$86,731) -Screenhouse propagation (\$174,000)	
2026 2027	\$3,519,702 ¹		

¹Request for Grapes, Fruit Trees, Roses and Sweetpotato are increased by ~3% over FY26 request; **Berries are included for the first time, budget of \$252,635.**

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Changes to Fee Structures

- No free introduction services
 - \$3,000 fee to introduce material to public collection
 - \$5,000 fee for proprietary testing & therapy
- Diagnostic prices will be increased, based on cost of providing services.
- No free materials for research projects
- Plant material prices increased

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Cherry User Fees

- Fee of 1% of sale price for each propagative unit, all generations propagated from FPS cherry materials
- Included in the grower agreement language
- Delayed implementation due to contracts
- Will send request first request for payment in **2026**

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FPS Model and Expanding UCB#1 Market

- Several meetings in Jordan with high-ranking University administrators and researchers
- Syria, in need of millions of trees for reforestation, is 1.5 hours from Amman, Jordan.
- Goal is introducing UCB#1 for pistachio and ornamental



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FPS Model and Expanding UCB#1 Market

- Currently in Algiers, Algeria to attend 14th Arab Congress of Plant Protection
- Presented one poster, two talks:
- Visited with customers
 - 300,000 UCB#1 seeds sold!



Meeting with Dr. Bensaad Hamid, Secretary General of Algerian Ministry of Agriculture and Rural Development

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UCB#1 Sales

UCB-1 HYBRID PISTACHE
Pistacia atlantica x integerrima 'UCB-1'

UCB-1 is a hybrid tree created from the cross of *Pistacia atlantica* and *P. integerrima*. This hybrid exhibits exceptional vigor and beauty, with young leaves appearing red before gradually turning to rich dark green at maturity.

UCB-1 was developed by the University of California as a rootstock for commercial pistachio production. Its main goal was to protect trees from fungal wilt, soil salinity, and drought. The vigor and appearance of ungrafted trees have also led to its use as an ornamental tree in parks and neighborhoods in and regions of Arizona, California, Nevada, Texas, and Utah. UCB-1 is popular known in the forestry trade as 'Red Pistachio'.

Morphological Characteristics:

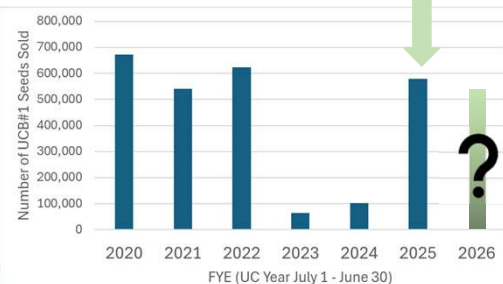
- Deciduous
- Heat resistant
- Verticillium wilt disease resistant
- Tolerant of saline soils
- Moderate growth rate
- Minimal pruning requirements
- Long-lived
- Mature height 25-40', width 20-30'
- Deep rooted
- Drought tolerant when established
- Low pollen male trees
- Incomparably sweeter on female trees

Download UCB-1 Propagules on the web site of UC Davis, USA. Photo courtesy of UC Davis Trees.

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Historically, 100% of UCB#1 sales were domestic.

We've worked hard to develop **international** and ornamental markets for UCB-1.



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Thank you



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