DEPARTMENT OF FOOD AND AGRICULTURE

PROPOSED AMENDMENT OF THE REGULATIONS

Title 3, California Code of Regulations

Section 3024.5

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

These regulations are intended to address the obligation of the Secretary of Food and Agriculture to maintain a voluntary program for the registration and certification of grapevines that are tested for specified viruses and viroids.

Specific Purpose and Factual Basis

The specific purpose of Section 3024.5 is to provide the testing and inspection requirements for a voluntary program under which grapevine nursery stock may be produced and registered and/or certified as being true-to-type and tested for important diseases.

Existing law provides that the Secretary, for the purpose of promoting and protecting the agricultural industry of the state, may, upon request, inspect plants and the premises upon or near which they are growing and the records of their sources and qualities. The Secretary may upon the basis of information thus determined, maintain registries of the plants which are found not to be infested or infected, or liable to become infested or infected, with pests (Food and Agricultural Code, Section 5821). Existing law also provides that the Secretary may establish and enforce regulations that are necessary to carry out the purposes of the registries provisions (Food and Agricultural Code, Section 5823).

Existing State law also provides that the Department, for the purpose of enhancing the State's business and trade opportunities, may, upon request, perform non-regulatory

services such as diagnostics, inspections and testing relating to nursery stock, plants, seeds, or plant pests and diseases.

In 1952, it became apparent that severe virus disease problems existed in California vineyards and that a clean source of nursery stock identified as true-to-type was needed to improve production. As a result, the Department's Grapevine Registration & Certification Program (R&C Program) was established. The adverse effects of the diseases targeted in the R&C Program range from delayed ripening, reduced sugar, color and yield (as with leafroll) to leaf malformations, shot berry fruit, and yields that may drop to zero (as with fanleaf). There is no way to remove these diseases, if present in a vineyard, short of replacing the known infected vines.

The purpose of the R&C Program is to establish a grapevine nursery stock production system that targets the elimination of specific grapevine diseases such as leafroll, fanleaf, corky bark, stem pitting and fleck that are spread from vine to vine by grafting and/or vegetative propagation. Additionally, some of the targeted diseases are also spread by soil nematodes (fanleaf) and mealybugs (suspected of spreading leafroll).

Under the R&C Program, grape materials that pass prescribed disease tests are identified and/or created. Once identified, the tested grapevine materials are used to create the foundation source vines for the R&C Program, which are maintained by Foundation Plant Services (FPS) in its foundation vineyard block located at the University of California at Davis (UC Davis). When the vines are large enough to produce fruit, a professional grape variety expert checks the accuracy of the variety identification. The materials produced from these true-to-type, disease-tested grapevines can then be distributed to R&C Program participants. The participants may then multiply the grapevine material into commercial quantities for distribution according to the regulatory requirements of the R&C Program.

The R&C Program includes provisions for three generational levels for registered grapevines within the production system. Propagation materials derived from

foundation mother vines in the FPS foundation block are called foundation stock. R&C Program participants may purchase foundation stock from FPS and plant it to create registered increase blocks. These blocks are inspected and tested by the Department. Propagation materials taken from registered increase blocks are called registered stock. Grapevines made by rooting registered cuttings or grafting registered scion (fruiting) cuttings to registered rootstock cuttings are called certified stock. In general, these certified grapevines are then sold to growers for commercial vineyard plantings.

Over the years, University of California, United States Department of Agriculture, and other scientists have improved and refined methods for grapevine disease detection and elimination. As a result, periodic review of the R&C Program regulations are necessary to determine if any of these new techniques which are determined to be effective, practical and scientifically reliable, should be incorporated into the regulations to further improve the quality of California registered and certified grapevines .

The Department is proposing to amend Section 3024.5. The factual basis for the determination by the Department that the amendment of these regulations is necessary is as follows:

In 2014, the Department began meeting with the grape growers and grapevine nurserymen to review the Grapevine Registration and Certification Program regulations. This was necessary in order to incorporate new knowledge about grapevine diseases and new technology for detecting grapevine viruses and other graft transmissible pathogens. On September 21, 2015, a meeting was held with grapevine pest and disease experts, grapevine nurserymen, grape growers, farm advisors, county agricultural commissioners, CDFA and USDA staff, and FPS personnel. Based on this meeting, the Department decided to revise the regulations and initiate a rulemaking.

Section 3024.5, Inspection and Testing Procedures

The Department is proposing to amend Section 3024.5, “Inspection and Testing Procedures.” The proposed testing procedures have been modified in order to incorporate new knowledge about grapevine diseases and new technology for detecting grapevine viruses and other graft transmissible pathogens.

Red blotch disease and its pathogen, Grapevine red blotch-associated virus (GRBaV), were unknown when the existing regulations were implemented in 2010. Since then, plant pathologists have been able to identify GRBaV as the specific virus that causes red blotch. The proposed regulation adds red blotch and GRBaV to the diseases and disease agents of concern in Section 3024.5(b), Table I. Grapevines testing positive for a “disease agent of concern” will be disqualified.

A laboratory based test using polymerase chain reaction (PCR) is currently the most efficient and effective method of detecting GRBaV. PCR is a molecular assay that targets the genetic material of viruses/viroids. In order to use PCR, a specific molecular sequence unique to the virus in question must be identified. This unique sequence is amplified during the PCR process so that even trace amounts of a virus are detectable.

The proposed regulation adds testing for GRBaV using PCR to the tests that must be used to screen foundation block candidate vines after the regulations take effect, listed in Section 3024.5 (c), Table II.

Under the proposed regulation, every foundation block vine and each primary and secondary increase block must be re-tested at least every five years for GRBaV. These additional testing requirements are proposed because virus infections are often impossible to detect by visual inspection alone. Under the proposed regulation, certified plantings may be tested for this virus but it is not required.

Routine testing for this disease is being proposed to improve the integrity of the R&C Program by more reliably knowing the disease status of the grapevines produced by its

participants. Currently, the Department tests approximately 3,000 vines for Grapevine fanleaf virus (GFLV) and Tomato ringspot virus (ToRSV) and approximately 3,000 vines for Grapevine leafroll-associated viruses (GLRaV) annually, but does no routine sampling for GRBaV.

The Department relies on a serological test, enzyme-linked immunosorbent assay (ELISA), to test for the presence of GFLV, ToRSV, or GLRaV. There is currently no available ELISA test for GRBaV, so the Department will be required to process samples for GRBaV separately in order to use the slower, more expensive, and more sensitive PCR test. Once the proposed regulations take effect, the Department will be testing 3,000 vines per year for GRBaV in order to achieve a statistically valid sample of all the blocks in the program. The number of samples tested for other viruses would remain the same.

Currently, the California Fruit Tree, Nut Tree and Grapevine Improvement Advisory Board (IAB) subsidizes the laboratory testing of samples collected from increase blocks. Based on current projections, the IAB can subsidize the added testing without requiring an increase in the assessment rate. The added testing will result in increased program costs by an estimated $60,000 per year (3,000 samples @ $20.00/sample). Should the IAB fund not cover these added costs, the participant would be required to do so.

Additional changes have been made to disease and virus nomenclature in Sections 3024.5 (b) and (c) in accordance with the International Committee on Taxonomy of Viruses and recent scientific publications.

Economic Impact Analysis

The proposed amendments to the regulation modify the testing procedures in order to incorporate new knowledge about grapevine diseases and new technology for detecting grapevine viruses and other graft transmissible pathogens. In 2015, the Program had 35 participants statewide. There is no projected increase in application fees for collection of samples and no projected increase in annual assessment on sales of grapevines.

Samples currently collected in the fall and tested for Grapevine leafroll-associated viruses can also be tested for GRBaV, therefore there would be no increase in regular annual sample collection costs. Positive GRBaV finds would result in an increase in regulatory enforcement activities by CDFA staff, and could result in up to 160 additional personnel hours per year. The current fee structure for the program is projected to cover this increase.

The program would see increases in laboratory staffing, equipment, and supply costs to perform real time PCR testing. Laboratory equipment has already been purchased using existing funds. Laboratory supplies and personnel costs are paid for through the Fruit Tree, Nut Tree, and Grapevine Improvement Advisory Board (IAB) assessment. The fund for this assessment currently has sufficient reserves and surplus income to cover an increase in cost without seeking an increase in assessment rate.

Participants will see an increase in production costs for rogueing out GRBaV-positive vines. No other increases in costs of compliance are projected. Any vines currently found to be infected with GRBaV do not meet the standards of cleanliness for all nursery stock and must be removed. The number of additional finds due to increased testing of asymptomatic vines is unknown. The value of an increase vine, based on potential sales from progeny stock over an estimated 20 year lifespan, has been estimated at $11,500 (not accounting for inflation).

These regulations modify the requirements for an established voluntary program. There is no economic impact on businesses that choose not to enter the program. Fees paid by program participants for services fund the program costs. Therefore, there are no significant economic impacts.

Anticipated Benefits from This Regulatory Action

The proposed amendments to the regulation will increase consumers' confidence in cleanliness for diseases of concern and their confidence in effectiveness in the

program. Additionally, this regulation will prevent the spread of GRBaV to non-infected vines in California and maintain the high quality of certified grapevine nursery stock.

Assessment

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

There are no known specific benefits to the worker safety or the health or public safety of California residents. The proposed regulations would maintain a high quality of certified grapevine nursery stock and prevent the spread of GRBaV in California, as well as indirectly ensure a safe food supply and a positive health benefit to California consumers.

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 amendment of Section 3024.5 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:

These regulations modify the requirements for an established voluntary program. There is no economic impact on businesses that choose not to enter the program. Fees paid by program participants for services fund the program costs. Nursery stock meeting requirements of the program may be sold as registered or certified which should be more desirable to purchasers and greater profits may result. The proposed changes in the regulations should benefit grapevine nursery stock producers who are participants by increasing the availability of grapevine nursery stock that has been tested and found negative for specified diseases. Grape fruit producers should also benefit through the increased availability of registered and certified grapevines enabling them to avoid significant losses in fruit production.

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 and less burdensome to affected private persons than the proposed action.

Information Relied Upon

The Department is relying upon the following studies, reports, and documents in proposing the amendment of Section 3024.5:

Letter, dated October 23, 2014, from John T. Crossland to the Department.

Minutes, dated December 18, 2014, Grapevine R&C Program Scoping Meeting.

Minutes, dated July 21, 2015, Grapevine Regulations Working Group.

Al Rwahnih, M., Dave, A., Anderson, M., Rowhani, A., Uyemoto, J. K., and Sudarshana, M. R. 2013. Association of a DNA virus with grapevines affected by red blotch disease in California. Phytopathology 103:1069-1076. 10.1094/PHYTO-10-12-0253-R

Martelli, G.P., et al. 2012. Taxonomic revision of the family *Closteroviridae* with special reference to the grapevine leafroll-associated members of the genus *Ampelovirus* and the putative species unassigned to the family. Journal of Plant Pathology 94 (1): 7-19.

Mysore R. Sudarshana, Keith L. Perry, and Marc F. Fuchs. 2015. Grapevine Red Blotch-Associated Virus, an Emerging Threat to the Grapevine Industry. Phytopathology 105:1026-1032

"Grapevine Red Blotch Disease," National Clean Plant Network Fact Sheet. Online at: http://ncpngrapes.org/files/171627.pdf

"Grapevine Red Blotch Disease," dated November 2012, Mysore R. Sudarshana and James A. Wolpert, United States Department of Agriculture – Agricultural Research Service news brochure. Online at: http://iv.ucdavis.edu/files/157508.pdf

International Committee on Taxonomy of Viruses, ICTV 2014 Master Species List and searchable taxonomy database, updated July 2014. Online at: http://www.ictvonline.org/

Workload assessment of Grapevine Registration and Certification Program, dated November 19, 2015.