DEPARTMENT OF FOOD AND AGRICULTURE

PROPOSED AMENDMENT OF THE REGULATIONS

Title 3, California Code of Regulations

Sections 3015, 3015.1, 3015.2, 3015.3, 3015.4, 3015.5,

3015.6, 3015.7, and 4603(h)

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 deciduous fruit and nut trees that are tested for specified disease agents.

Specific Purpose and Factual Basis

The specific purpose of Sections 3015, 3015.1, 3015.2, 3015.3, 3015.4, 3015.5, 3015.6, and 3015.7 is to establish a voluntary program under which deciduous fruit and nut tree nursery stock may be produced and registered and/or certified as being true-to-type and tested for economically important diseases. The specific purpose of Section 4603, Schedule of Charges, subsection (h), Deciduous Fruit and Nut Tree Registration and Certification Fees, is to establish the Department's schedule of charges for providing requested services related to the Deciduous Fruit and Nut Tree Registration and Certification Program.

For the purpose of promoting and protecting the agricultural industry in California, existing law provides that the Secretary 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 the 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: certify as to the pest freedom of plants which may have been inspected or registered or may certify as to the true pest condition of plants; issue tags, labels, or certificates in evidence of inspection or registry; supervise or conduct any special treatments which may be necessary to insure the pest freedom of plants for propagation or planting purposes; and fix uniform fees to be charged for inspections, registrations, certifications and special treatments. The fees charged shall be based on the approximate cost of the service rendered (Food and Agricultural Code, Section 5822).

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).

For the purpose of enhancing California's business and trade opportunities, existing law also provides that the Department may, upon request, perform non-regulatory services such as certification, diagnostics, inspections, and testing relating to nursery stock, plants, seeds, or plant pests and diseases. The Department may also establish charges sufficient to recover its costs for providing non-regulatory services (Food and Agricultural Code, Section 5851). Existing law also provides that the Department may establish, by regulation, a schedule of charges to cover the Department's costs for the specific services it provides. Existing law also provides that regulations establishing charges adopted by the Secretary shall not be subject to review, approval, or disapproval by the Office of Administrative Law (Food and Agricultural Code, Section 5852).

In 1957, it became apparent that severe virus disease problems existed in California orchards and that a clean source of nursery stock identified as true-to-type was needed to improve production. As a result, the Department's Deciduous Fruit and Nut Tree Registration & Certification Program (R&C Program) was established. The adverse effects of the virus diseases targeted in the R&C Program include yield reduction and delay in fruit maturity, diminished fruit quality, stunted and reduced growth, graft

incompatibility and reduction of graft success, and in some severe cases tree dieback. There is no way to remove these diseases, if present in an orchard, short of replacing the known infected trees.

The purpose of the R&C Program is to establish a deciduous fruit and nut tree nursery stock production system that targets the elimination of specific disease agents that are spread from tree to tree by grafting and/or vegetative propagation. Additionally, some of the targeted disease agents are also spread by the movement of pollen (*Prune dwarf virus* and *Prunus necrotic ringspot virus*) and aphids (*Plum pox virus*).

Under the R&C Program, deciduous fruit and nut tree materials that pass prescribed disease tests are identified and/or created. Once identified, the tested materials are used to create the foundation source trees for the R&C Program, which are maintained by Foundation Plant Services (FPS) in its foundation orchard located at the University of California at Davis (UC Davis). When the trees are large enough to produce fruit, a professional tree variety expert checks the accuracy of the variety identification. Trees meeting equivalent testing, variety identification, and maintenance requirements may also be maintained by an R&C Program participant in a parent orchard. The materials produced from the true-to-type, disease-tested trees in the foundation and parent orchards can then be distributed to R&C Program participants. The participants may then multiply the deciduous fruit and nut tree material into commercial quantities for distribution according to the regulatory requirements of the R&C Program.

The R&C Program includes provisions for four generational levels for registered trees within the production system, indicated by the designations G1 through G4. Propagation materials derived from foundation source trees in the G1 foundation block maintained by FPS are called G1 foundation stock, and propagation materials derived from source trees in a participant's G1a parent block are called G1a parent stock. R&C Program participants may purchase G1 foundation and/or G1a parent stock and plant it to create G2 mother blocks. These blocks are inspected and tested by the Department. Propagation materials taken from G2 mother blocks are called G2 mother stock. G2

mother stock may be planted to create G3 scion blocks, G3 seed blocks, G3 nursery increase blocks, and G3 rootstock increase blocks. These blocks are inspected and/or tested by the Department. Propagation materials taken from G3 scion blocks, G3 seed blocks, G3 nursery increase blocks, and G3 rootstock increase blocks are called G3 registered stock. Trees made by rooting G3 registered cuttings or grafting G3 registered scion (fruiting) cuttings to G3 registered rootstock cuttings or seedlings grown from G3 registered seed are called G4 certified stock. In general, these G4 certified trees are then sold to growers for commercial orchard plantings.

Over the years, University of California, United States Department of Agriculture, and other scientists have improved and refined methods for disease detection and elimination. As a result, periodic review of the R&C Program regulations is 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 trees.

In 2015, the Department met with deciduous fruit and nut tree nurserymen to review the R&C Program regulations and to review and discuss for incorporation new knowledge about diseases, new technology for detecting disease agents, and the best practices available for excluding diseases and vectors. Throughout 2015, a series of meetings (March 17, 2015, June 3, 2015, July 28, 2015, and November 10, 2015) were held with a working group consisting of deciduous fruit and nut tree pest and disease experts, nurserymen, growers, farm advisors, county agricultural commissioners, CDFA and USDA staff, and FPS personnel.

Based on these meetings, the Department is proposing to amend Sections 3015, 3015.1, 3015.2, 3015.3, 3015.4, and 3015.5 and adopt Sections 3015.6, 3015.7, and 4603(h) as follows:

The proposed amendments will reorganize Article 3, Registration and Certification of Deciduous Fruit and Nut Trees, in order to increase clarity and ensure that specific

requirements can be found easily. The structure of the article is consistent with the regulations for other registration and certification programs administered by the Department.

Section 3015, Definitions

The proposed amendment of Section 3015 will establish that it pertains to “Definitions” and will contain the definitions of terms used in the proposed regulation and by the deciduous fruit and nut tree nursery industry. The proposed amendment will also delete the information pertaining to “Disclaimer of Warranties and Financial Responsibility” and relocate this information to Section 3015.1.

The proposed amendment adds definitions for the terms “applicant”, “approved by the Department”, “canceled”, “common stock”, and “Department”. These terms are all used, but are not defined, in existing regulations. The definitions added are consistent with those in the regulations for other registration and certification programs administered by the Department, and were reviewed by the working group and determined to be consistent with the intent of the R&C Program.

The proposed amendment deletes the definition for “virus-infected” and adds a definition for “diseased”. The more general term “diseased” allows for the inclusion of non-virus pathogens as pathogens of concern for the R&C Program. The use of and definition for “diseased” are consistent with those in the regulations for other registration and certification programs administered by the Department, and were reviewed by the working group and determined to be consistent with the intent of the R&C Program.

The proposed amendment introduces the concept and definition for generation level, “G-level”. The proposed amendment also adds the G-level designation for each level of certification. The definition and use of G-level designations are consistent with those used in national and international standards to describe levels of certification, and were reviewed by the working group and determined to be consistent with the intent of the R&C Program.

The proposed amendment adds a definition for “G1 foundation block candidate trees”. The requirements for candidate trees are addressed in existing regulations in Section 3015.4, but the term “candidate trees” is not used or defined in existing regulations. The definition of and requirements for candidate trees in the proposed amendment are consistent with those in the regulations for other registration and certification programs administered by the Department, and were reviewed by the working group and determined to be consistent with the intent of the R&C Program.

The proposed amendment adds definitions for “G1a parent block”, “G1a parent block candidate trees”, and “G1a parent stock”. The G1a parent level of certification is new to these proposed regulations. Requirements for the G1 foundation and G1a parent levels of certification are equivalent, except that G1 foundation trees are maintained by FPS and G1a parent trees are maintained by program participants. The addition of the G1a parent level was proposed by current participants to ensure that a sufficient supply of registered material is consistently available for use in the R&C Program. The concept and requirements for the G1a parent level were reviewed by the Department and the working group and determined to be consistent with the intent of the R&C Program.

The proposed amendment adds a definition for “G3 rootstock increase block”. The use of rootstock increase blocks is a common practice in the industry, and is not addressed in existing regulations. The definition of and requirements for a “G3 rootstock increase block” were based on existing industry practices, and were reviewed by the Department and the working group and determined to be consistent with the intent of the R&C Program.

The proposed amendment deletes the definition for “seed source tree” and adds a definition for “G3 seed block”. The maintenance of blocks of seed source trees is a common industry practice, and providing for requirements, inspections, and testing of the trees as blocks is necessary for the Department to effectively administer the R&C Program. The definition added is consistent with that in the regulations for other registration and certification programs administered by the Department, and was

reviewed by the working group and determined to be consistent with the intent of the R&C Program.

The proposed amendment adds definitions for the terms “participant” and “propagative materials”. These terms are used, but are not defined, in existing regulations. The definitions added are consistent with those in the regulations for other registration and certification programs administered by the Department, and were reviewed by the working group and determined to be consistent with the intent of the R&C Program.

The proposed amendment adds a definition for “provisional G1 foundation stock” and “provisional G1a parent stock”. The use of provisional stock is not addressed in existing regulations. The definition of and requirements for provisional were based on existing practices at FPS, and were reviewed by the Department and the working group and determined to be consistent with the intent of the R&C Program.

The proposed amendment adds a definition for the term “suspended”. This term is used, but is not defined, in existing regulations. The definition added is consistent with that in the regulations for other registration and certification programs administered by the Department, and was reviewed by the working group and determined to be consistent with the intent of the R&C Program.

The proposed amendment deletes the definitions for “index” and “virus-tested” and adds a definition for “testing”. The more general term “testing” allows for the inclusion of other modern testing methods for the detection of pathogens. The use of and definition for “testing” are consistent with those in the regulations for other registration and certification programs administered by the Department, and were reviewed by the working group and determined to be consistent with the intent of the R&C Program.

The proposed amendment adds a definition for “tissue culture line”. Propagation using tissue culture is a common industry practice, and is not included in existing regulations. The definition and use of tissue culture lines in the proposed regulations are based on

accepted practices among horticultural experts and the nursery industry, and were reviewed by the Department and the working group and determined to be consistent with the intent of the R&C Program.

The proposed amendment adds definitions for the terms “topworking”, “tree”, and “true-to-variety”. These terms are used, but are not defined, in existing regulations. The definitions added are consistent with those in the regulations for other registration and certification programs administered by the Department, and were reviewed by the working group and determined to be consistent with the intent of the R&C Program.

The proposed definitions are necessary to ensure that all participants, consumers, other regulatory agencies, and the public have a common vocabulary when discussing the R&C Program.

Section 3015.1, General Provisions

The proposed amendment of Section 3015.1 will establish that it pertains to “General Provisions.” The proposed amendment will also delete the definitions and relocate them to Section 3015.

The amendment of Section 3015.1 compiles and clearly states general provisions found in Sections 3015 and 3015.2 of the existing regulations. These provisions are consistent with those in the regulations for other registration and certification programs administered by the Department, and were reviewed by the working group and determined to be consistent with the intent of the R&C Program.

Section 3015.2, Program Responsibilities

The proposed amendment of Section 3015.2 will establish that it pertains to “Program Responsibilities.” The proposed amendment will delete the subsection pertaining to general provisions and relocate this information to Section 3015.1. The proposed amendment will delete the subsections pertaining to location and maintenance of plantings and relocate this information to Section 3015.4. The proposed amendment

will delete the subsection pertaining to eligibility and planting requirements and relocate this information to Section 3015.3.

The proposed subsection 3015.2(a) outlines the program responsibilities of Foundation Plant Services (FPS). This subsection describes services that FPS is already providing and responsible for, and protocols that are already in place for all foundation services provided by FPS. In existing regulations, the program responsibilities of FPS are located in Section 3015.4. The proposed responsibilities are consistent with those in the regulations for other registration and certification programs administered by the Department, and were reviewed by the Department and the working group and determined to be consistent with the intent of the R&C Program.

The proposed subsection 3015.2(b) outlines the program responsibilities of program participants. This subsection establishes that the participant is responsible for all costs associated with the participant's responsibilities, except those offset by assessment. The participant's costs for participation, other than fees, are not addressed in the existing regulations. Such costs are not included when determining the fees for participation in the R&C Program outlined in proposed subsections 3015.7(b) and 4603(h). The participant's responsibility for his/her own costs for participation is consistent with other registration and certification programs administered by the Department, and this provision was reviewed by the working group and determined to be consistent with the intent of the R&C Program.

This subsection also establishes that the participant is responsible for procuring qualified propagative material for use in the R&C Program. The participant's responsibility for procurement of his/her own planting materials is consistent with other registration and certification programs administered by the Department, and this provision was reviewed by the working group and determined to be consistent with the intent of the R&C Program.

This subsection also establishes record keeping and reporting requirements related to the inventory and history of registered trees and the sales of registered and certified stock, including requirements to provide such records to the Department upon request within five business days. Record keeping and reporting requirements are not explicitly addressed in the existing regulations. Record keeping and reporting are necessary for the Department to confirm the eligibility of registered trees, and timely reporting of such records is necessary for the Department to effectively investigate the source and downstream impact of trees determined to be diseased or off-type and to limit the impact of such trees on other participants and/or consumers of certified stock. The proposed record keeping and reporting requirements are consistent with other registration and certification programs administered by the Department, and these requirements and timeframes were reviewed by the working group and determined to be reasonable and consistent with the intent of the R&C Program.

This subsection also establishes that the participant is responsible for removal of canceled or off-type trees from registered or certified blocks within one month of notification by the Department. A timeframe for removal of trees is not established in the existing regulations. Establishing a reasonable timeline for tree removal is necessary to ensure that registered and certified materials meet program requirements and to ensure consistent application of the requirements throughout the program. The proposed timeframe for tree removal is consistent with other registration and certification programs administered by the Department, and was reviewed by the working group and determined to be reasonable and consistent with the intent of the R&C Program.

This subsection also establishes that the participant is responsible for notification of the Department at least 24 hours in advance of any pest control treatments using a pesticide that has a reentry requirement if the Department has notified the participant of any action that would bring a Department representative into the treated area. Notifications regarding pesticide treatments are not addressed in the existing regulations. Such notifications are necessary to keep Department representatives safe,

and to help them avoid incurring travel expenses when program activities cannot be safely performed. This proposed requirement for notification is consistent with other registration and certification programs administered by the Department, and was reviewed by the working group and determined to be reasonable and consistent with the intent of the R&C Program.

This subsection also establishes that the participant is responsible for notifying in writing anyone who has received nursery stock from suspended or canceled trees within two weeks of receiving notification of suspension or cancellation from the Department. Notification of consumers is not addressed in the existing regulations, and is necessary to ensure continued confidence in the R&C Program. This proposed requirement for notification is consistent with other registration and certification programs administered by the Department, and was reviewed by the working group and determined to be reasonable and consistent with the intent of the R&C Program.

The proposed subsection 3015.2(c) outlines the program responsibilities of the Department. This subsection describes practices that the Department is already providing and responsible for, and which may be implicitly required but are not explicitly stated in the existing regulations. These responsibilities include:

- Maintaining records of all current registered blocks,
- Processing applications and records requests within 30 days of receipt,
- Approving planting sites,
- Inspecting and testing participant's blocks for diseases and off-types,
- Suspending or canceling the registration or certification of trees suspected or determined to be diseased, off-type, and/or not produced in compliance with the program regulations, and
- Enforcing the suspension or cancellation of registered or certified trees and propagative materials.

The practices described in this subsection are necessary for the administration and enforcement of the R&C Program. The proposed responsibilities of the Department are consistent with those in the regulations for other registration and certification programs administered by the Department, and were reviewed by the working group and determined to be consistent with the intent of the R&C Program.

Section 3015.3, Eligibility Requirements

The proposed amendment of Section 3015.3 will establish that it pertains to "Eligibility Requirements." The proposed amendment will delete the information pertaining to "Inspection and Testing Procedures" and relocate this information to Section 3015.5. The proposed amendment will delete the subsection pertaining to "Refusal, Suspension or Cancellation of Registration or Certification" and relocate this information to Section 3015.6.

The proposed subsection 3015.3(b) establishes the eligibility requirements for material not maintained in California. The requirements for approval and use of imported stock include certification by the origin department of agriculture that the stock meets program requirements and written approval by the Department prior to the participant importing the stock. Existing regulations establish in Section 3015.2 that the Department may approve stock with an equivalent known history of testing and inspection to be planted for registration, but do not specify the requirements and process for such approval. The proposed requirements were reviewed by the working group and determined to be reasonable and consistent with the intent of the R&C Program.

The proposed subsection 3015.3(c) outlines eligibility requirements for planting in a G1 foundation block. This subsection describes protocols that are already in place for all foundation services provided by FPS. In existing regulations, the eligibility requirements for foundation materials are located in Section 3015.4. The proposed requirements are consistent with those in the regulations for other registration and certification programs administered by the Department, and were reviewed by the Department and the working group and determined to be consistent with the intent of the R&C Program.

The proposed subsection 3015.3(d) outlines eligibility requirements for planting in a G1a parent block. The G1a parent level of certification is new to these proposed regulations. Eligibility requirements for the G1 foundation and G1a parent blocks are equivalent, and were reviewed by the Department and the working group and determined to be consistent with the intent of the R&C Program.

The proposed subsection 3015.3(e) outlines eligibility requirements for planting in a G2 mother block. This subsection specifies that trees in a G2 mother block may be topworked once with prior approval by the Department. Existing regulations do not refer to or limit topworking. The limitation on topworking is necessary to help ensure the consistent quality and cleanliness of G2 mother stock.

This subsection does not include requirements regarding the use of specific rootstock varieties. Existing regulations establish in Section 3015.2 that only mahaleb rootstock may be used for registered cherry trees planted in a mother block. Use of mahaleb rootstock is no longer recommended for registered source trees, as it is tolerant and generally symptomless for pollen-borne viruses, and many of the new and commonly-used cherry rootstocks are sensitive to *Prune dwarf virus* and *Prunus necrotic ringspot virus* and thus act as a self-indicator for these pathogens of concern.

The proposed eligibility requirements for the G2 level of registration were reviewed by the Department and the working group and determined to be reasonable and consistent with the intent of the R&C Program.

The proposed subsections 3015.3(f) and 3015.3(g) outline eligibility requirements for planting in a G3 nursery increase and G3 rootstock increase block, respectively. These subsections establish that trees in a G3 nursery increase block may be used as a source of propagative materials for up to 48 months without testing, and that trees in a G3 rootstock increase block may be used as a source of propagative materials for up to 10 years without testing, respectively. Existing regulations provide a four-year eligibility

period for nursery increase blocks, but do not address the use of rootstock increase blocks.

These subsections also establish that trees in a G3 nursery increase or G3 rootstock increase block are required to be prevented from flowering in order to prevent infection by pollen-borne viruses. Existing regulations do not require trees in increase blocks to be prevented from flowering. Prevention of flowering is a standard cultural practice in increase block plantings, and is necessary to help protect the trees from pollen-borne viruses without requiring testing.

The proposed subsection 3015.3(h) outlines eligibility requirements for planting in a G3 scion or G3 seed block. Existing regulations do not address eligibility requirements for a seed block.

The proposed eligibility requirements for all blocks at the G3 level of registration were reviewed by the Department and the working group and determined to be reasonable and consistent with the intent of the R&C Program.

The proposed subsection 3015.3(i) outlines eligibility requirements for planting in a G4 certified nursery block. This subsection establishes the eligibility of a G4 certified nursery block to be used as a supplemental source of propagative materials. The block must be less than 12 months old, no flowering may have occurred, and the block must be inspected and approved by the Department prior to use of such propagative materials. Existing regulations do not allow for the use of propagative materials collected from a certified block. The proposed use of trees in a G4 certified nursery block as a source of propagative materials is necessary to ensure that participants have a sufficient source of certified nursery stock to meet market needs while maintaining consistent quality and cleanliness for all certified materials. This use is consistent with the regulations for other registration and certification programs administered by the Department, and the proposed eligibility requirements for the G4 level of registration

were reviewed by the Department and the working group and determined to be consistent with the intent of the R&C Program.

The proposed subsection 3015.3(j) outlines the eligibility requirements for tissue culture lines. Existing regulations do not provide for propagation using tissue culture. This subsection establishes G2 and G3 generation levels for tissue culture lines:

- A G2 tissue culture line may be established using G1 foundation or G1a parent stock. A G2 tissue culture line may be used as a source of G2 mother stock for 48 months with no testing, and up to 10 years with annual testing for *Prunus necrotic ringspot virus* and *Prune dwarf virus*.
- A G3 tissue culture line may be established using G2 mother stock. A G3 tissue culture line may be used for 48 months with no testing.

This subsection also establishes that the source tree for any tissue culture line must maintain its registration for as long as the line is in use, and includes protocols for when a source tree loses registration:

- If a tissue culture line's source tree loses registration within 24 months of its establishment, the tissue culture line will also lose registration.
- If a tissue culture line's source tree loses registration greater than 24 months after its establishment, the tissue culture line will maintain registration for the remainder of its eligibility period. The eligibility period of a G2 tissue culture line may be extended through annual testing.
- If a tissue culture line's source tree dies or is removed while still eligible for registration, the tissue culture line will remain eligible for up to 24 months, or for the remainder of its eligibility period, whichever is less. The eligibility period of a G2 tissue culture line may be extended through annual testing.

The subsection also establishes that propagative materials produced from a tissue culture line may be sold or used for up to 48 months after leaving aseptic conditions.

The proposed requirements for propagation using tissue culture lines are based on accepted practices among horticultural experts and the nursery industry, and were reviewed by the Department and the working group and determined to be consistent with the intent of the R&C Program.

Section 3015.4, Planting Location and Maintenance Requirements

The proposed amendment of Section 3015.4 will establish that it pertains to "Planting Location and Maintenance Requirements." The proposed amendment will delete the "Foundation Stock Requirements", other than those pertaining to planting location and maintenance, and relocate this information to sections 3015.2, 3015.3, and 3015.5, as applicable.

The proposed subsection 3015.4(a) outlines general planting location and maintenance requirements for all registered blocks. This subsection specifies that all approved planting sites must be located in the State of California, and that planting sites must be approved by the Department prior to planting. These proposed requirements are necessary for practical and consistent enforcement by the Department, are consistent with those in the regulations for other registration and certification programs administered by the Department, and were reviewed by the working group and determined to be consistent with the intent of the R&C Program.

The proposed subsection 3015.4(b) outlines the planting location and maintenance requirements for a G1 foundation, G1a parent, and G2 mother block. This subsection establishes a 300-foot buffer from non-registered trees, unless such trees are planted from certified stock and are tested annually for *Prunus necrotic ringspot virus* and *Prune dwarf virus*. Existing regulations do not allow the planting of trees within this buffer. Allowing for the planting of tested, non-registered trees in the buffer area will allow for more flexibility in the locations of registered blocks while maintaining consistent quality and cleanliness for registered stock.

This subsection also establishes a 300-foot buffer from any *Pyrus sp.* plants not registered with the Pome Fruit Tree Registration and Certification Program, and a one-half mile buffer from any commercial orchard planting of *Prunus sp.* or *Pyrus sp.* plants. Existing regulations do not establish a buffer from *Pyrus sp.* plants. The requirement for a buffer from *Pyrus sp.* plants in addition to *Prunus sp.* plants is necessary, as both are hosts for disease agents of concern for the program.

This subsection also establishes that trees maintained within a greenhouse or screenhouse be planted in rows 36 inches apart and planted within each row 30 inches apart. Existing regulations establish planting standards for outdoor trees, but do not refer to or set standards for planting within a greenhouse or screenhouse. The proposed standards are based on accepted practices among horticultural experts and the nursery industry.

This subsection also establishes that vegetation within 25 feet around each tree must be under sufficient control to allow for inspection. Existing regulations prohibit the any vegetation within 25 feet around each tree. Allowing controlled vegetation is necessary to provide for improved soil maintenance methods and other best cultural practices in field plantings.

The proposed planting location and maintenance requirements for the G1, G1a, and G2 levels of registration were reviewed by the Department and the working group and determined to be reasonable and consistent with the intent of the R&C Program.

The proposed subsection 3015.4(c) outlines the planting location and maintenance requirements for a G3 nursery increase and G3 rootstock increase block. This subsection establishes a 300-foot buffer from any commercial orchard planting of *Prunus sp.* or *Pyrus sp.* plants. Existing regulations establish a buffer only from commercial peach and nectarine orchards. The requirement for a buffer from all *Prunus sp.* and *Pyrus sp.* plants is necessary, as both are hosts for disease agents of concern for the program.

The proposed subsection 3015.4(d) outlines the planting location and maintenance requirements for a G3 scion block. This subsection establishes a 100-foot buffer from non-registered trees, unless such trees are planted from certified stock and are tested annually for *Prunus necrotic ringspot virus* and *Prune dwarf virus*. This subsection also establishes a 100-foot buffer from any *Pyrus sp.* plants not registered with the Pome Fruit Tree Registration and Certification Program. Existing regulations establish a 300-foot buffer only from commercial peach and nectarine orchards, and do not allow planting within this buffer. Provided a less-restrictive 100-foot buffer and allowing for the planting of tested, non-registered trees in the buffer area will allow for more flexibility in the locations of registered blocks while maintaining consistent quality and cleanliness for registered stock. The requirement for a buffer from all *Prunus sp.* and *Pyrus sp.* plants is necessary, as both are hosts for disease agents of concern for the program.

The proposed subsection 3015.4(e) outlines the planting location and maintenance requirements for a G3 seed block. This subsection establishes a 100-foot buffer from non-registered trees, unless such trees are planted from certified stock and are tested annually for *Prunus necrotic ringspot virus* and *Prune dwarf virus*. Existing regulations do not establish a buffer for seed blocks. The requirement for a buffer area for seed blocks is necessary to help prevent infection by potential seed-borne viruses.

The proposed planting location and maintenance requirements for all blocks at the G3 level of registration were reviewed by the Department and the working group and determined to be reasonable and consistent with the intent of the R&C Program.

The proposed subsection 3015.4(f) outlines the planting location and maintenance requirements for a G4 certified nursery block. This subsection establishes a 300-foot buffer from any commercial orchard planting of *Prunus sp.* or *Pyrus sp.* plants. Existing regulations establish a buffer only from commercial peach and nectarine orchards. The requirement for a buffer from all *Prunus sp.* and *Pyrus sp.* plants is necessary, as both are hosts for disease agents of concern for the program. The proposed requirements

were reviewed by the Department and the working group and determined to be consistent with the intent of the R&C Program.

Section 3015.5, Inspections and Testing Procedures

The proposed amendment of Section 3015.5 will establish that it pertains to "Inspections and Testing Procedures." The proposed amendment will delete the information pertaining to "Application and Fees" and relocate this information to Section 3015.7.

The proposed subsection 3015.5(a) establishes that the Department's authorized agents for testing services are FPS and the Clean Plant Center of the Northwest (CPCNW) located at Washington State University at Prosser. Additional authorized agents for testing services are not established in the existing regulations. Many of the current scientifically accepted testing methods for tree diseases were developed at FPS and CPCNW, and the Department currently receives testing services from both FPS and CPCNW for the R&C Program in addition to tests performed at the Department's own laboratory in Sacramento.

The proposed subsection 3015.5(b) outlines in Table I the diseases and disease agents of concern to the R&C Program and the approved test methods and/or biological indicators for each. The proposed disease list and testing procedures have been modified extensively in order to incorporate new knowledge about the diseases and new technology for detecting the corresponding disease agents.

When existing regulations were implemented in 1984, most of the disease agents of concern to the program were unknown. Scientists have since been able to identify specific viruses that cause the diseases targeted by the program. This subsection incorporates these viruses and updates the corresponding disease and virus nomenclature in accordance with the International Committee on Taxonomy of Viruses and recent scientific publications.

When existing regulations were implemented in 1984, the only ways to detect the diseases of concern to the R&C Program were visual inspections and the use of biological indexing using woody plants. In woody plant indexing, material from the candidate tree is grafted onto the indicator tree, and then the indicator tree is planted or maintained in the field where it is observed periodically for symptoms over up to two years. For some diseases, such as prune dwarf, bark near the bud site is removed to check for symptoms.

Recently, methods for biological indexing in a greenhouse setting using a peach seedling, *Prunus persica* 'GF 305', have been developed and accepted as an effective and more rapid test for many of the diseases of concern.

This subsection updates the list of approved woody indicator plants and adds other scientifically accepted tests to the list of approved test methods in Table I. Besides indexing using the peach seedling and other woody plant indexing methods, the updated list includes herbaceous indexing, enzyme-linked immunosorbent assay (ELISA), polymerase chain reaction (PCR), and high throughput sequencing.

Herbaceous indexing is conducted by extracting tissues from the candidate tree and rubbing the extract onto leaves of an indicator plant. The indicator plant is maintained in a greenhouse or laboratory for an incubation period of 10-14 days, after which the indicator plant will show characteristic symptoms if a disease agent is present.

ELISA is a serological test that utilizes antibody reactions for known disease agents. In wide use in plant pathology since the 1980's, it is a relatively simple and inexpensive method to obtain results in a short period of time (one or two days). ELISA has been used by FPS and the Department for the detection of *Prunus necrotic ringspot virus* (PNRSV) and *Prune dwarf virus* (PDV) since the early 1990's.

PCR is a molecular assay that targets the genetic material of known disease agents. To develop a PCR assay, a specific molecular sequence unique to the disease agent in

question is identified. This unique sequence is amplified during the PCR process so that even trace amounts of the disease agent are detectable.

High throughput sequencing, also known as next-generation sequencing, is a modern technology that can be used to determine the genomic sequence of an organism or the entire microbial profile of a specific sample. Millions or billions of DNA strands can be sequenced in parallel, yielding substantially more data and minimizing the cost when compared with other sequencing methods. High throughput sequencing is widely used as a detection technique for plant pathogens worldwide.

The proposed changes in testing methods are necessary help ensure the disease status of certified materials is accurately and reliably determined, and that all tests will be performed using current scientifically accepted methods. The lists of diseases and disease agents of concern and approved testing methods were reviewed by the Department and the working group and determined to be consistent with the intent of the R&C Program.

The proposed subsection 3015.5(c)(1) outlines the testing requirements for candidate trees intended to be planted in a G1 foundation or G1a parent block. The G1a parent level of certification is new to these proposed regulations. Testing requirements for trees intended for planting in G1 foundation and G1a parent blocks are equivalent, and were reviewed by the Department and the working group and determined to be consistent with the intent of the R&C Program.

The proposed subsection 3015.5(c)(2) outlines the testing requirements for trees planted in a G1 foundation block, G1a parent block, and G2 mother block. The G1a parent level of certification is new to these proposed regulations. The testing requirements for trees planted in G1 foundation, G1a parent, and G2 mother blocks are equivalent, and were reviewed by the Department and the working group and determined to be consistent with the intent of the R&C Program.

The proposed subsection 3015.5(c)(3) outlines the testing requirements for trees planted in a G3 scion block. This subsection establishes that such trees shall be tested for PNRSV and PDV each year that scion wood is harvested, and no more than two years after planting in the block, and that trees shall be tested annually thereafter regardless of harvest. Existing regulations only require testing each year scion wood is harvested. Annual testing of established G3 scion blocks is necessary to help ensure continued cleanliness of all registered trees.

The proposed subsection 3015.5(c)(4) outlines the testing requirements for trees planted in a G3 seed block. This subsection establishes that such trees shall be tested for PNRSV and PDV within five years of propagation and each year thereafter that seed is harvested, and that trees shall be tested at least once every five years, regardless of harvest. Existing regulations only require testing prior to registration of the tree. Regular testing of G3 seed blocks is necessary to help ensure continued cleanliness of registered seed source trees.

The proposed testing requirements for G3 scion and G3 seed blocks were reviewed by the Department and the working group and determined to be reasonable and consistent with the intent of the R&C Program.

The proposed subsection 3015.5(d) establishes that the Department may approve use of scientifically accepted test methods that are not listed in Table I. The proposed subsection 3015.5(e) establishes that the Department must publish a notice of such approval for participants and the public. The ability to incorporate new testing technologies as they are available and determined to be scientifically valid is necessary help ensure the disease status of certified materials is accurately and reliably determined, and that all tests will be performed using current scientifically accepted methods. Public notice of the use of new testing methods is necessary the help ensure continued confidence in the R&C Program.

The proposed subsection 3015.5(f)(1) outlines the inspection requirements for trees planted in a G1 foundation, G1a parent, and G2 mother block. This subsection establishes that such trees shall receive at least two visual disease inspections each growing season. Existing regulations only require one inspection each year. Inspection twice per year is necessary to help ensure that the plants are inspected when visual symptoms for diseases of concern are present.

The proposed subsection 3015.5(f)(2) outlines the inspection requirements for trees planted in a G3 scion and G3 seed block. This subsection establishes that such trees shall receive at least one visual inspection each growing season. For trees in a scion block, existing regulations only require one inspection of trees each year scion wood is harvested. For trees in a seed block, existing regulations only require one inspection prior to registration of the tree. Annual inspections of these blocks are necessary to help ensure continued cleanliness of these registered trees.

The proposed subsection 3015.5(f)(3) outlines the inspection requirements for trees planted in a G3 nursery increase and G4 certified nursery block. The subsection establishes that such trees shall receive at least one visual inspection each growing season, and an additional inspection of nursery stock at the time of digging. Existing regulations do not require an inspection during digging. An inspection at the time of harvest is necessary to help ensure root and graft health of certified stock. This requirement is consistent with the regulations for other registration and certification programs administered by the Department.

The proposed inspection requirements for all levels of registration were reviewed by the Department and the working group and determined to be reasonable and consistent with the intent of the R&C Program.

Section 3015.6, Refusal, Suspension, or Cancellation of Registration or Certification

The proposed adoption of Section 3015.6 will establish that it pertains to “Refusal, Suspension, or Cancellation of Registration or Certification.”

The proposed subsection 3015.6(a) outlines the conditions that may result in suspension of registration for any tree or planting. The proposed subsection 3015.6(b) outlines the conditions that may result in cancellation or refusal of registration or certification for any tree or planting. In the existing regulations, the conditions for refusal, suspension, or cancellation of registration or certification are located in subsection 3015.3(c).

These subsections establish that registration or certification for a tree may be refused, suspended, or canceled if a condition exists that would hinder or prevent the accurate determination of disease and pest status, trueness to variety, or other requirements. This provision is necessary to help ensure consistent enforcement by the Department, is consistent with the regulations for other registration and certification programs administered by the Department, and was reviewed by the working group and determined to be consistent with the intent of the R&C Program.

These subsections do not include restrictions regarding the use of registered stock. Existing regulations establish in subsection 3015.3(c) that registration or certification for a tree may be refused, suspended, or canceled if registered stock from that tree is not used primarily to produce certified stock. It was determined by the Department and the working that this provision was not necessary to ensure consistent application and enforcement of the regulations.

The proposed subsection 3015.6(c) establishes that registration of a block or portion of a block of trees may be canceled or refused if specific percentages of the block are found to be diseased. These rates of infection are:

- Five percent or more of the total number of trees in a G3 seed block.
- Five percent or more of the total number of trees in a G4 certified nursery block.
- One percent or more of seedlings of the same variety in a seed bed.
- One percent or more of trees of the same variety with the same kind of rootstock in a G3 nursery increase block.

In existing regulations, the rates of infection established in subsection 3015.3(c) are: more than one-half percent of trees of the same variety with the same kind of rootstock in an increase block, and more than two percent of trees of the same variety with the same kind of rootstock in a certified block. These less-restrictive standards were reviewed by the Department and the working group and determined to be sufficient to help ensure the continued cleanliness of certified stock and consistent with the intent of the R&C Program.

The proposed subsection 3015.6(d) outlines the requirements for disposition of suspended and canceled trees. Disposition of suspended and canceled trees is not addressed in existing regulations. This subsection establishes that suspended trees may be retained in the planting, and that they must be clearly identified and that records of their status must be maintained. This subsection also establishes that propagative materials from a suspended tree may maintain their registered status while tests to determine the disease status of the source tree are pending, at the Department's discretion. This subsection also establishes that propagative materials from canceled trees are considered common stock, and that canceled trees must be removed from registered blocks in a time period prescribed by the Department. The proposed requirements are consistent with those in the regulations for other registration and certification programs administered by the Department, and were reviewed by the Department and the working group and determined to be reasonable and consistent with the intent of the R&C Program.

The proposed subsection 3015.6(e) outlines the requirements for reinstatement of suspended trees and blocks. Reinstatement of suspended trees or blocks is not addressed in existing regulations. This subsection establishes that registration or certification may be reinstated if the Department determines that suspension is no longer necessary in order to meet the requirements of the program. This subsection also establishes that registration or certification may be reinstated if the trees test negative for the disease(s) infecting their propagative source. The proposed requirements are consistent with those in the regulations for other registration and

certification programs administered by the Department, and were reviewed by the Department and the working group and determined to be reasonable and consistent with the intent of the R&C Program.

Section 3015.7, Application and Fees

The proposed adoption of Section 3015.7 will establish that it pertains to “Application and Fees.” In the existing regulations, the requirements for applications and fees are located in Section 3015.5.

The proposed subsection 3015.7(a) outlines the application requirements for participation in the R&C Program and registration and/or certification of trees. This subsection establishes that the participant will submit an application on establishment of a block, when trees are added to the block, and each year thereafter to request continued registration. An application must be submitted within two months of adding trees to a G4 certified nursery block, and within six months of adding trees to any other registered block. Existing regulations require an application on establishment of a block, but do not specify what other situations require an application or any timeframes for submittal.

This subsection also specifies the information the participant is required to provide on the application. Existing regulations do not address what information is required.

These application requirements are necessary to ensure a common understanding of the application process for all applicants. The proposed requirements are consistent with those in the regulations for other registration and certification programs administered by the Department, and were reviewed by the Department and the working group and determined to be reasonable and consistent with the intent of the R&C Program.

The proposed subsection 3015.7(b) outlines the fee requirements for participation in the R&C Program and for the registration and/or certification of trees. This subsection

establishes that the Department may waive fees for the R&C Program if the cost of the services rendered is covered by assessment. Currently, the costs of the services rendered for the R&C Program are covered by the assessment on fruit trees, nut trees, and grapevines established under Food and Agricultural Code, Section 6981.

Section 4603(h), Deciduous Fruit and Nut Tree Registration and Certification Fees

Section 4603 contains the Department's schedule of fees for services rendered by the Department, including certification, inspection, and testing of nursery stock. The proposed amendment of Section 4603 will add subsection (h) pertaining to "Deciduous Fruit and Nut Tree Registration and Certification Fees."

The amendment of Section 4603 is necessary for the Department to recover its costs for providing such non-regulatory services and to enable the client that requests the service to understand the Department's costs and billing procedures.

The proposed subsection 4603(h) outlines the fees for participation in the R&C Program. This subsection establishes that the Department waives fees for the R&C Program, as the cost for services rendered are covered by the assessment on fruit trees, nut trees, and grapevines established under Food and Agricultural Code, Section 6981.

Economic Impact Analysis

The proposed amendments to the regulation will provide an updated regulatory framework for an established voluntary program, and will modify the program's requirements in order to incorporate new knowledge about diseases, new technology for detecting disease agents, and new practices available for excluding diseases and vectors. There is no economic impact on businesses that choose not to enter the program.

In 2015, the R&C Program had 11 participants statewide. All R&C Program costs are currently paid for through the Fruit Tree, Nut Tree, and Grapevine Improvement Advisory Board (IAB) assessment.

The Department is not aware of any existing registered or certified blocks that do not already comply with the requirements of the proposed regulations.

Multiple participants have stated their intent to establish registered plantings not eligible in current regulations, such as tissue culture lines and a G1a parent block. Methods for confirming the eligibility and compliance of these new blocks will need to be developed and standardized. The total number of these new blocks is unknown, but is expected to be small relative to the existing registered and certified blocks.

Current testing methods for PNRSV and PDV are being incorporated into the regulations; therefore, there would be no increase in regular sample collection or testing costs. Testing methods used may be reviewed by the Department and industry over time to ensure efficiency and effectiveness; use of alternative testing methods included in the regulations could result in increased or decreased costs for the participants or the Department.

It is projected that the fund for the IAB assessment will have sufficient income to cover the cost of any additional R&C Program activities by CDFA staff, such as the inspection and approval of registered tissue culture lines, without seeking an increase in assessment rate.

There are no projected economic losses that will result from compliance with the proposed regulations.

Anticipated Benefits from This Regulatory Action

The proposed amendments to the regulation will clarify the requirements for certification for participants, and allow for use of modern technologies and production practices.

This regulation will also clearly identify and use common language for certification levels and requirements to allow for improved communication for interstate and international trade of California-certified materials. This regulation will also help increase consumers' confidence in cleanliness for diseases of concern, will help prevent the spread of disease agents of concern to non-infected trees in California, and will help maintain the high quality of certified fruit and nut tree nursery stock.

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 amendment of Sections 3015, 3015.1, 3015.2, 3015.3, 3015.4, and 3015.5, and the adoption of Sections 3015.6, 3015.7, and 4603(h), 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 amendments to the regulation modify the requirements for an established voluntary program. There is no economic impact on businesses that choose not to enter the program. Fees and/or assesments 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 amendments should benefit deciduous fruit and nut nursery stock producers who are participants by increasing the availability of nursery stock that has been tested and found negative for specified diseases. Deciduous fruit and nut producers should also benefit through the increased availability of registered and certified trees enabling them to avoid significant losses in fruit and nut 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 as and less burdensome to affected private persons than the proposed action.

The Department considered taking no action. If no action is taken, there will be decreased confidence of cleanliness and decreased clarity among consumers and receiving departments of agriculture, resulting in decreased sales by participants. Participants will not be able to use modern production practices to produce certified

materials, putting them at a competitive disadvantage with nurseries in neighboring states.

Information Relied Upon

The Department is relying upon the following studies, reports, and documents in proposing the amendment of Sections 3015, 3015.1, 3015.2, 3015.3, 3015.4, and 3015.5 and the adoption of Sections 3015.6, 3015.7, and 4603(h):

State Level Model Regulatory Standard: Virus-Tested Certification Program for *Prunus*, *Malus*, *Pyrus*, *Chaenomeles*, and *Cydonia* Nursery Stock Production Systems, National Clean Plant Network – Fruit Trees, October, 2012.

Regional Standards for Phytosanitary Measures (RSPM) No. 35: Guidelines for the Movement of Stone and Pome Fruit Trees and Grapevines into a NAPPO Member Country, North American Plant Protection Organization, October 19, 2009.

Meeting summary, dated March 17, 2015, Deciduous Fruit & Nut Tree Regulations Working Group.

Meeting summary, dated June 3, 2015, Deciduous Fruit & Nut Tree Regulations Working Group.

Meeting summary, dated July 28, 2015, Deciduous Fruit & Nut Tree Regulations Working Group.

Meeting summary, dated November 10, 2015, Deciduous Fruit & Nut Tree Regulations Working Group.

Osman, F., et al. 2012. Evaluation of the Phytosanitary Status of the *Prunus* Species in the National Clonal Germplasm Repository in California: Survey of Viruses and Viroids. Journal of Plant Pathology 94 (1): 249-253.

Lang G., et al. 1998. Sweet Cherry Rootstock/Virus Interactions. Acta Hort. 468:307-314.

Lang, G., and Howell, W. 2001. Lethal Sensitivity of Some New Cherry Rootstocks to Pollen-Borne Viruses. Acta Hort. 557: 151-154.

Howell, W., and Lang, G. 2001. Virus Sensitivity of New Sweet Cherry Rootstocks. The Compact Fruit Tree 34 (3): 78-80.

Hadidi, A.H., Barba, M., Candresse, T., and Jelkmann, W. 2011. Virus and Virus-Like Diseases of Pome and Stone Fruits. The American Phytopathological Society, St. Paul, MN. 429 pages.

Workload assessment of Deciduous Fruit and Nut Tree Registration and Certification Program, dated December 5, 2016.