

Fruit Tree, Nut Tree, and Grapevine Improvement Advisory Board

Meeting Minutes - November 1, 2016
Trinchero Family Estate Building, Peter Christensen Conference Room
Foundation Plant Services
501 Hopkin Road, UC, Davis CA 95616

Members

Nicholas Podsakoff - Chair
Cliff Beumel
Ernest Bowman (absent)
Tom Burchell
David Cox
Mike Farris
Andrew Jones
Benjamin Kaesekamp
Clifford Little (absent)
Denise Moore (absent)
Public Member - Vacant

Guests

Nancy Fowler-Johnson
Daniel Kluepfel
Carole Lamb
Jennifer Moro
Tia Russell
Maher Al Rwahnih
Andrew Walker

CDFA Staff

Sean Dayyani - Manager
Joshua Kress
Phuong Lao
Dave Marion
Duane Schnabel

Welcome and Roll Call

Nicholas Podsakoff called the meeting to order at 10:25 a.m., followed by self-introductions.

Research Progress Report Presentations (Attachments No. 1 & 2)

Dr. Andrew Walker, UC Davis, presented a research progress report, titled: Grape Rootstock Breeding Program. (attachment #1)

Dr. Daniel Kluepfel, UC Davis, presented a research progress report, titled: Influence of Carbon Source on Anaerobic Soil Disinfection Efficacy: The Search for a Rice Bran Alternative. (attachment #2)

Review and Approve Minutes for May 10, 2016 Meeting

Tom Burchell moved to recommend approval of the meeting minutes from May 10, 2016 as presented. David Cox seconded the motion. The Board voted unanimously to approve the motion.

FPS and NCPN Updates, Indexing/Heat Treatment of Fruit Trees at FPS

Maher Al Rwahnih informed the Board that FPS' combined budget proposals to the National Clean Plant Network (NCPN) for grapes and fruit trees came to \$942,000 for 2016/17. He noted that in order to promote clean plant centers to be fiscally self-supported and have diverse sources of funding, NCPN sought to only provide and support up to 25% of each center's total budget. Al Rwahnih also informed the Board that a new "improved" federal permit would enable nurseries to import under FPS' permit, and to submit candidate prunus trees, grapes, and roses directly to FPS. He added that with the use of high throughput sequencing, the release of stock would be done much more rapidly, and that provisional material could be released to nurseries to be planted and propagated while the final release was still in progress.

Al Rwahnih also reported that due to the recent success with virus elimination for the 'Denny Prune' cultivar, FPS was preparing to perform virus elimination and therapy on additional prunus accessions. FPS had added Hoang Nguyen (postdoctoral researcher) to the tissue culture lab staff in anticipation of this increased focus and added workload.

Review of Approved IAB Budget for FY 2016-17 & FY 2017-18

Joshua Kress reported that there were no changes for IAB Budget since the May meeting. Regarding the indirect cost rate for UC grants, Kress reported that a verbal agreement was reached between CDFA and the UC system to start with a 10% indirect cost rate for FY 2016-17, and increasing to a maximum of 25% by FY 2019-20. He explained that there was no need to pass any motion at that time because the Board had approved an indirect cost of up to 25% during the May meeting.

Assessment Collections Update For FY 2015-16

Sean Dayyani reported to the Board that additional revenue of \$16,869 was collected since the May meeting, bringing the total assessment collected for FY 2015-16 to \$2,674,426.

Review of Request for Proposals (RFP) for FY 2017-18 (Attachment No. 3)

Kress reported that the Program had reviewed and revised the RFP, in cooperation with the CDFA Office of Grants Administration. He added that the majority of the changes were for formatting. Content changes included adding language regarding indirect cost rate, and removing eligibility and exclusions provisions. The research priorities had been left intact. Kress noted that besides adding the indirect cost rate to the sample budget proposal, no other changes were made to the attachments.

David Cox moved to approve the Request for Proposals (RFP) for posting and distribution as presented. Benjamin Kaesekamp seconded the motion. The Board voted unanimously to approve the motion.

IAB Assessment Exemptions - Rulemaking Update (Attachment No. 4)

Joshua Kress provided the Board with the notice, statement of reasons, and draft text for the proposed regulation to establish the IAB assessment exemptions (proposed as California Code of Regulations, Title 3, Section 3070). The Board-approved list of exempted nursery stock had been used and distributed to nurseries each year, but that the list had not yet been established in regulation. Kress noted that the Board had passed a motion at the May meeting for the Program to move forward with this rulemaking, and that the initial public comment period for this proposal was scheduled to end on December 12, 2016. https://www.cdfa.ca.gov/plant/regs_dfnt.html#eq1

Grapevine Registration and Certification Program Expenditures – Preliminary Analysis (Attachment No. 5)

Kress informed the Board that at the request of the Nursery Advisory Board (NAB), the Program had performed a preliminary analysis of all Nursery Services activities to determine whether fees collected were sufficient to cover the Program's costs. The request was in response to an approximately \$300,000 annual shortfall for Nursery Services. The analysis found that most of the expenditures and revenues balanced out, with two significant exceptions, the grapevine and strawberry registration and certification (R&C) programs. Kress noted that the grapevine R&C program's average annual revenue was \$140,000, and that the Program had estimated annual costs of \$265,000. Kress stated that the Program would be performing a more in-depth analysis prior to scheduling a meeting to discuss changes to the R&C program's fee schedule. Costs would include direct cost of performing program activities, supervision, facilities, and indirect costs, and would also include other necessary activities for maintaining an effective program, such as attending meetings and occasional rulemaking. The Board suggested that the Program discuss the grapevine R&C program costs and fees further with the established Grapevine Regulations Working Group.

Nomination for New Board Members

Sean Dayyani announced that Dr. David Gilchrist, a retired UC Davis professor, has expressed interest in filling the Board's vacant public member position. David Cox moved to recommend appointment of David Gilchrist as a public member. Benjamin Kaesekamp seconded the motion. The Board voted unanimously to approve the motion.

Draft 2016-17 IAB Newsletter

Phuong Lao presented to the Board that a similar format as the 2015 newsletter would be adapted for the 2016 newsletter. The Board suggested including news about FPS's new federal tree permit, as well as an update on the use of additional PCR testing for the R&C program. Kress suggested that Members send any additional suggestions to Lao.

Next Meeting Date and Agenda Items

The next meetings were scheduled to be held at the same location on April 19 and May 17, 2017.

Adjournment

The meeting was adjourned at 12:15 p.m.

Respectfully Submitted By:

Sean Dayyani,
Senior Environmental Scientist, IAB Manager
CDFA Nursery, Seed, and Cotton Program

Approved by the California Fruit Tree, Nut Tree and Grapevine Improvement Advisory Board on
May 17, 2017

Attachments

Grape Rootstock Breeding Program

Andy Walker awalker@ucdavis.edu

California Grape Rootstock Improvement
Commission / California Grape Rootstock Research
Foundation

CDEFA-NT, FT, GV Improvement Advisory Board

California Table Grape Commission

American Vineyard Foundation

E&J Gallo Winery

Louise Rossi Endowed Chair in Viticulture

Rootstock Breeding Pipeline

- Background – acquire and test germplasm
- Yr. 1 Identify potential parents
- Yr. 2 Make crosses to combine resistances
- Yr. 3 Grow out seedlings use MAS when possible
- Yr. 4 Test seedling populations – from horticultural characters to resistance
- Yr. 6 Propagate for on-campus field trials
- Yr. 10+ Consider for release or industry trials

Walker Lab

Dan Ng	Summaira Riaz	Alan Tenschler
Rong Hu	Nina Romero	Cecilia Agüero
Becky Wheeler	Kevin Fort	Alissa Orgel
Zhenhua Cui	Jake Uretsky	Jordan Weibel
Inés Hugalde	Daniel Pap	Karla Huerta
Cassie Bullock	Nate Kane	Andy Nguyen
Laila Fayyaz	Spencer Falor-Ward	Philippe Venghiatis
Dario Cantu	Andrew McElrone	
Howard Ferris	Jeff Granett	

2016 Nematode Screening

- Nematode cultures and testing facilities in good shape
- Testing 2012 through 2014 seedlings that were selected for rooting ability and “good rootstock appearance”
- 55 currently in testing against HarmAC, ring, *X. index*
- New Post-doc to study the genetics of root-knot and phylloxera resistance – Daniel Pap

Rootstock Breeding Objectives

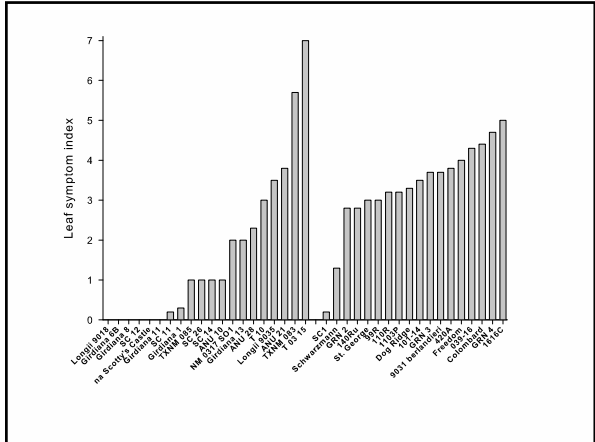
- Develop better forms of drought and salinity tolerance
- Combine these tolerances with broad nematode resistance and high levels of phylloxera resistance
- Develop better fanleaf degeneration tolerant rootstocks
- Develop rootstocks with “Red Leaf” virus tolerance


Recent HarmA&C Results of Salt Resistant Selections

Selection/ Populaiton	Egg Masses	Female Parent	Male Parent
Seven 12125	0	OKC-1 SO1 (<i>acerifolia</i>)	GRN-2 9363-16
Six 12126	0	OKC-1 SO1 (<i>acerifolia</i>)	GRN-4 9365-85
12185-006	0	OKC-1 SO1 (<i>acerifolia</i>)	St. George
Colombard	421		
GRN1	0		
Harmony	413		

Testing for Nematode Resistance

Population	Parents	Number in testing
6104	101-14 x GRN2	5
10115	161-49C x Trayshed	5
11188	T6-42 x St. Geo	3
12113	101-14 x GRN4	40
12126	OKCS1 x GRN4	28
12129	OKCS1 x St. George	17
12187	GRN3 x berl 9043	5
12178	Dog Ridge x Trayshed	1





Multi-stage screening for chloride exclusion

-Increasing resource intensity
-Increasing stringency of results


Phase 1

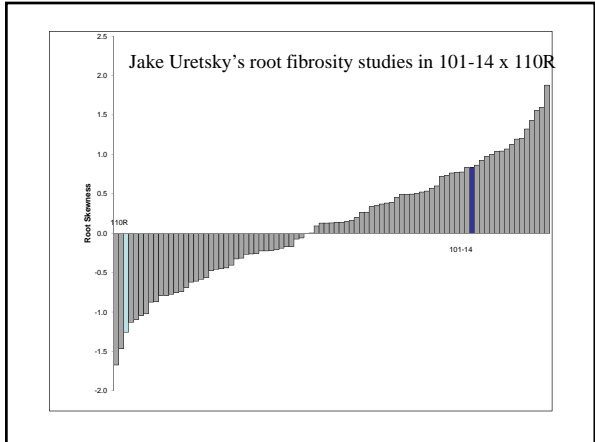
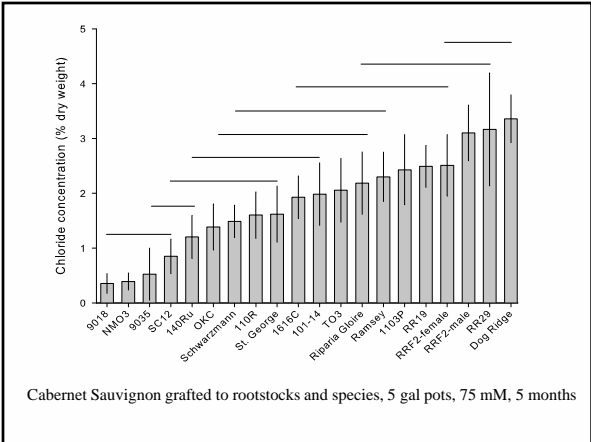
Grape roots

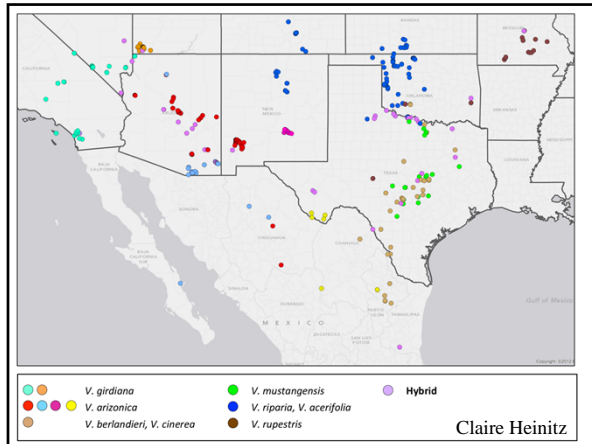
Drought and vigor induction

Riparia Gloire de Montpellier

Ramsey (*V. champinii*)



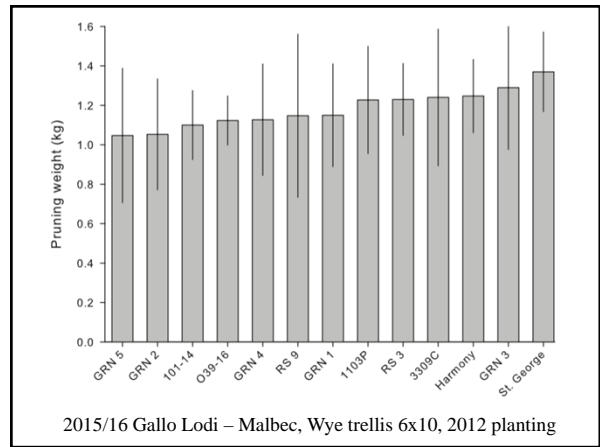




Leaf Roll Virus Tolerance

- Zhenhua Cui
- Two virus selections LR1 and LR1+GVA
- Freedom, 101-14 // St. George and AXR#1
- Field, greenhouse and tissue culture
- Goal – to find a rapid assay for virus-induced compatibility and reduced expression of disease

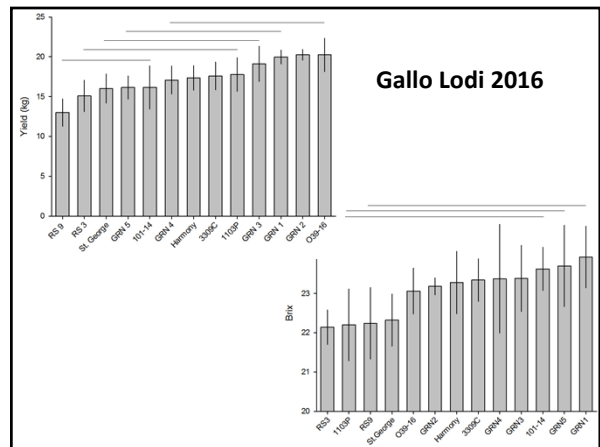
Vitis berlandieri collections – Over 100 collected; rooting, drought, salt, nematodes, lime, and compare with old selections



FANLEAF – Andy Nguyen, Cecilia Agüero

O39-16 and GRN-1 impact on GFLV titers, RNA profiles, gene expression and symptom expression

Figure 13. Transcript levels of GFLV normalized to the expression of the housekeeping gene 18S rRNA and healthy controls.





2014/16 UCD Rootstock Evaluation Trials


- Salt resistant and resistant to HarmA&C – 8
- Improved GRN HarmA&C, Xi, reduced vigor – 5
- PD resistant and resistant to HarmA&C, Xi – 11
- *Rotundifolia* based resistance to ring, fanleaf – 7
- Salt resistant with 101-14 to improve rooting – 2
- Salt resistance from both parents and high vigor – 6



USDA **das**

Influence of carbon source on anaerobic soil disinfestation efficacy: the search for a rice bran alternative

Sebastian Albu, Sarah Strauss, Andreas Westphal, Greg Browne and Daniel Kluepfel, USDA-ARS, UC Riverside



S. Strauss, USDA-ARS

Outline:

- Define Project Objectives
- Define ASD and initial effectiveness
- Preliminary field/lab 2016 summer results


Influence of carbon source on anaerobic soil disinfestation efficacy:

Objectives:

1. Determine the effect of carbon source and application rate on suppression of *A. tumefaciens* and important fungal/oomycete pathogens in greenhouse and commercial nursery conditions.
2. Provide nursery operators with ASD management programs based on their needs and location.

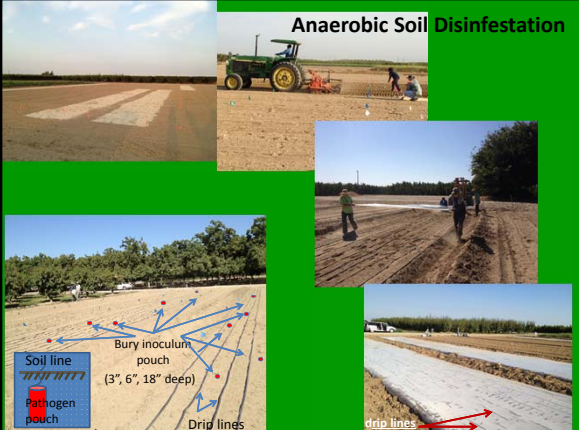
Anaerobic Soil Disinfestation (ASD)

- Pre-plant Chemical-independent fumigation method
- Add C-source, mix, add water and cover with plastic tarp to create anaerobic conditions due to microbial metabolic activity
- Not host or pathogen-specific
- Significantly reduces:
 - Verticillium dahliae*
 - Phytophthora capsici*
 - Fusarium oxysporum*
 - Rhizoctonia solani*
 - Pythium myriotylum*
- Limited environmental impact
- Used on >500 acres of commercial strawberry production in CA



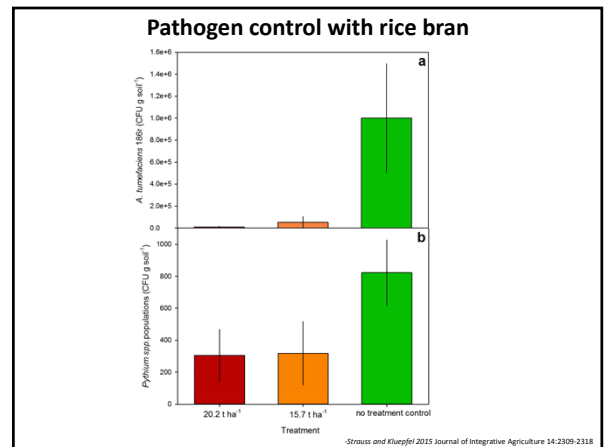
Strauss-Kluepfel, USDA-ARS

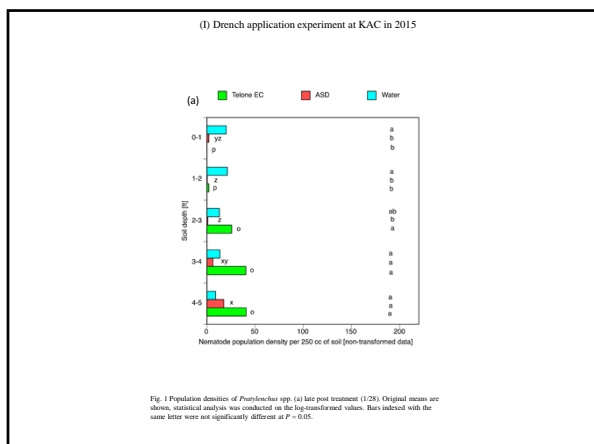
Anaerobic Soil Disinfestation



The diagram illustrates the ASD process with the following components:

- Soil line**: A horizontal line representing the soil surface.
- Pathogen pouch**: A red arrow pointing downwards from the soil line, representing the pathogen being targeted.
- Bury inoculum pouch (3", 6", 18" deep)**: A blue arrow pointing downwards from the soil line, representing the depth of the inoculum.
- Drip lines**: Red arrows pointing horizontally along the soil surface, representing the placement of the plastic mulch.





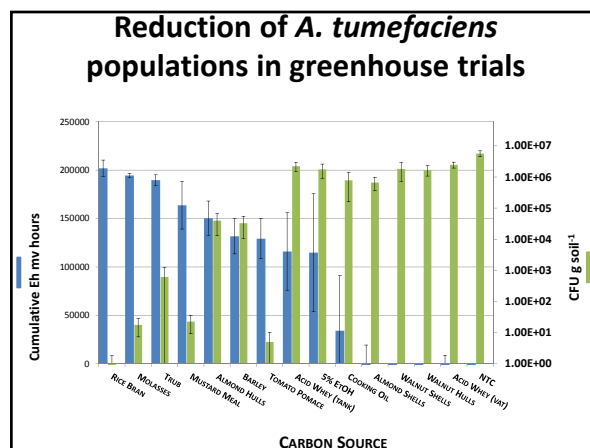
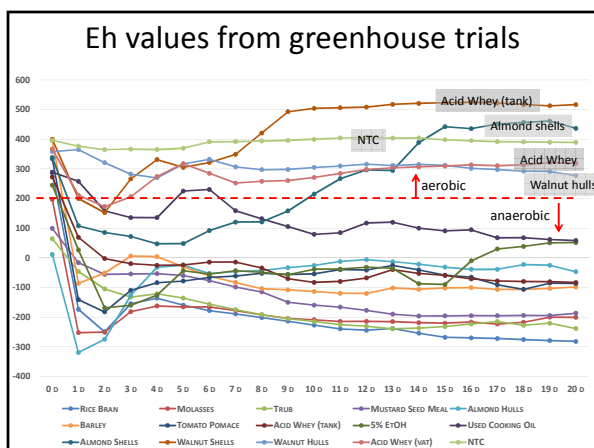
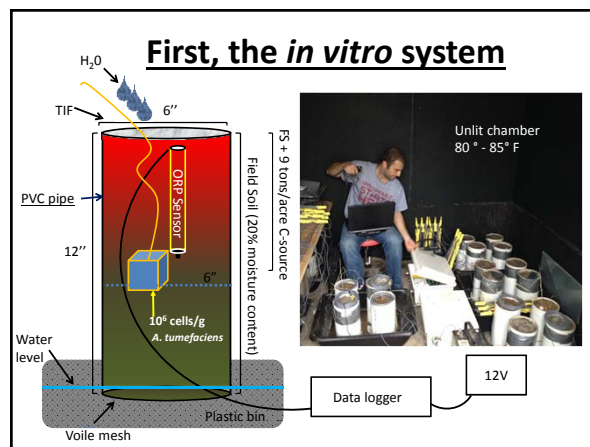
Cost:

ASD treatment:
 Rice bran-\$290/t, 9t rice bran/acre,
 ~\$2600/treated acre

Other ag wastes are cheaper and more readily available.

- almond hulls: \$50-\$80/t
- almond Shells: \$25/t
- tomato pomace: free
- brewers yeast (Trub); free

*** But do they work in the ASD system?



Step two, take it to the field

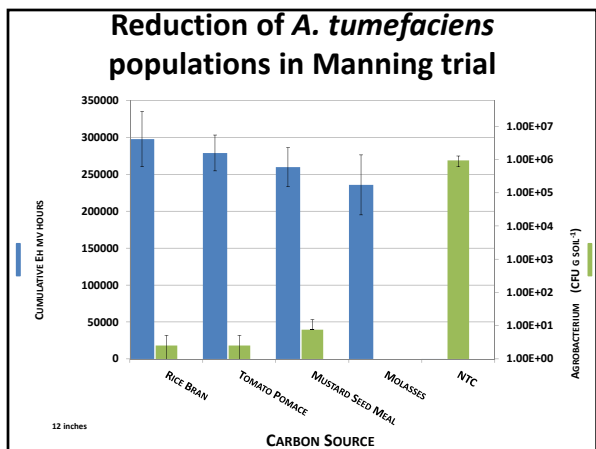
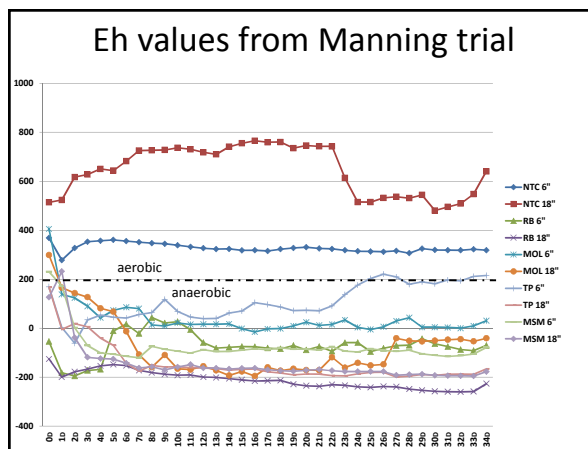
1. Manning Trial: examine 5 top carbon sources
 - a. generate anaerobic conditions
 - b. control: *Agrobacterium*
Pythium
Lesion nematode
2. Dinuba Trial, Two trials
 - a. generate anaerobic conditions
 - b. control: *Agrobacterium*
Pythium
 - c. examine repeated c-source applications

Carbon source application

Top C-Sources from invitro trials

- Rice Bran
- Mustard Seed Meal
- Tomato Pumace
- Molasses
- Combination

ASD in progress

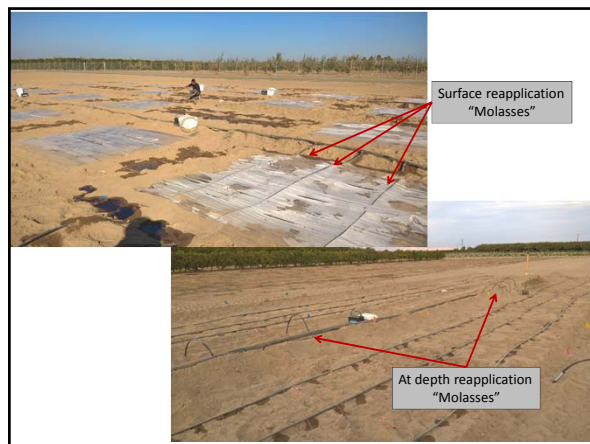


Current Dinuba (Kearney Ag) Trial Treatments:

(Two complete replications in the ground)

- Mustard seed meal
- Rice Bran
- Tomato pumace
- Molasses
- Tomato Pumace + Molasses at depth reapplication
- Tomato Pumace + Molasses surface reapplication

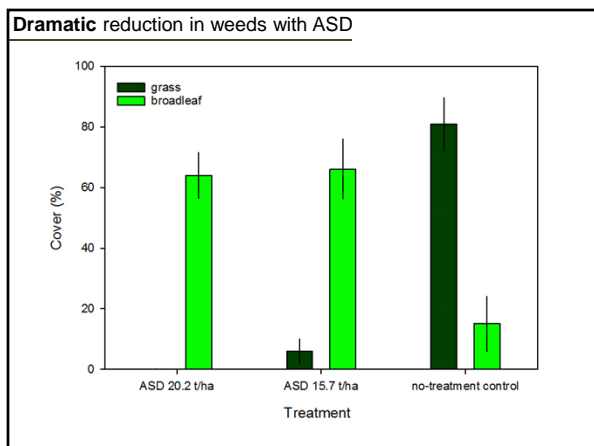
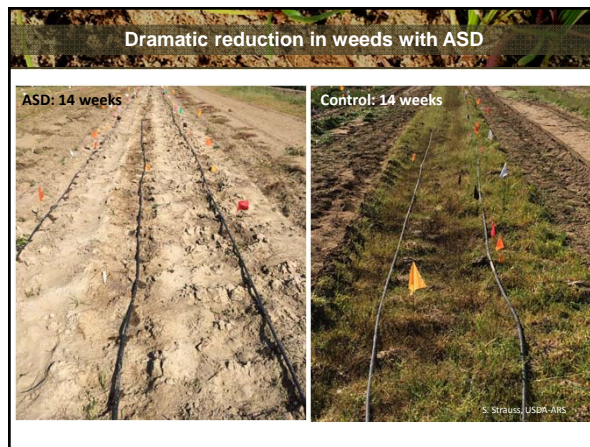
Bonus:
Complete metagenomic analysis is being conducted on both trials.



USDA **ARS**

Influence of carbon source on anaerobic soil disinfestation efficacy: the search for a rice bran alternative

Sebastian Albu, Sarah Strauss, Andreas Westphal, Greg Browne and Daniel Kluepfel, USDA-ARS, UC Riverside



- Important observations**
- Under central valley conditions, anaerobic conditions were rapidly established.
 - ASD controlled *A. tumefaciens* down to depth of 18 inches within 6 days.
 - ASD controlled *Pythium ultimum* down to depth of 18 inches within 6 days.
 - ASD "controlled" Lesion nematode down to 3-4 feet.
 - No weeds were observed in ASD plots for up to 4 months post ASD,... and limited weed development thereafter.
 - Solarization contribution has not been characterized

Cost:

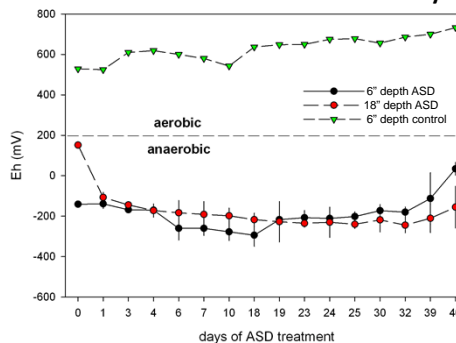
ASD treatment:

Rice bran-\$290/t, 9t rice bran/acre,
~\$2600/treated acre

Other ag wastes are cheaper, e.g.

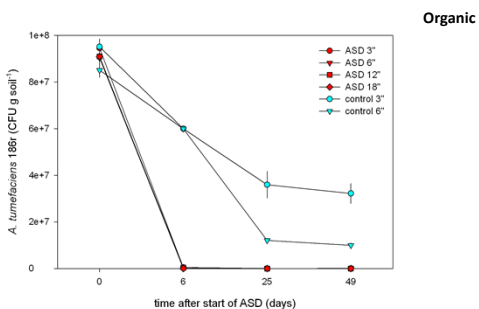
- unground almond hulls: \$50-\$80/t
- almond Shells: \$25/t
- tomato pomace: free
- brewers yeast (Trub); free

Results from ASD field trials at Kearney



Cumulative Eh hours:
 • 6" depth = 435,912
 • 18" depth = 442,768

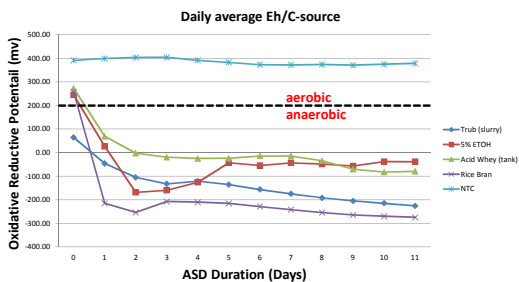
Significant reduction in *A. tumefaciens* populations



Develop *in vitro* bioassay to test C-sources.

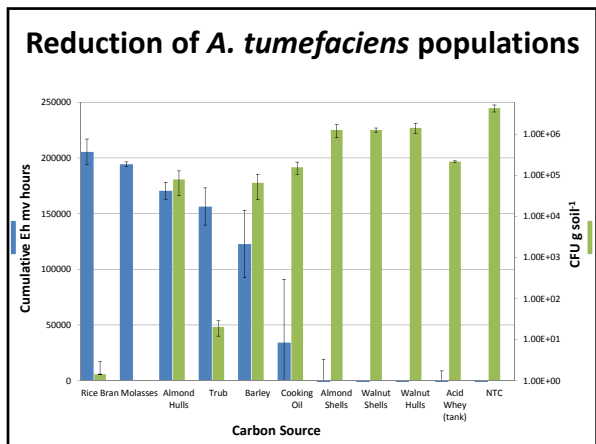
- **Criteria:**
 - 1. Rapid, reproducible, representative
 - 2. Rapidly generate (i.e. within 7 days) and maintain anaerobic conditions over 3 wks
 - 3. Reduce populations of *A. tumefaciens*

Prelim results from in-vitro ASD trial



Future Directions

- **Confirm in-vitro bioassay/ examine wide range of C-sources**
 - ID top 3 C-sources, C/N quantification
- **Establish field trials using top 3 C-sources (Kearney)**
 - Anaerobic conditions, depth of pathogen kill
- **Additional parameters examined in field trial**
 - C-source application rates, irrigation rates, film type
- **Characterize volatile profiles of effective treatments**
(mode of action)
- **Microbial community analyses**



Combustion analyses

Treatment	% C	% N	C:N	Cum. Eh mv hours	Mean cfu g soil ⁻¹
Rice Bran	45	2.4	18.75	2.21E+05	0.00E+00
Trub	46	7.1	6.48	1.57E+05	2.04E+01
Barley	49	4.4	11.14	1.27E+05	6.58E+04
Almond Hulls	43	0.83	51.81	1.75E+05	8.00E+04
Almond Shells	46	0.63	73.02	2.27E+04	1.27E+06
Walnut Shells	48	0.39	123.08	1.13E+03	1.28E+06
Walnut Hulls	38	1.4	27.14	0.00E+00	1.44E+06



CALIFORNIA DEPARTMENT OF
FOOD & AGRICULTURE

Karen Ross, Secretary

Attachment No. 3

FRUIT TREE, NUT TREE
AND GRAPEVINE
IMPROVEMENT ADVISORY
BOARD (IAB)

Nicholas Podsakoff - Chair
Wasco,
661.758.4777

Chuck Fleck - Vice Chair
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Alex Brody
Oakdale
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David Cox
Visalia
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Ernest Bowman
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Andrew Jones
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Tom Burchell
Oakdale
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Mike Farris
Hickman
209.874.1821

Benjamin Kaesekamp
Knights Landing
530.735.6821

Sean Dayyani
IAB Manager

CDFFA/Pest Exclusion
1220 N St. Rm. 344
Sacramento, CA 95814
916.654.0435
916.651.1207 (Fax)

Date: December 1, 2016

To: Persons Interested in Conducting Research on California Fruit/Olive Trees,
Nut Trees and Grapevines

Subject: Research Proposals for Fiscal Year 2017-18

The California Fruit Tree, Nut Tree, and Grapevine Improvement Advisory Board (IAB) invites research proposal(s) to fund during the 2017-18 fiscal year. The IAB funds research to improve varieties of fruit trees, olive trees, nut trees, and grapevines; to detect and/or control diseases; and other research that allows the nursery industry to produce cleaner, more viable, and healthier stock. The intended research should address important/prevaling disease and pest problems or other cultural aspects of fruit tree, nut tree, and grapevine nursery stock production.

To submit a research proposal and request funding from the IAB please follow the attached instructions. We must receive your proposal along with your previous year's progress or final report (if applicable) by **February 3, 2017 at 5:00pm PST**.

The proposals will be reviewed by peer and industry review groups (a sample copy of the evaluation form is attached for your information) and discussed at the Spring IAB meeting on **April __, 2017**. Researchers should be prepared to present and discuss their proposed research and provide any relevant information at that time.

Please submit your proposal(s) electronically to me at sean.dayyani@cdfa.ca.gov.

If you have any questions, please contact me at (916) 654-0435 or via email.

Sincerely,

Sean Dayyani, IAB Manager

Attachments



Fruit Tree, Nut Tree and Grapevine Improvement Advisory Board (IAB)

Request for Proposal of Research Fiscal Year 2017-18

Released Date: December 1, 2016
Proposals Due: February 3, 2017, 5:00pm PST

Background and Purpose

The California Department of Food and Agriculture (CDFA) is pleased to announce, in coordination with the California Fruit Tree, Nut Tree, and Grapevine Improvement Advisory Board (IAB), a competitive solicitation process to promote production of high quality tree and grapevine nursery stock. Funding is made possible from assessments on fruit tree, nut tree, and grapevine nursery stock.

Funding and Duration

CDFA and the IAB reserve the right to offer an award that is less than the amount requested.

Funds awarded under this solicitation cannot be expended before July 1, 2017 or after June 30, 2018. If the current year of a multi-year project is selected for funding, there is no guarantee that the project will be funded in the future.

Eligibility and Exclusions

[include if applicable]

Research Priorities

The IAB has identified five research priorities to help prospective applicants develop their projects and submit their projects to the most appropriate priority. Additional consideration *may* be given for projects that address the research priorities identified below.

- I. *Diseases and Genetic Disorders.*** Projects addressing this priority should focus on at least one of the following:
 - Developing new or improving existing detection methods for virus and virus-like diseases (ELISA, PCR, biological indicators, etc.)
 - Virus elimination research (heat therapy, cold therapy, shoot tip culture, etc.).
 - Determining spread of viruses from one plant to another and developing management strategies.
 - Genetic disorders (bud failure, crinkle, etc.).
- II. *Variety Identification.*** Projects addressing this priority should focus on developing or applying methods to identify varieties, including ampelography, fingerprinting, DNA markers, etc.
- III. *Registration and Certification (R&C) Program.*** Projects addressing this priority should focus on the development of improved disease detection technology for the R&C Programs.
- IV. *Education and Outreach.*** Projects submitted under this priority should focus on promoting California-produced nursery stock by improving the public's knowledge and understanding of the California nursery industry (i.e., through the development of flyers, posters, videos).
- V. *Miscellaneous.*** The IAB understands there is a variability in research projects. For this reason, applicants may submit under this priority if projects focus on:
 - Assessment of economic impact of viruses (if data is lacking).
 - Research on other important diseases and pests that significantly affect the quality of nursery stock (e.g., crown gall).

- Research that affects the whole industry (Example: alternatives to methyl bromide).

Proposal Submission Process

Applicants are required to submit the following:

1. Coversheet
2. Proposal Narrative – Exhibit A
3. Budget Itemization – Exhibit B

Samples of these attachments are also available at: <https://www.cdfa.ca.gov/plant/pe/nsc/iab/>

Proposals must be submitted electronically to Sean Dayyani at sean.dayyani@cdfa.ca.gov by 5:00pm PST on February 3, 2017. Applicants must submit their proposal in a Microsoft Word document format, as well as a signed coversheet.

Using the guidelines below, applicant's proposals must include:

I. COVERSHEET:

- The project title should be brief and descriptive.
- Indicate fiscal year and projected duration of the project (i.e., ongoing, year 1 of 3, etc.). If the current year's project is selected for funding, there is no guarantee that the project will be funded in future years.
- Identify the project leader's name, affiliation, mailing address, telephone and fax number, and e-mail address.
- Identify the cooperating personnel's name(s) and affiliation(s), mailing address, telephone and fax number, and e-mail address. *Proposals without the cooperator's approving signature will not be accepted.*
- Identify the contact person and his/her mailing address, telephone and fax number, and e-mail address for further communication if different from above.
- Identify the sources and amounts of all current and/or pending sources of support for this project.

II. GENERAL GUIDELINES:

- Consult the above list of IAB Research Priorities to develop your project.
- Executive Summary – Provide a clear and concise summary of the proposed project, not to exceed one-half page. State the specific objectives of the proposed project and describe the approach to be used, as well as criteria to evaluate the project's success. Include other ideas that may be applied to nursery stock improvement that are not mentioned in IAB's priorities.
- Project's Benefit to Nursery Industry – Specify the problem to be addressed by the project and describe its extent, severity, and magnitude. Explain its linkage to IAB goals. Indicate the project's potential for measurable progress toward long-term or short-term solution(s) to the specific problem(s) addressed in the proposal. If applicable, explain the project's contribution to current knowledge. What new information or product will the project generate? If applicable, discuss

incentives for growers to adopt proposed practices. Do not exceed three pages.

- Objectives – Provide a clear, concise, and complete statement of each specific research and/or educational objective.
- Workplans and Methods – Describe the activities and/or products that address each of the stated objectives. Explain the methods to be employed, indicating data to be gathered, parameters to be measured, and methods of analysis to be used, including sampling scheme and experimental design, if applicable. For multi-year projects, include a workplan for each year of the project. The workplan should be organized into project tasks and sub-tasks, which are units of work designed to achieve specific objectives. Each task should be numerically identified and have a descriptive title, and should include the following information:
 - a. Brief task objective(s)
 - b. Activities and methods description
 - c. Task products and estimated completion dates

Applicant must describe methods and procedures, in sufficient detail, to provide a good understanding of how each task will be conducted. Describe interim and final products or milestones for each task. Be sure sufficient time is allocated to complete each project task. Detail must be sufficient to allow for an evaluation of the reasonability of time and cost.

- Project Management and Evaluation – Describe the role of project leaders and cooperators. Briefly explain how the various participants' work will be coordinated. For projects that are primarily research oriented, provide a method for assessing the progress and success of the project. A peer review of on-going projects may occur, including a visit to your project site.
- Literature Review – Provide a review of the literature on similar problems. The published work of others may be quoted, provided quotations are clearly referenced. Provide information regarding this or similar proposals by you, or co-investigators, that have been submitted to other agencies or funding sources.

III. BUDGET ITEMIZATION:

- Provide a signed project budget proposal, labeled as Exhibit 'B' (**Attachment #1**).
- **July 1, 2017** will be used as the project's start date. Use the attached sample budget to prepare a budget table for each calendar year of the project. For multiple-year projects, include a budget page for each year of the project. There is no guarantee that a multiple-year project will be funded in the future.
- If your project requires the use and acquisition of nursery stock, *please include those costs in your project budget.*

The maximum indirect cost rate is ten (10) percent of the total personnel cost (salary and fringe benefits).

Review and Evaluation Process

The review process consist of two levels. The first level is an administrative review to determine whether proposal requirement were met.

The second level is a technical review by a peer review panel to evaluate the merits of the proposal using the evaluation criteria outlined in Attachment #2.

General Guidelines for Progress and Final Reports

- ***Progress Reports*** – A minimum of one progress report must be submitted during the current funding year. An additional interim progress report may be required for consideration in evaluating funding of multiple-year projects. For each project objective:
 - a. Summarize the activities that are underway to accomplish this objective.
 - b. If planned activities or procedures were modified during this time period, please discuss.
 - c. Include data summaries and graphs as appropriate.

- ***Final Report*** – A final report must be submitted at the end of each fiscal year before the final invoice can be paid. *Ten percent (10%) of the total contract amount will be withheld for the research project until receipt and approval of the final report.* Re-state the project objectives and timetable as stated in the original funded proposal and note, and justify any revisions in objectives and/or timetable as follows:
 - a. Report specific accomplishments and findings during the funded period.
 - b. Include data summaries and graphs as appropriate.
 - c. Where possible, relate accomplishments to practical application in the nursery industry.

- Progress and final reports should be limited to 2 - 5 pages. Please reference the assigned IAB contract number on your reports and final invoices.

- ***Summary*** – A concise research summary/abstract, not to exceed more than one page, must be submitted for all projects funded by IAB at the end of each fiscal year. The summary/abstract should ideally be in an informative style, such as in *California Agriculture*. Please include graphs or pictures if necessary. This summary is an essential part of any research project and will be used by IAB to communicate research findings to the nursery industry, to the press, and to others.

ATTACHMENT #1

EXHIBIT 'B'
IAB - BUDGET PROPOSAL

Project Title/Description: _____

Project Leader: _____

Proposed Fiscal Year: _____

A. PERSONNEL SERVICES:

Individual's Classification @ \$_____/hr. \$ _____

Staff Benefits = _____% \$ _____

TOTAL PERSONNEL SERVICES \$ _____

B. OPERATING EXPENSES:

Laboratory Supplies \$ _____

Travel (per diem) \$ _____

Postage \$ _____

Other: (Specify, i.e., cost of nursery stock) \$ _____

\$ _____

TOTAL OPERATING EXPENSES: \$ _____

C. TOTAL BUDGET REQUESTED: \$ _____

Signature of Requestor: _____ Date: _____

Signature of Cooperator: _____ Date: _____

Department Chair: _____ Date: _____

*Round dollar amount to the nearest dollar

*Type out acronym "FTE"

*Make sure % and dollar amount add up

**Fruit Tree, Nut Tree and Grapevine Improvement Advisory Board (IAB)
Research Proposal Evaluation Form
Fiscal Year 2017-18**

Please include scores for all criteria below. **Peer (science) reviewers**, please place emphasis on proposal objectives, scientific methodology, and cost to perform proposed work. **Industry reviewers**, please emphasize significance of problem to the industry, applicability of results, and whether anticipated benefits will justify cost.

Date Submitted for Review:	
Project/Research Title:	
Years to Complete Project:	
Amount Requested Fiscal Year 17/18:	
Amount Requested Fiscal Year 18/19:	
Other Sources of Funding and Amount:	

Evaluation: (Maximum 100 points)	Maximum	Score
The problem identified is significant to the nursery industry.	20	
The objectives identified are specific and clearly stated.	20	
The research methodology is sound and appropriate for stated objectives.	20	
The results will have immediate applications for the nursery industry.	15	
The budget is justified and appropriate.	15	
The time frame is reasonable for proposed research.	5	
The proposal will stimulate funding from other sources.	5	
Total	100	

Comments: *(Please write any comments that will help the Board to evaluate this proposal, such as its scientific and technical qualities, or if this proposal duplicates other research, etc.)*

Print Reviewer's Name: _____

Date: _____

Reviewer's Signature: _____

Cover Page Sample

Proposal To:
California Department of Food and Agriculture
Pest Exclusion Branch/Nursery, Seed and Cotton program
Attn: Sean Dayyani
1220 N Street, Room 344
Sacramento, CA 95814

Submitting Organization:

Title of Proposed Research:

Proposed Duration:

Starting Date:

7/1/17

Total Amount Requested:

Department:

Phone Number:

Principal Investigator:

Checks Made payable to:

Send Check to:

Send Award Notice to:

PROGRAM NAME
CONTACT PERSON
MAILING ADDRESS
PHONE
FAX
EMAIL

DEPARTMENT OF FOOD AND AGRICULTURE
Title 3 of the California Code of Regulations

Notice of Proposed Rulemaking

45 – Day Notice

The Department of Food and Agriculture proposes to adopt Section 3070 in the regulations in Title 3 of the California Code of Regulations pertaining to Nursery Stock Assessment.

PUBLIC HEARING

A public hearing is not scheduled. A public hearing will be held if any interested person, or his or her duly authorized representative, submits a written request for a public hearing to the Department no later than 15 days prior to the close of the written comment period.

WRITTEN COMMENT PERIOD

Any interested person or his or her authorized representative may submit written comments relevant to the proposed regulation to the Department. Comments may be submitted by mail, FAX or email. The written comment period closes at 5:00 p.m. on December 12, 2016. The Department will consider only comments received at the Department offices by that time. Submit comments to:

Sara Khalid
Department of Food and Agriculture
Plant Health and Pest Prevention Services
1220 N Street
Sacramento, CA 95814
sara.khalid@cdfa.ca.gov
916.654.1017
916.654.1018 (FAX)

Following the public hearing if one is requested, or following the written comment period if no public hearing is requested, the Department of Food and Agriculture, at its own motion, or at the instance of any interested person, may adopt the proposal substantially as set forth without further notice.

INFORMATIVE DIGEST/PLAIN ENGLISH OVERVIEW

Existing law establishes an annual assessment on the sales of fruit tree, nut tree, and grapevine nursery stock sold in the state. The Secretary may, upon recommendation from an industry advisory board, create exemptions from the assessment for certain species and varieties of nursery stock (Section 6981, Food and Agricultural Code).

The proposed adoption of Section 3070 pertaining to Nursery Stock Assessment will establish those species and varieties of nursery stock which are exempted from assessment by the Secretary as authorized in statute.

The Department considered any other possible related regulations in this area, and we find that these are the only regulations dealing in this subject area, and the only State agency which can implement this proposed regulation. As required by Government

Code Section 11346.5(a)(3)(D), the Department has conducted an evaluation of this proposed regulation and has determined that it is not inconsistent or incompatible with existing state regulations.

Anticipated Benefits from This Regulatory Action

The proposed regulation will exempt specific types of nursery stock from assessment and prevent additional cost for consumers of such nursery stock where the programs funded by the assessment provide no benefit.

There are no known specific benefits to the worker safety or the health or public safety of California residents.

ADOPTED TEXT

The adoption of this proposed regulation will establish those species and varieties of nursery stock which are exempted from assessment by the Secretary as authorized in statute.

DISCLOSURES REGARDING THE PROPOSED ACTION

The Department has made the following initial determinations:

Mandate on local agencies or school districts: None.

Cost or savings to any state agency: None

Cost to any local agency or school district which must be reimbursed in accordance with Government Code Sections 17500 through 17630: None and no nondiscretionary costs or savings to local agencies or school districts.

Cost or savings in federal funding to the state: None.

Significant, statewide adverse economic impact directly affecting business, including the ability of California businesses to compete with businesses in other states: None.

Cost impacts on a representative private person or business: The agency is not aware of any cost impacts that a representative private person or business would necessarily incur in reasonable compliance with the proposed action.

Small Business Determination:

The Department has determined that the proposed regulations may affect small business.

Significant effect on housing costs: None.

ASSESSMENT

The Department has made an assessment that the proposed regulation would not: 1) create or eliminate jobs within California; 2) create new business or eliminate existing businesses within California; or, 3) affect the expansion of businesses currently doing business within California.

There are no known specific benefits to worker safety or the health of California residents. The Department is not aware of any specific benefits this proposed regulation will have to the protection of public safety of California residents or worker safety. Based upon the economic analysis, the Department believes this proposed regulation benefits the general welfare of California residents (GC Section 11346.3(b)).

ALTERNATIVES CONSIDERED

The Department must determine that no reasonable alternative it considered to the proposed regulation or that has otherwise been identified and brought to its attention would either be more effective in carrying out the purpose for which the action is proposed or would be as effective and less burdensome to affected private persons than the proposed action or would be more cost-effective to affected private persons and equally effective in implementing the statutory policy or other provision of law than the proposal described in this notice. The Department considered taking no action. If no action is taken, the species and/or varieties of nursery stock for which the exemption is proposed will require an assessment, resulting in additional cost for consumers of such nursery stock where the programs funded by the assessment provide no benefit.

AUTHORITY

The Department proposes to adopt Section 3070 pursuant to the authority vested by Sections 407 and 6981 of the Food and Agricultural Code of California.

REFERENCE

The Department proposes this action to implement, interpret and make specific Sections 6981, 6982, 6983, and 6986 of the Food and Agricultural Code.

CONTACT

The agency officer to whom written comments and inquiries about the initial statement of reasons, proposed actions, location of the rulemaking files, and request for a public hearing may be directed to is:

Sara Khalid
Department of Food and Agriculture
Plant Health and Pest Prevention Services
1220 N Street
Sacramento, CA 95814
sara.khalid@cdfa.ca.gov
916.654.1017
916.654.1018 (FAX)

In her absence, you may contact Laura Petro at (916) 654-1017. Questions regarding the substance of the proposed regulation should be directed to Sara Khalid.

INTERNET ACCESS

The Department has posted the information regarding this proposed regulatory action on its Internet website (www.cdfa.ca.gov/cdfa/pendingregs).

AVAILABILITY OF STATEMENT OF REASONS AND TEXT OF PROPOSED REGULATIONS

The Department of Food and Agriculture has prepared an initial statement of reasons for the proposed action, has available all the information upon which its proposal is based, and has available the express terms of the proposed action. A copy of the initial statement of reasons and the proposed regulations in underline and strikeout form may be obtained upon request. The location of the information on which the proposal is based may also be obtained upon request. In addition, the final statement of reasons will be available upon request. Requests should be directed to the contact named herein.

If the regulations amended by the Department differ from, but are sufficiently related to the action proposed, they will be available to the public for at least 15 days prior to the date of amendment. Any person interested may obtain a copy of said regulations prior to the date of adoption by contacting the agency officer (contact) named herein.

DEPARTMENT OF FOOD AND AGRICULTURE
PROPOSED AMENDMENT OF THE REGULATIONS

Title 3, California Code of Regulations

Section 3070

INITIAL STATEMENT OF REASONS/
PLAIN ENGLISH POLICY STATEMENT OVERVIEW

Description of the Public Problem, Administrative Requirement, or Other Condition or Circumstance the Regulations are Intended to Address

This regulation is intended to address the obligation of the Secretary of Food and Agriculture to assess the sales of specific types of nursery stock.

Specific Purpose and Factual Basis

The specific purpose of Section 3070 is to establish those species and varieties of nursery stock which are exempt from assessment, as authorized in Food and Agricultural Code, Section 6981.

Existing law establishes an annual assessment of 1% on the gross sales of all deciduous pome and stone fruit trees, nut trees, olive trees, and grapevines, including seeds, seedlings, rootstocks, and topstock, including ornamental varieties of apple, apricot, crabapple, cherry, nectarine, olive, peach, pear, and plum, produced and sold within the state or produced within and shipped from the state by any licensed nursery dealer (Food and Agricultural Code, Section 6981, subdivision (a)).

Existing law also establishes the Fruit Tree, Nut Tree, and Grapevine Improvement Advisory Board (IAB) to advise the Secretary on the assessment rate, assessment exemptions, and program expenditures related to the assessment (Food and Agricultural Code, Section 6988).

Existing law also provides in Food and Agricultural Code, Section 6981, subdivision (d), that assessment funds may be used to cover the costs of:

- Department programs concerning the registration and certification of pome and stone fruit trees, nut trees, olive trees, and grapevines;
- University of California foundation plant materials service activities concerning pome and stone fruit trees, nut trees, olive trees, and grapevines; and
- Other activities related to the development of planting materials for pome and stone fruit trees, nut trees, olive trees, and grapevines.

Existing law also provides that the assessment may be set at an amount lower than 1% to cover the costs necessary for such activities (Food and Agricultural Code, Section 6981, subdivision (d)).

Existing law also provides that the Secretary may, upon recommendation from the IAB, exempt from the assessment certain species of pome and stone fruit, nut trees, grapevines, or varieties of olive trees, or ornamental varieties of apple, apricot, crabapple, cherry, nectarine, olive, peach, pear, and plum if it can be demonstrated that no benefit is derived by these species or varieties from such activities (Food and Agricultural Code, Section 6981, subdivision (b)).

Based on recommendation from the IAB, the Department is proposing to adopt Section 3070.

The proposed adoption of Section 3070 will establish an exemption from assessment for the following species and varieties of nursery stock: Amur chokecherry (*Prunus maackii*), butternut (*Juglans cinerea*), Canada red chokecherry (*Prunus virginiana* ‘Shubert’), Carolina laurel cherry (*Prunus caroliniana*), Catalina cherry (*Prunus lyonii*), crabapple (*Malus* spp.), English laurel (*Prunus laurocerasus*), evergreen pear (*Pyrus kawakamii*), flowering almond (*Prunus glandulosa* and *Prunus triloba*), flowering plum (*Prunus americana* and *Prunus cistena*), hazelnut/filbert (*Corylus* spp.), hickory (*Carya* spp.), hollyleaf cherry (*Prunus ilicifolia*), macadamia (*Macadamia* spp.), olive varieties Manzanillo and Gordal Sevillano, Otto Luyken laurel (*Prunus laurocerasus*), pecan

(*Carya illinoensis*), pistachio (*Pistacia* spp.), Portugal laurel (*Prunus lusitanica*), and Zabel laurel (*Prunus laurocerasus* 'Zabeliana').

Each exempted species and variety derives no intended benefit from a departmental registration and/or certification program, University of California foundation plant materials service activities, or other activities related to the development of planting materials funded by the assessment.

Economic Impact Analysis

The proposed regulation exempts species and/or varieties of nursery stock that are not currently assessed. All producers that have previously paid an assessment have been notified by the Department of the exemptions.

No additional revenue is projected, and no additional costs or savings to nursery stock producers or consumers are expected due to this regulation. Based upon the economic analysis, the Department believes this proposed regulation benefits the general welfare of California residents.

Anticipated Benefits from This Regulatory Action

The proposed regulation will exempt specific types of nursery stock from assessment and prevent additional cost for consumers of such nursery stock where the programs funded by the assessment provide no benefit.

Assessment

Based upon the Economic Impact Analysis, the Department has made an assessment that the proposed regulation would not 1) create or eliminate jobs within California; 2) create new business or eliminate existing businesses within California; or 3) affect the expansion of businesses currently doing business within California.

There are no known specific benefits to the worker safety or the health or public safety of California residents.

As required by Government Code Section 11346.5(a)(3)(D), the Department has conducted an evaluation of this regulation and has determined that it is not inconsistent or incompatible with existing state regulations.

Estimated Cost or Savings to Public Agencies or Affected Private Individuals or Entities

The Department of Food and Agriculture has determined that the adoption of Section 3070 does not impose a mandate on local agencies or school districts. The Department also has determined that no savings or increased costs to any state agency, no reimbursable costs or savings under Part 7 (commencing with Section 17500) of Division 4 of the Government Code to local agencies or school districts, no nondiscretionary costs or savings to local agencies or school districts, and no costs or savings in federal funding to the State will result from the proposed action.

The agency is not aware of any cost impacts that a representative private person or business would necessarily incur in reasonable compliance with the proposed action.

The Department has determined that the proposed action will not have a significant adverse economic impact on housing costs or California businesses, including the ability of California businesses to compete with businesses in other states. The Department's determination that this action will not have a significant adverse economic impact on businesses was based on the following:

The proposed regulation exempts species and/or varieties of nursery stock that are not currently assessed. All producers that have previously paid an assessment have been notified by the Department of the exemptions.

Alternatives Considered

The Department of Food and Agriculture must determine that no alternative considered would be more effective in carrying out the purpose for which the action is proposed or

would be as effective as and less burdensome to affected private persons than the proposed action.

The Department considered taking no action. If no action is taken, the species and/or varieties of nursery stock for which the exemption is proposed will require an assessment, resulting in additional cost for consumers of such nursery stock where the programs funded by the assessment provide no benefit.

Information Relied Upon

The Department is relying upon the following studies, reports, and documents in proposing the adoption of Section 3070:

Minutes, dated May 10, 2016, Fruit Tree, Nut Tree, and Grapevine Improvement Advisory Board.

In Title 3, California Code of Regulations, Division 4, Chapter 3, Subchapter 2, adopt:

Article 16. Nursery Stock Assessment

§ 3070. Fruit Tree, Nut Tree, and Grapevine Assessment.

(a) The Secretary exempts from assessment sales of the following species of pome and stone fruit trees, nut trees, and grapevines, varieties of olive trees, and ornamental varieties of apple, apricot, crabapple, cherry, nectarine, olive, peach, pear, and plum:

- (1) Amur chokecherry (*Prunus maackii*)
- (2) Butternut (*Juglans cinerea*)
- (3) Canada red chokecherry (*Prunus virginiana* 'Shubert')
- (4) Carolina laurel cherry (*Prunus caroliniana*)
- (5) Catalina cherry (*Prunus lyonii*)
- (6) Crabapple (*Malus* spp.)
- (7) English laurel (*Prunus laurocerasus*)
- (8) Evergreen pear (*Pyrus kawakamii*)
- (9) Flowering almond (*Prunus glandulosa* and *Prunus triloba*)
- (10) Flowering plum (*Prunus americana* and *Prunus cistena*)
- (11) Hazelnut/filbert (*Corylus* spp.)
- (12) Hickory (*Carya* spp.)
- (13) Hollyleaf cherry (*Prunus ilicifolia*)
- (14) Macadamia (*Macadamia* spp.)
- (15) Olive varieties Manzanillo and Gordal Sevillano
- (16) Otto Luyken laurel (*Prunus laurocerasus*)
- (17) Pecan (*Carya illinoensis*)
- (18) Pistachio (*Pistacia* spp.)
- (19) Portugal laurel (*Prunus lusitanica*)
- (20) Zabel laurel (*Prunus laurocerasus* 'Zabeliana')

Note: Authority cited: Sections 407 and 6981, Food and Agricultural Code.

Reference: Sections 6981, 6982, 6983 and 6986, Food and Agricultural Code.

Preliminary Analysis: Grapevine R&C Program Expenditures

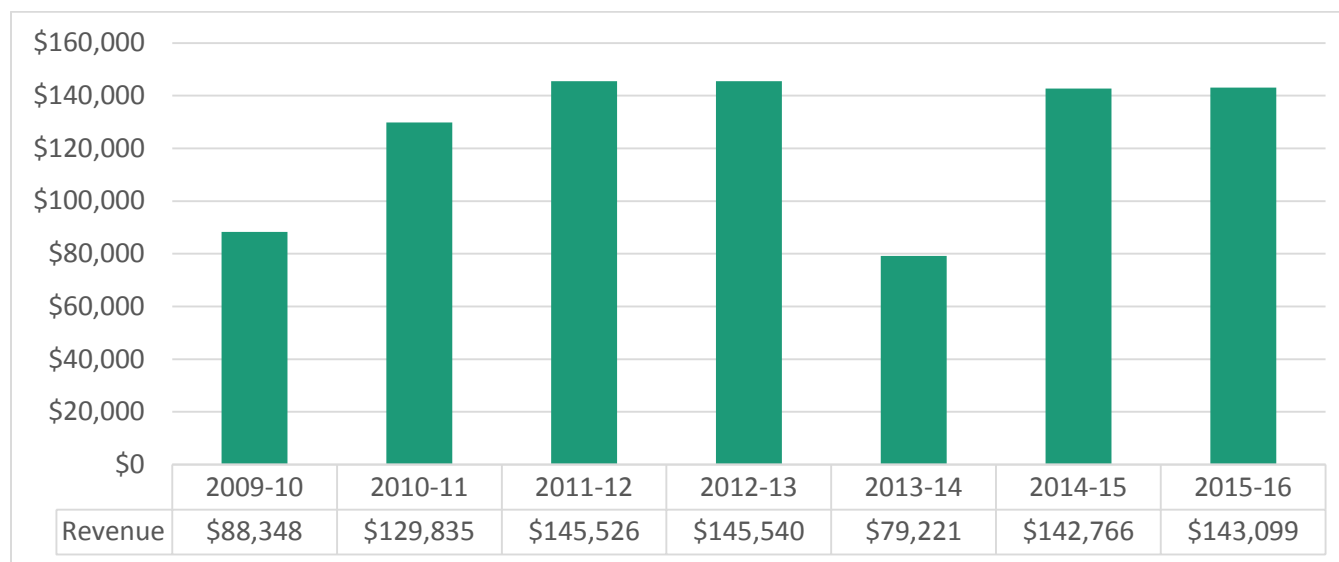
Presented November 1, 2016 – IAB Meeting

The following is a preliminary analysis of expenditures and revenues related to the Grapevine Registration and Certification (R&C) Program, prepared by the Nursery, Seed, and Cotton Program.

Summary of participation in the Grapevine R&C Program:

	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
Participants	33	35	34	35	35	32	30
IBs + SIBs	57	66	68	77	77	78	73
IB/SIB Acres	1,482	1,679	1,512	1,693	1,691	2,125	2,105
CBs	16	12	10	11	17	16	18
CB Acres	558	385	417	420	375	194	201
Screenhouses	5	7	8	3	5	6	7
SH SqFt	259,616	476,972	477,071	121,198	590,000	650,000	732,000

Summary of revenue for the Grapevine R&C Program:



Note: The fluctuation in revenue in 2013-14 is due to an adjustment in how revenue collected throughout the year was accreted.

Prior to 2013-14, revenue was accreted to the fiscal year it was received in, irrespective of the work it was related to.

Currently, all revenue related to work in a program year (e.g., calendar year 2014) is applied to the same fiscal year (e.g., Fiscal Year 2014-15, which runs from July 1, 2014, to June 30, 2015).

Activities necessary to administer the Grapevine Registration and Certification Program include:

Field Staff:	Admin:
<ul style="list-style-type: none"> • Visual inspection of blocks, field and greenhouse plantings for pest/disease cleanliness • Inspection of planting/growing sites for compliance • Sampling/testing for regulated viruses, and nematodes as necessary • Prep work and coordination for all field activities • Review records • Reports for all compliance activities • Enforcement for non-compliance • Addressing and responding to participants' concerns and inquiries • Attend trainings specific to program activities, regulated commodity, pests and diseases 	<ul style="list-style-type: none"> • Supervision of field and office staff • Process applications and payments, adjusted billings • Fiscal oversight: expenditure/revenue tracking, budgets • Website maintenance, outreach materials, public relations • Attend IAB meetings • Attend other industry meetings (CGRIC) • Attend national regulatory meetings (i.e., NCPN) • Rulemaking: minor every 4-5 years, or major every 15-20

Estimated annual costs:

- Personal Services = \$179,906
- Operating Expenses & Equipment = \$84,790
- **Total annual costs = \$264,696**

Estimated expenditures included direct program costs, such as personal services for field and office activities, travel, and field supplies.

Estimated expenditures also included calculations for proportionate amounts of costs related to staff and program administration, including:

- Supervision and program oversight
- Facilities and utilities
- Vehicle and equipment purchases and maintenance
- Departmental and statewide indirect costs

Expenditures vs. revenue:

- Estimated annual expenditures were just under \$265,000.
- Typical annual revenue is about \$140,000.
- **This leaves an estimated annual shortfall of at least \$100,000.**