

DEPARTMENT OF FOOD AND AGRICULTURE
PROPOSED CHANGES IN THE REGULATIONS

Title 3, California Code of Regulations

Section 3435 subsection (bd)

Asian Citrus Psyllid Interior Quarantine

INITIAL STATEMENT OF REASONS/

POLICY STATEMENT OVERVIEW

Description of Public Problem, Administration Requirement, or Other Condition or Circumstance
the Regulation is Intended to Address

This regulation is intended to address the obligation of the Department of Food and Agriculture to protect the agricultural industry from the movement and spread of injurious plant pests within California.

Specific Purpose and Factual Basis

The specific purpose of Section 3435(d) is to provide authority to the State to regulate the movement of hosts and possible carriers of Asian citrus psyllid (ACP), *Diaphorina citri*, from and within the regulated area.

The factual basis for the determination by the Department that the amendment of this regulation is necessary is as follows:

~~The infestation of the Asian citrus psyllid (ACP), *Diaphorina citri*, the vector of Huanglongbing disease (HLB) of citrus, is spreading through the movement of bulk citrus shipments within the existing quarantine areas. The Department proposed an amendment that prohibits the movement of bulk citrus within the quarantine areas, except for shipments moved under the terms of a special permit as authorized under Title 3, Section 3154 of the California Code of Regulations. The adoption of this regulation is necessary for an immediate action to avoid serious harm to the public peace, health, safety or general welfare, within the meaning of Government Code Section 11342.545 and Public Resources Code Section 21080. The Department uses Geographic Information Systems (GIS) mapping programs to plot locations of all the detections of ACP. As a result, based upon the criteria contained in the existing USDA regulatory protocol, the Department determined that there are new infestations of ACP requiring the expansion of the existing State ACP quarantine area. Some of these new ACP detections~~

~~are located along transportation corridors; the inference made is that these new infestations are derived from vehicles and that trucks moving bulk citrus are likely potential pathways. Previously, the artificial movement of ACP within the currently quarantined areas was viewed as contributing few adverse impacts, as the insect was already present in these areas or was readily able to disperse to these areas via natural means.~~

By itself, ACP causes only minor cosmetic damage to citrus trees. However, when it becomes infected with Huanglongbing (HLB or citrus greening), it becomes a carrier for the disease and can transmit the HLB-associated bacteria from the fourth nymphal instar through the adult stage with a latency period as short as one day or as long as 25 days. HLB was first identified in China in 1919 and is considered to be the most devastating of all citrus diseases. Once infected, there is no cure for HLB infected citrus trees, which decline and die within a few years. Additionally, the fruit produced by infected trees is not suitable for either the fresh market or juice processing due to the significant increase in acidity and bitter taste.

HLB has been detected in Los Angeles and Orange Counties. The confirmed infested trees have been removed. However, the HLB disease has a latency period of up to two years prior to being able to detect it through existing laboratory testing procedures. Although the Department has and continues to conduct extensive surveys for HLB, the disease is still likely to be present in some areas where it was previously detected, and it may well be present in other areas where it has not yet been detected. ACP has the capability of being able to transmit HLB prior to being able to detect it by existing laboratory techniques. Therefore, controlling ACP within as well as from the quarantine area is critical in controlling HLB, even in the apparent absence of the disease's presence. The movement of one ACP through the movement of infested bulk fruit may result in a new HLB infestation. Transport of uncovered and/or untreated citrus fruit increases the odds that artificial spread of ACP will occur unabated within the quarantine area and, if HLB occurs in a specific area below detectable levels, the ACP/HLB complex would be able to begin its ~~devastating~~ devastating destruction in that area, or in any area to which it is transported. Therefore, it remains critical to continue to prevent the artificial spread of ACP over long distances.

Both ACP and HLB are federal action quarantine pests subject to interstate and international quarantine restrictions by the United States Department of Agriculture (USDA). Both ACP and HLB now occur in Mexico and HLB has continued to spread to the north and now occurs south of the State of Sonora. In mid-January of 2012, HLB was confirmed in the Rio Grande Valley of Texas. In December, 2011 HLB was first detected in Hacienda Heights in Los Angeles County. In January, 2017 HLB was detected in Anaheim in Orange County. As of June, 2017 new finds of HLB have necessitated the expansion of the HLB Interior Quarantine in both these counties. All of these areas had been previously included in the ACP Interior Quarantine. It is imperative that the Department prevent the artificial spread of ACP wherever possible to ensure the devastating damage caused by HLB is limited to the smallest area possible.

California is the number one economic citrus state in the nation, with nearly 180,000 acres of commercial citrus in 2016. [The California Agricultural Statistics Review for 2015-16 puts the value of citrus \(Grapefruit, Oranges, and Navels\) at \\$823,744,000.00 \(California Agricultural Statistics Review, 2015-16; pg 60\).](#) ~~[The USDA putting the value of California citrus at over \\$1,156,305,000 in 2013 \(California Agricultural Statistics 2013 Crop Year, USDA National Agricultural Statistics Service, April, 2015\).](#)~~ A 2002 report by the Arizona State University School of Business indicates that there is at least \$825.6 million of direct economic output and another \$1.6 billion when all upstream suppliers and downstream retailers are included. This represents over 25,000 direct and indirect employees. To protect this source of revenue, California must do everything possible to exclude both HLB-associated pathogens and ACP from the state.

A study by the University of Florida Extension calculated and compared the impact of having and not having HLB present. Their economic analysis concluded HLB had a total impact of \$3.64 billion and eliminated 0.08 percent of the total Florida workforce. For 2008 in Florida, the estimated increased production costs for citrus range from \$266 to \$332 million. There are approximately 600,000 acres of citrus in production in Florida. This translates into increased production costs of \$443 to \$553 per acre. This estimate is based upon an eight dollar per tree replacement cost. In addition, citrus fruit production has declined by 55% in Florida from 2008 to 2015. Much of this reduction can be attributed to the effects of HLB (Hodges, 2015).

In California, the estimated cost to replace a tree is from \$10 to \$20. Using a cost of \$15 per tree would push the projected production costs up to \$450 to \$550 per acre. The estimated

citrus acreage in 2015 in California is approximately 272,000 acres. The projected increased citrus production costs in California would be at least \$130.5 to \$159.5 million.

Therefore, it was necessary to amend this regulation by requiring a Cooperative Agreement specifying shipment protocols and pest sanitation measures for bulk citrus movement in California, both within quarantined areas and from quarantined to non-quarantined areas.

Project Description

The effect of the amendment of this regulation is to implement the State's authority to perform quarantine activities against the ACP within the currently quarantined area.

Background

The California citrus industry has taken a great deal of responsibility in preparing for the introduction and establishment of HLB-associated bacteria and psyllid vectors. Funding has been allocated towards research on easy, early (i.e., pre-clinical) detection methods (i.e., one primer set to detect all strains rather than primer sets specific for each known strain; host systemic responses) and the identification of HLB-associated bacterial strains, and vector relationships. In addition, a public relations firm has been hired to determine the most effective and efficient methods to educate the general public and make them feel as though they are part of the solution. Industry leaders (research and marketing boards) are involved in procuring federal funds for national research programs in the areas of host plant resistance, etiological agents and variants of HLB, specific native and exotic natural enemies of the insect vectors, and pesticide efficacy and new chemistries.

California citrus industry leaders recognized how Florida was at a loss of ample supplies of HLB-free citrus stock when the pathogen was detected in 2005. As a result, plans are underway to expand the greenhouse facility at the UC Lindcove Research and Extension Center that houses the industry's pathogen-free budwood source to allow for the protection of additional varieties. Other alternatives are being considered to protect valuable citrus propagation sources, germplasm, and breeding material such as isolated and/or protected locations and tissue culture. For long-term survey and management, the industry may pursue the formation of pest control districts.

In Florida and countries where HLB exists, insecticides have been a first line of defense to eliminate the psyllid vector, thereby reducing the spread of the HLB-associated pathogens. Applying insecticide sprays at critical flushing periods in order to kill psyllid nymphs may be an effective method of HLB. In accordance with integrated pest management principles (IPM), the Department will evaluate all appropriate mechanical, biological, cultural and treatment control options which may be efficacious to prevent the artificial spread of HLB infested ACP. If a treatment option is chosen, as insecticide use registrations vary between crops and urban areas and between fruit trees and ornamentals, any treatment program will need to be tailored to each situation.

The implementation of biological control methods (the use of beneficial organisms to attack pest populations) will be an important component of an integrated pest management program to reduce populations of the ACP. As there are no known native psyllids in California citrus, exotic natural enemies from the pest's area of origin may need to be imported into the United States or from Florida under strict quarantine protocols. There may be some generalist predators such as the coccinellid beetles that will come into citrus from other habitats but to what extent these would be effective is not known at this time. Natural enemies obtained from commercial sources or mass reared by government or industry personnel can be periodically released into field situations once the psyllid becomes established.

Populations of ACP in Florida are fed upon by many generalist arthropod predators such as spiders, lacewings, hover flies or syrphids, and minute pirate bugs, and are attacked by a number of parasites. The coccinellids exert the greatest amount of control. Two lady beetles, *Olla v-nigrum*, which is native to California and *Harmonia axyridis*, are the most important predators of ACP nymphal stages in Florida. *H. axyridis* was imported from Japan to control the pecan aphid and is established in parts of California. Two tiny parasitic wasps have been imported and released in Florida. *Tamarixia radiata* was imported from Taiwan and Vietnam, and *Diaphorencyrtus aligarhensis* was imported from Taiwan. *Tamarixia radiata* has already been imported into California and releases of this parasitoid have occurred.

On November 17, 2016 a policy briefing paper prepared by Neil McRoberts of UC Davis, Carla Thomas of UC Davis, Beth Grafton-Cardwell of UC Riverside, and Matt Daugherty of UC Riverside was distributed reevaluating the effectiveness of best management practices to meet the performance standard of no ACP/HLB dispersal via bulk citrus movement from and within quarantined areas. Their conclusion was that the current official standards are failing to prevent the spread of ACP via road transport of citrus fruit within the quarantine area. In order to reduce the risk of further spread along transportation corridors, they recommend containment of bulk citrus shipments within quarantine areas.

Using evidence from California ACP finds along transport corridors such as Route 99 (e.g., PDRs SA0P06618088, VS0P06605509, VS0P06606397 from Kern County and PDRs SA0P06618104, SA0P06617744, SA0P06617727 from Tulare County), as well as evidence from Florida, the authors concluded that passive transport on bulk citrus fruit loads massively increases the rate of spread of ACP across the landscape under current conditions. The authors proposed a plan for stopping the spread of ACP via this pathway. In order to prevent the spread of ACP and HLB, immediate emergency action must be implemented to ensure consistent compliance with new performance measures to prevent the escape of pests by those transporting bulk citrus within the quarantine area by containment of bulk citrus shipments.

Under the Emergency Action, all bulk citrus movement from or within quarantine areas must be done under a special permit issued by CDFA. By modifying the compliance agreements associated with this special permit, California can implement performance measures, such as tarping or enclosing all bulk citrus loads, that prevent the continued spread of ACP along citrus transport corridors within the quarantine areas. In addition, the harmonization of permitted practices for bulk citrus movement both from and within quarantine areas improves the ability to enforce standards; previous standards were problematic to enforce, as there were differing conditions specified for bulk citrus shipments within and from quarantine areas. Because of the failure of current practices to meet the performance standard of no ACP transport via bulk citrus shipment, this change in the regulation was promulgated as an Emergency Action to protect the citrus industry and consumers of California.

On November 2, 2016, the Secretary of Agriculture signed a memorandum approving the motions of the California Citrus Pest and Disease Prevention Committee, including a recommendation of requiring mandatory tarping of all bulk citrus movement within quarantine areas. This illustrates industry support for recommendations of the briefing paper of how to stop the escape of ACP by regulating the movement of bulk citrus fruit within the quarantine area under the conditions of the special permit.

The USDA cannot regulate less than an entire state unless the state has a regulation amendment which is substantially the same as what the existing federal rule requires for interstate movement. The Department needs to have the immediate authority to regulate host fruit material from being shipped intrastate outside the proposed quarantine area. In addition, the spread of ACP within quarantine areas will speed the spread of ACP to new areas within the quarantine area and increase the chances of the spread of HLB. Therefore, the Department needs to have the immediate authority to regulate host fruit material being shipped intrastate within the proposed quarantine area. If the Department fails to support a quarantine on an emergency basis, the USDA may consider quarantining all of California in order to immediately prevent the affected host material from shipping interstate. This emergency amendment of this regulation limited the artificial spread of ACP while keeping more onerous federal requirements at the minimum level necessary. Therefore, it is necessary to amend this regulation by requiring that all bulk citrus fruit within the quarantine areas be moved under specially permitted conditions.

California Environmental Quality Act

A Statewide Plant Pest Prevention and Management Program Environmental Impact Report (PEIR) was prepared by the Department as the lead agency under the California Environmental Quality Act. The PEIR addresses the potential impacts and mitigations when implementing the Statewide Plant Pest Prevention and Management Program activities related to ACP. It states in that "an interior quarantine may be established in some areas. Quarantine regulations restrict the movement of hosts and possible carriers of pests from and within quarantine areas so as to prevent the spread of the infestation. Hosts and possible carriers of ACP include (1) nursery stock, plants, and part parts of a number of different types of fruit (e.g. orange, grapefruit, lemon)."

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The PEIR may be accessed at the following website:

[http://www.cdfa.ca.gov/plant/peir/.](http://www.cdfa.ca.gov/plant/peir/)

~~“Specific actions necessary to prevent or mitigate an emergency” are exempt from the California Environmental Quality Act (CEQA). Public Resources Code Section 21080(b)(4). “Emergency” means a sudden, unexpected occurrence, involving a clear and imminent danger, demanding immediate action to prevent or mitigate loss of, or damage to, life, health, property, or essential public services.” Public Resources Code Section 21060.3.~~

Economic Impact Analysis

California is the number one economic citrus state in the nation, with the USDA putting the value of California citrus at \$1,131,851,000 (Federal Register Vol. 71 No.83; published May 1, 2006; pg 25487). [The California Agricultural Statistics Review for 2015-16 puts the value of citrus \(Grapefruit and Oranges\) at \\$823,744,000.00 \(California Agricultural Statistics Review, 2015-16; pg 60\).](#) -A 2002 report by the Arizona State University School of Business indicates that there is at least \$825.6 million of direct economic output and another \$1.6 billion when all upstream suppliers and downstream retailers are included. This represents over 25,000 direct and indirect employees. In 2010 the estimated value rose to \$2.1 billion for citrus fruit and \$28.5 million for citrus nursery stock without all the upstream buyers and downstream retailers included (Reference: *John Gilstrap of California Citrus Nursery Board for citrus nursery stock value and USDA-National Agricultural Statistics Service 2010 data for citrus fruit*).

To protect this source of revenue, California must do everything possible to prevent the artificial movement of ACP within the State to uninfested areas as it is the only mobile vector of HLB present in California.

A recent study by the University of Florida IFAS Extension calculated and compared the impact of having and not having HLB present in Florida. Their economic analysis concluded HLB had a total impact of \$3.64 billion and eliminated 0.08 percent of the total Florida workforce. ~~For 2008 in Florida, the estimated increased production costs for citrus range from \$266 to \$332 million.~~ There are approximately 600,000 acres of citrus in production in Florida. This translates into increased production costs of \$443 to \$553 per acre. This estimate is based upon an eight dollar per tree replacement cost. In California, the estimated cost to replace a tree is from \$10 to \$20. This would increase California’s production costs per acre. In Florida and California

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plantings of 218 trees per acre are common. Using \$15 as the replacement cost in California would increase the cost per acre by \$1,526 (218 X seven dollars) over that in Florida. The estimated citrus acreage in 2008 in California is approximately 290,000 acres. Assuming all other production costs are similar to Florida's, the projected increased citrus production costs in California could be over \$500 million.

~~The Department's Emergency Quarantine Response Program estimates its costs per year to enforce this quarantine expansion will not significantly increase as a result of this action. The existing ACP CDFA/USDA office is nearby this expansion and the only costs will be for gasoline and inspector's time for travel to this new area. ACP host material cannot move within the ACP quarantine area unless it is treated and found free from ACP. There are two citrus production nurseries in the affected area that will be impacted the most. They will need to apply approved treatments every ninety days to ship within the quarantine area or to ship to a non-citrus producing state. Treatment costs will range from \$2.24 per plant to \$9.46 per plant depending on whether the nursery conducts the treatments or hires an outside applicator. In order ship outside of the quarantine area, the nurseries will need to grow the nursery stock within an USDA approved ACP Exclusionary facility and apply approved treatments only prior to shipment. The approximate cost of an exclusionary facility is \$148,754-\$180,000 per individual structure which covers one half to one acre. There are four retail nurseries in the affected area. They will need to purchase pre-treated trees or apply the approved treatments.~~

~~There are approximately 11,500 licensed nurseries in the entire State. The majority of these, especially the citrus production nurseries, are located outside the regulated area. Without this State ACP quarantine regulation, the USDA would regulate the entire State. Therefore, nurseries with similar interstate business plans would be expected to have increased costs without this State regulation. The Department does not have any way to approximate this total cost.~~

There are ~~38 citrus growers in the proposed area~~4,422 citrus growers and 429 bulk citrus transporters in California. A minority of these currently ship bulk citrus within the quarantine zone unenclosed. There ~~is~~are additional costs to growers who take their fruit to a packinghouse inside the current quarantine area if they currently do not enclose their bulk loads.

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~~Growers choosing a packinghouse outside the quarantine area have three options: 1. Conduct pre-harvest treatments with an approved pesticide while fruit is still on the trees; 2. Field clean the fruit to remove leaves and stems during harvest; 3. Send the fruit to a packinghouse within the quarantine to be cleaned. Pre-harvest treatments cost growers approximately \$60 per acre and are required to be covered with a tarp while in transit. Tarps range in price from \$2,500-\$3,000 a piece. Growers and shippers that already move bulk citrus in the enclosed or tarped loads will not incur additional costs. As many shippers already cover or enclose bulk citrus loads, it is not likely this added cost for some shippers will affect jobs or the number of businesses in California.~~

~~Field cleaning the fruit will cost the grower approximately \$150-\$320 per acre depending on the citrus variety. Field cleaned fruit do not require a tarp for transport and can be moved within or from the quarantined area. Cleaning at a packinghouse within the quarantine will cost the grower approximately \$300-\$400 per acre and the fruit must remain within the quarantine area, although the loads do not need to be covered with a tarp. There are seven citrus packinghouses within this additional quarantine area.~~

Anticipated Benefits from This Regulatory Action

Existing law, FAC section 403, provides that the department shall prevent the introduction and spread of injurious insect or animal pests, plant diseases, and noxious weeds.

Existing law, FAC section 407, provides that the Secretary may adopt such regulations as are reasonably necessary to carry out the provisions of this code which she is directed or authorized to administer or enforce.

Existing law, FAC section 5321, provides that the Secretary is obligated to investigate the existence of any pest that is not generally distributed within this State and determine the probability of its spread, and the feasibility of its control or eradication.

Existing law, FAC section 5322, provides that the Secretary may establish, maintain, and enforce quarantine, eradication, and such other regulations as are in her opinion necessary to circumscribe and exterminate or prevent the spread of any pest which is described in FAC section 5321.

The existing law obligates the Secretary to investigate and determine the feasibility of controlling or eradicating pests of limited distribution but establishes discretion with regard to the establishment and maintenance of regulations to achieve this goal. The amendment of this regulation benefits the citrus industries (nursery, fruit for domestic use and exports, citrus packing facilities) and the environment (urban landscapes) by having a quarantine program to prevent the artificial spread of ACP over long distances. Most all of the commercial citrus fruit and nursery stock production is located outside this proposed quarantine boundary area.

This amendment provides the necessary regulatory authority to prevent the artificial spread of a serious insect pest; ~~this which~~ is a mandated statutory goal.

FAC Section 401.5 states, “the department shall seek to protect the general welfare and economy of the state and seek to maintain the economic well-being of agriculturally dependent rural communities in this state.” The amendment of this regulation is preventing the artificial spread of ACP ~~to uninfested areas of within~~ the State. HLB is generally distributed in Florida due to ACP being generally distributed there. The University of Florida IFAS Extension calculated and compared the impact of having and not having HLB present in Florida and concluded HLB had a total impact of \$3.64 billion and eliminated 0.08 percent of the total Florida workforce. The overall California economy benefits by the amendment of this regulation which is intended to prevent ACP from becoming generally distributed in California and resulting in a similar affect on our economy as to what happened in Florida. This is now critical as HLB has been introduced into California.

The California, national and international consumers of California citrus benefit by having high quality fruit available at lower cost. It is assumed that any increases in production costs will ultimately be passed on the consumer.

The amendment of this regulation benefits homeowners who grow citrus for consumption and host material which is planted as ornamentals in various rural and urban landscapes.

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 within California; or 3) affect the expansion of businesses currently doing business within California. Additionally, the Department has been conducting quarantine actions throughout the State for over 30 years without creating or eliminating businesses.

The Department is the only agency which can implement plant quarantines. 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 of Savings to Public Agencies or Affected Private Individuals or Entities

The Department of Food and Agriculture has determined that the amendment of Section 3435(~~db~~) does not impose a mandate on local agencies or school districts and no reimbursement is required under Section 17561 of the Government Code. Each county commissioner in a regulated county requested the State to implement the regulated areas in their county.

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 adoption and subsequent amendments of Section 3435(~~d~~).

The cost impact of the changes in the regulations on private persons and businesses are expected to be ~~insignificant~~ less than significant.

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

California citrus is recognized for its quality and sold throughout the United States. Even in citrus producing states such as Florida, California citrus is widely available to consumers and is often labelled as such as a guarantee of fruit quality. Any actions that preserve the quality and reputation of California citrus enhance the competitiveness of the California citrus industry. The prevention of HLB is crucial to California preserving the availability of quality citrus.

The USDA's Federal Domestic Quarantine Order for ACP only restricts the interstate movement of host commodities produced in portions of California under State quarantine regulation for ACP. The USDA cannot amend their regulation prior to the State amending its regulation. If the State's regulation is not substantially the same as the federal order, the USDA cannot regulate less than the entire State. The emergency amendment to Section 3435(d**b**) was necessary to enable the USDA to amend its federal order to prevent the USDA from regulating the entire State.

Some of the businesses selling host material and located outside the current regulated area are also interstate shippers. Therefore, this regulatory action was necessary to protect the entire citrus industry and provides the majority of potentially affected California businesses, which are not located inside the current State regulated area, the continued ability to compete with businesses in other states without unnecessary federal restrictions or prohibitions on California's interstate commerce.

Based on the preceding information, it was determined that the amendment of Section 3435(d**b**), does not have a Statewide adverse economic impact on a representative business or private party. For the vast majority of businesses within the regulated area, no additional costs will be incurred.

Alternatives Considered

The Department has determined that no reasonable alternative it considered or that has otherwise been identified would be more effective in carrying out the purpose for which the action is proposed. In addition, the Department has determined that no reasonable alternative

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would be as effective as or 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.

One of the Department's statutory mandates is to prevent the spread of harmful pests. The amendment of this regulation is necessary to prevent the further artificial spread of ACP as part of an existing ongoing ACP quarantine project. No other interested party has suggested an alternative to this existing regulation.

~~The Department of Food and Agriculture must determine that no reasonable alternative considered by the agency or that has otherwise been identified and brought to the attention of the agency would be more effective in carrying out the purpose for which the action is proposed, 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.~~

Information Relied Upon

The Department relied upon the following studies, reports, and documents in the proposed adoption of Section 3435(d):

California Agricultural Statistics 2013 Crop Year. USDA National Agricultural Statistics Service, April, 2015.

Hodges, A. W. 2015. Economic Contributions of the Florida Citrus Industry in 2014-2015 and for Reduced Production. University of Florida, IFAS Extension, Gainesville.

2016 California Citrus Acreage Report. 2016. California Department of Food and Agriculture.

Economic Analysis-CCR 3435 Asian Citrus Psyllid- Expand Quarantine in Tulare County

Email dated May 28, 2014 from Marilyn Kinoshita to Stephen Brown.

Economic Impacts of Citrus Greening (HLB) in Florida, 2006/07-2010/11. University of Florida IFAS Extension, Gainesville.

Federal Register, Vol. 76, No. 81, dated April 27, 2011, Docket No. APHIS-2010-0048, Citrus Canker, Citrus Greening and Asian Citrus Pysllid; Interstate Movement of Regulated Nursery Stock.

“New Pest Response Guidelines, Citrus Greening Disease,” dated June 2, 2008, United States Department of Agriculture, Animal and Plant Health Inspection Service.