DEPARTMENT OF FOOD AND AGRICULTURE

PROPOSED CHANGES IN THE REGULATIONS

Title 3, California Code of Regulations

Section 3435 subsection (b)

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 (Department) 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 is to provide authority to the State to regulate the movement of hosts and possible carriers of Asian citrus psyllid (ACP), *Diaphorina citri*, from the regulated area.

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

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.

On April 15, 2016 (PDR # SA0P06568244), one adult ACP was identified from the Delano area of Kern County. This detection meets the State and federal regulatory protocols for expanding the quarantine in the Delano area in the county of Kern.

The Agricultural Commissioner of Kern County requested that a quarantine be expanded on April 28, 2016. The quarantine expansion adds 111 square miles.

The Department determined there are zero growers of citrus, zero citrus packing houses, zero citrus production nurseries, and zero retail nurseries that will be impacted.

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 introduced into the Hacienda Heights area of Los Angeles County. It remains critical to continue to prevent the artificial spread of ACP over long distances. The Department has confirmed that just outside the existing quarantine boundary there are citrus groves, a green waste facility and at least one nursery.

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. Additionally, in July of 2009 ACP nymphs were intercepted in a plant shipment from India sent to the Fresno area which tested positive for HLB. 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 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). 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.

The current 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 seven 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. 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 2008 in California is approximately 290,000 acres. The projected increased citrus production costs in California would be at least $130.5 to $159.5 million.

The USDA cannot regulate less than an entire state unless the state has a quarantine regulation which is substantially the same as what the existing federal rule requires for interstate movement. The Department needed to have the immediate authority to prevent host material from being shipped intrastate outside the proposed quarantine area. Once the Department amends its regulation, this will enable the USDA to amend their federal regulation or order. If the Department fails to implement a quarantine on an emergency basis, the USDA may consider quarantining all of California in order to immediately prevent the affected nursery from shipping interstate.

Therefore, it was necessary to amend this regulation by expanding the Delano area of Kern County as an emergency action.

Project Description

These proposed emergency actions will expand the quarantine area for ACP by approximately 111 square miles. The proposed boundary lines were drawn jointly by USDA, the Department, and the Kern County Agricultural Commissioner. The criterion for determining quarantine boundaries around an epicenter was based upon the information obtained from the USDA. The entire counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, San Diego, Santa Barbara, Tulare and Ventura are already under quarantine for ACP. The total proposed quarantine area is now approximately 53,092 square miles.

The effect of the amendment of this regulation is to implement the State's authority to perform quarantine activities against the ACP in the Delano area of Kern County. Any quarantine actions undertaken by the Department will be in cooperation and coordination with the USDA and the affected county agricultural commissioner.

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 screenhouse 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.

During ACP workshops held in Riverside on June 11 and 12, 2009, several critical presentations were made regarding the ACP/HLB vector disease complex including the following:

1. FundeCitrus (a research institute funded by Brazilian farmers and the juice industry) staff described the devastating impact of HLB in Brazil. HLB was present in one out of every 30 groves in 2004 but spread to one in five by 2008. FundeCitrus and the citrus industry lobbied

successfully for a federal law which, since 2005, makes it an offense to leave a HLB-infected orange tree planted once laboratory tests have diagnosed the disease. Subsequent data showed less than one percent of trees were infected after the federal law became effective.

2. AVASA (the national certification program in Spain) staff described the Spanish citrus certification program which, since 1996, has required 100 percent of citrus propagative source materials to be produced under screen.

3. A Florida citrus nurseryman described the impact of ACP, HLB and citrus canker on the Florida citrus industry and the resulting regulations. Two counties were known to be infected with HLB in 2005. By 2008, HLB had been identified in 32 counties. Florida hopes to manage HLB by a three pronged approach: starting with disease-free nursery trees (all citrus nursery stock and the propagative sources of the stock must be maintained in insect-resistant structures), scouting for and removing infected trees and controlling the ACP.

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 IPM Program to reduce populations of 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. *Tamaraxia radiata* has already been imported into California and releases of this parasitoid have occurred.

California Environmental Quality Act

A Statewide Plant Pest Prevention and Management Environmental Program Environmental Impact Report (EIR) was prepared by the Department as the lead agency under the California Environmental Quality Act. The EIR addresses the potential impacts and mitigations when implementing the Statewide Plant Pest Prevention and Management Program activities related to ACP.

The PEIR may be accessed at the following website:
http://www.cdfa.ca.gov/plant/peir/

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). 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 Institute of Food and Agricultural Sciences 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 seven 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 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**.** 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 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 is no additional cost to growers who take their fruit to a packinghouse inside the current quarantine area. 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. 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 no known specific benefits to worker safety or the health of California residents. The Department is not aware of any specific benefits the amendment of this regulation will have to the protection of public safety of California residents or worker safety. Based upon the economic analysis, the Department believes the amendment of this regulation benefits the general welfare of California residents (GC Section 11346.3(b)).

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 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 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 seven 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 has determined that the amendment of Section 3435(b) 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.

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

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:

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(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(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 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 emergency amendment of this regulation was 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.

Information Relied Upon

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

"Pest and Damage Record # SA0P06568244", California Department of Food and Agriculture, Plant Health and Pest Prevention Services.

Letter dated April 28, 2016 from Ruben J. Arroyo, Kern County Agricultural Commissioner, to Secretary Karen Ross.

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

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.