

DEPARTMENT OF FOOD AND AGRICULTURE
PROPOSED CHANGES IN THE REGULATIONS

Title 3, California Code of Regulations

Section 3435 Subsections (b) and (c)

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

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

On September 16, 2005, the United States Department of Agriculture (USDA), Animal and Plant Health Service (APHIS), issued a Federal Order to impose restrictions on the interstate movement of Asian citrus psyllid (ACP), *Diaphorina citri*, host material and citrus greening (CG) host material from quarantined areas in Florida in order to prevent the artificial spread of CG and ACP. APHIS subsequently issued revised Federal Orders on May, 3, 2006, October 30, 2007, November 2, 2007, January 11, 2008, June 5, 2008 and June 24, 2008. On July 14, 2008, APHIS issued its last Federal Order as a result of finding ACP and CG in Louisiana. Under this last Federal Order, 1) the entire State of Florida and Orleans parish, Louisiana are regulated for CG; 2) portions of the States of Texas and Louisiana for ACP; and, 3) the entire States of Florida and Hawaii, entire Territory of Guam, and the Commonwealth of Puerto Rico, for ACP.

CG is also referred to as Huanglongbing (HLB), which is associated with several species of the genus *Candidatus Liberibacter* a phloem-limited, uncultured bacteria. HLB is also referred to as “yellow dragon disease” and “yellow shoot disease.” The spread of the CG-associated bacteria is primarily via the insect vectors, the ACP and the African citrus psyllid (*Trioza erytreae*). Once a psyllid acquires the bacterium, it retains it for life. The ACP is of most concern to California citrus growers because it is established in Florida, Louisiana, Texas, Hawaii and Mexico and poses a more immediate threat of introduction from these areas. It also occurs elsewhere, such as Brazil, China, Cuba and the Caribbean. The African citrus psyllid is found in eastern Africa, Saudi Arabia, Yemen, and occasionally in the Canary Islands and Madeira.

The Federal Order prohibits the interstate movement of nursery stock host material from an ACP regulated area to any other citrus-producing state. Additionally, all host fruit must be cleaned, washed and packed at a packing facility located with the regulated area prior to its being eligible for interstate shipment. The USDA cannot regulate less than an entire state which has an ACP infestation unless the affected state adopts its own regulation pertaining to the intrastate movement requirements which are substantially the same as the federal restrictions pertaining to the interstate movement requirements. Texas has already adopted an ACP quarantine and Louisiana is in the process of adopting a regulation.

Once infected, there is no cure for the CG 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. For these reasons, CG is considered the most devastating of all citrus diseases and is even listed as a “select agent” under federal regulation.

On June 27, 2008, APHIS provided notification that ACP was confirmed in Tijuana, Mexico. The ACPs were first collected from a residential property located approximately two miles from Mexico’s border with California. In response to the detections in Tijuana, Mexico, on July 14, 2008, the Department developed draft “ACP Detection, Delimitation, and Treatment Guidelines.” These guidelines are based in part on the USDA New Pest Response Guidelines for Citrus Greening Disease (Floyd and Krass 2008) and the Department’s Glassy-Winged Sharpshooter Statewide Survey & Delimitation Protocols as of 2002 [Revised March 2008] (CDFA 2008). Additional information came from Grafton-Cardwell et al. (2006).

These guidelines include detection protocols that are designed to enhance the statewide protocols for urban, rural residential, cropland, and nursery survey with intensified survey protocols being proposed in those counties bordering Mexico (San Diego, Imperial).

The Urban and Rural Residential Detection Survey uses yellow panel traps at a density of five traps per square miles, serviced weekly and the traps are replaced and relocated every six weeks to another host at least 500 feet away (if other hosts are available). Additionally, visual surveys and the use of sweep nets are conducted once at each trapping site when the trap is placed or relocated at that site. Finally, twenty sites per square mile are visually inspected and sweep-netted each month. These sites are rotated each month if hosts are available at alternate sites.

The Nursery Detection Survey uses yellow panel traps at a density of five traps per acre, traps are placed in or near hosts and in and around holding areas designated for incoming shipments. The traps are serviced weekly, are not rotated and are replaced every six weeks or sooner if needed. A monthly visual survey is also conducted.

In order to know what to inspect, the Department combined the ACP host list contained in the Federal Order issued on July 14, 2008 with the ACP host list sent to Florida nurseries on September 14, 2005, by the Florida Department of Agriculture and Consumer Services.

On September 5, 2008, the Department placed over 1100 square miles in San Diego under quarantine for ACP. This area was expanded by 630 square miles on September 17, 2008, again expanded on October 29, 2008 at which time a portion of Imperial County was also added. On December 4, 2008, the regulated area in Imperial County was expanded. A portion of Riverside County was added to the regulated area on March 18, 2009.

Effective August 27, 2009

On August 18, 2009, (Pest and Damage Record #1443225) five ACP adults were detected in the Santa Ana area of Orange County. This met the criteria for expanding the regulated area into Orange County as it was indicative of an additional incipient infestation in the area. The detection was located centrally within Orange County and required the expansion of the

regulated area to include all of Orange County. The introduction of ACP imposed federal quarantine requirements on the interstate movement of regulated commodities from the regulated areas of California. Therefore, the new quarantine boundary expansion for Orange County was developed in cooperation with the USDA and the Orange County Agricultural Commissioner. The boundary was also based upon the existing survey data the Department and counties had generated on knowing where ACP does not occur.

Effective August 31, 2009

On August 24, 2009, (Pest and Damage Record #1443227) an adult ACP was trapped in the Los Angeles area of Los Angeles County. This met the criteria for further expanding the regulated area into Los Angeles County as it was indicative of an additional incipient infestation in the area. The detection in the somewhat central portion of Los Angeles County required the expansion of the regulated area to include all of Los Angeles County. The new quarantine boundary expansion for Los Angeles County was developed in cooperation with the USDA and the Los Angeles County Agricultural Commissioner. The boundary was also based upon the lack of a significant amount of ACP survey data for the entire County of Los Angeles and was consistent with the federal orders.

Effective October 30, 2009

On September 23, 2009, (Pest and Damage Record #1263283) an adult ACP was trapped in the Ocotillo Wells area of Imperial County. This met the criteria for further expanding the regulated area in San Diego County as it was indicative of an additional incipient infestation in the area. The area of Imperial County where the find was made was already under quarantine but the proximity of the find to San Diego County necessitated the expansion of the quarantine in that county.

On October 15, 2009 the Department decided to revise the restrictions on the movement of regulated articles within the quarantine area. The addition of Los Angeles and Orange counties to the regulated area added approximately 1000 retail nurseries, 600 production nurseries and 200 green waste handling companies to the area under quarantine. Since the current restrictions on the movement of these regulated articles within the quarantine area were no longer biologically justified based upon the extent of the infestation; and the current restrictions could not be enforced equitably in a biologically meaningful time frame (it is physically

impossible for the Department to conduct timely periodic inspections of 1000 retail and 600 production nurseries), this created an urgent need to amend the regulation. The Department hosted a HLB/ACP Task Force meeting on October 14, 2009. At this meeting, the Task Force identified the movement of green waste within the regulated area as being a low risk. This was due in part to California Integrated Waste Management Board (CIWMB) mandates and regulations governing the movement of green waste within the State and the fact that ACP host material is an extremely minor component of the actual green waste moved. Finally, the adult life stages of ACP drop off any foliage when it is disturbed and are not known to be attracted to curbside piles of green waste. The current restrictions on movement of green waste were causing it to accumulate in the counties of Los Angeles and Orange, creating a public health and safety hazard and conflicting with CIWMB mandates and regulations pertaining to the disposal of green waste. Therefore, the Department removed restrictions on green waste movement within the quarantine area. Concomitant with the removal of this restriction, the Department deleted the exemption allowed in 3435(c)(5)(D) since it was no longer necessary. The highest risk commodity for potentially moving ACP out of the regulated area is through the nursery stock which is sold at the retail level to consumers and who may inadvertently move the nursery stock outside the regulated area. It is imperative that nursery stock from within the quarantine area not move outside the area. In order to help ensure this does not happen, the Department instituted a requirement that nursery stock sold or distributed within the regulated area must be treated in a manner approved by the Department and bear labels stating that it may not be moved outside the quarantine area. This accomplished two things: it clearly informed consumers of the regulatory requirement and, should some nursery stock be inadvertently moved, it eliminated the risk of the stock being infested with ACP when it is moved outside the regulated area. In addition to the above, the Department revised the restrictions on nursery stock transiting the quarantine area. When Los Angeles and Orange counties, through which major US and State highways pass, were added to the quarantine area, this added several hundred miles to the movement of nursery stock originating from businesses outside the quarantine area since the nursery stock could not legally transit the regulated area. There are citrus nurseries in central and northern California which ship interstate through southern California. The Department identified a manner in which this could be accomplished which was biologically sound. Forcing shippers of citrus nursery stock to bypass southern California's highways for interstate access when it is not biologically sound to do so places an unfair regulatory burden on these businesses. Therefore, it was necessary to amend the regulations

on an emergency basis to allow safe transit of commodities originating outside the regulated area through the quarantine area.

Effective November 16, 2009

On October 21, 2009, (Pest and Damage Record (PDR) #1492627) two adult psyllids were trapped in the Desert Shores area of Imperial County. This detection location left the regulated area of Imperial County unaffected. However, it necessitated the expansion of the quarantine boundaries to west of Borrego Springs in San Diego County (approximately 80 square miles) and included all of the Coachella Valley in Riverside County (approximately 968 square miles). On October 26, 2009 (PDR #1492559) one adult psyllid was trapped in the Valley Center area of San Diego County, resulting in quarantine boundary extensions in north central San Diego County of approximately 977 square miles, and adding approximately 195 square miles in southwest Riverside County. On October 27, 2009 (PDR #1287826) one adult psyllid was trapped in the Pomona area of Los Angeles County. That detection resulted in quarantine boundary extensions into northwest Riverside County (approximately 159 square miles) and the addition of a regulated area in San Bernardino County of approximately 648 square miles.

Effective November 25, 2009

Due to ACP detections in the area of Yuma, Arizona, the USDA requested that the CDFA place at least a portion of Imperial County under quarantine, and indicated that failure to do so could lead to the entire state being placed under quarantine (e-mail from Osama El-Lissy to Robert Leavitt, dated November 17, 2009). Prior to that request, 4,484 square miles in Imperial County were under quarantine. In a letter dated November 17, 2009, the Imperial County Agricultural Commissioner's office requested that the entire county be placed under quarantine. This amendment expanded the regulated area to include the entire county and added 1,728 square miles to the quarantine in Imperial County.

On November 19, 2009, John Snyder, Riverside County Agricultural Commissioner, requested that the Department expand the quarantine area in his county to include two packing houses that are adjacent to and contiguous with the recently enacted ACP quarantine zone within San Bernardino County. It was necessary to expand the quarantine on an emergency basis because the packing houses in question receive a considerable amount of fruit from the adjacent quarantine zone and other quarantine areas. Unless the quarantine was expanded to include

those packinghouses, the estimated cost to local growers was in excess of 1.5 million dollars to clean the fruit before it arrived at the packinghouse. Those costs did not include the logistics of picking the fruit in one location, moving it to the cleaning equipment, moving it back to the grove where it was originally picked and finally moving it to the packinghouse. This amendment added approximately eight square miles to the quarantine in Riverside County and resulted in a total regulated area of approximately 15,937 square miles.

Additionally, while reviewing the quarantine maps for the proposed expansion, CDFA staff discovered an error in the recently enacted ACP quarantine text. The text for the quarantine boundary line in San Diego County erroneously stated that the boundary line followed the boundary line of the City of Oceanside and the City of Carlsbad. The proposed text was amended to show the correct boundary line along the Santa Margarita River.

The ACP adults are small (three to four mm) with mottled brown wings and typically survive one to two months depending upon temperature. The ACP can transmit the CG-associated bacteria from the fourth nymphal instar through the adult stage with a latent period as short as one day or as long as 25 days. The bacterium is thought to replicate in the psyllid.

The ACP completes its life cycle on *Citrus* species and close rutaceous (citrus) relatives. All life stages (eggs, nymphs, and adults) can be found on the new growth or shoot tips. Adult psyllids typically lay their eggs on the tips of growing shoots or in the crevices of unfolded feather-flush leaves. Eggs are almond-shaped and bright yellow-orange. There are five nymphal instar stages. Adults feed on the underside of leaves. Their feeding behavior is characteristic with their bodies lifted at about a 45° angle from the leaf surface. During feeding, large amounts of plant sap are extracted and subsequently excreted as honeydew or waxy tubules. As this insect feeds, it injects a salivary toxin that causes the developing shoots to be malformed; twisted, curled, or laterally notched. In severe cases, the shoot tips will die. In addition, infested leaves may be covered with white waxy deposits from the psyllids and sooty mold that grows on the large amounts of honeydew excreted by the psyllids. In Florida, the ACP was found before symptoms of CG were observed, and this could certainly occur in California.

ACP is found on four continents and numerous islands. It is widespread in southern China, Southeast Asia, India, Indonesia, and New Guinea. On the African continent, it is limited to

Saudi Arabia. In South America, ACP is well established in Brazil and is also found in Paraguay, Venezuela, Bolivia and up through Central America. On the mainland of the United States ACP is well established in Florida and Texas. There are large populations in Hawaii on the islands of Hawaii, Maui and Oahu. In addition, it is known to occur in over 15 states in Mexico and in Cuba.

The probability is high that a private citizen, tourist or immigrant will introduce the CG-associated bacterium into California through the inadvertent movement of plant material including fruit from their homeland or areas visited to their backyard in a residential area. CG-infected trees do not live long and this scenario may be self-eliminating, at least until the psyllid arrives. One possible explanation for the Florida situation is that numerous backyard citrus trees had been infected with CG but in the absence of a vector, it went unnoticed. Once the ACP became established, it moved the CG-associated bacteria from backyards into commercial groves. The movement of both CG-associated bacteria and the ACP appear to have been accelerated through the movement of *Murraya* and citrus plants through retail nurseries and garden centers, especially of the nationwide chain stores.

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. 71No.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 CG-associated pathogens and ACP from the state.

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 estimated 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.

In 2007, the California Institute for Specialty Crops determined that California citrus growers absorb production inputs and state mandated costs greater than producers anywhere else in the nation or the world. To maintain a competitive opportunity, the California citrus industry has to produce a consistently better piece of fruit in greater volume. If the quality of California citrus deteriorates, the California producer loses export opportunity and domestic shelf space. For every 1,000 acres of orange productivity lost, losses of \$1.7 million in output and over \$3.4 million in total state economic activity, including \$1 million in employment income, would result. Should CG-associated bacteria become established throughout California, not just citrus growers but California's economy as a whole would suffer. Further, Federal, State and County regulatory personnel would have increased duties and program costs should survey and eradication activities be implemented. This would further strain an already-impacted State budget.

It should be noted that citrus acreage in Florida has decreased from approximately 858,000 acres in 2005 when HLB was initially detected, to approximately 600,000 acres in 2008. The lost acreage was due to a combination of HLB, citrus canker, hurricanes and real estate investment. However, whatever losses were due to HLB will be even greater in California because most citrus produced is destined for the fresh market, rather than juice as it is in Florida.

When ACP interceptions occur, insect and/or plant samples are collected and sent to a diagnostic laboratory (either USDA or the Department) for insect identification and and/or analysis for CG-associated bacteria. To date, no plant material has tested positive for CG-associated bacteria.

The California citrus industry has taken a great deal of responsibility in preparing for the introduction and establishment of CG-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 CG-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 CG, 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 CG-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 industries 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 CG exists, insecticides have been a first line of defense to eliminate the psyllid vector, thereby reducing the spread of the CG-associated pathogens. Applying insecticide sprays at critical flushing periods in order to kill psyllid nymphs may be an effective method of CG control should CG be introduced into California. Since insecticide use registrations vary between crops and urban areas and between fruit trees and ornamentals, any eradication treatment program will need to be tailored to each situation.

A number of registered insecticides, including insect growth regulators and biocontrol agents of unknown efficacy for ACP control, should be evaluated for potential use:

1. Commercial citrus: methomyl, formetanate, malathion, piperonyl butoxide + pyrethrins, pyrethrins, pyriproxyfen and *Beauveria bassiana* (a fungal biocontrol agent).
2. Nursery citrus: bifenthrin, permethrin, acephate, dinotefuran, Imidacloprid + cyfluthrin, azadirachtin, *B. bassiana*, pyriproxyfen, pyrethrin + rotenone, Kryocide and dinotefuran.
3. Ornamentals: permethrin and acephate.

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 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.

The ACP has the capability of causing significant irreparable harm to California's agricultural industry, especially if CG is also introduced. While the Department's compliance with the California Administrative Procedure Act and the California Environmental Quality Act (CEQA) are separate actions, they can be interrelated. Although adoption of specific regulatory authority can be the beginning of a project and therefore covered by CEQA, this regulation, for the reasons already set forth, constitutes a specific act necessary to prevent or mitigate an emergency as authorized by Public Resources Code Section 21080, subdivision (b) (4) and Title 14, California Code of Regulations Section 15269, subdivision (c). The regulation is also an action required for the preservation of the environment and natural resources as authorized by Title 14, California Code of Regulations, sections 15307 and 15308.

The effect of the amendments of this regulation was to implement the State's authority to perform quarantine activities against the ACP in the infested areas of Imperial, Los Angeles, Orange, Riverside, San Bernardino and San Diego counties and to revise restrictions on

movement of regulated articles within the quarantine area. Movement of green waste within the regulated area was allowed, as was the transit of regulated articles from outside the quarantine area. Nursery stock meeting certain conditions would be allowed to move within the regulated area. Any quarantine actions undertaken by the Department will be in cooperation and coordination with the USDA and the Imperial, Los Angeles, Orange, Riverside, San Bernardino and San Diego County Agricultural Commissioners. It was immediately necessary to implement quarantine actions in order to prevent the artificial spread of ACP to the uninfested areas of California. The total regulated area is now approximately 15,937 square miles.

The USDA cannot regulate less than the entire State unless the State has first adopted a quarantine regulation which is substantially the same as the existing federal quarantine requirements. Therefore, it was necessary to adopt and amend this regulation as emergency actions to prevent the entire State from being regulated by the USDA for ACP.

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

The Department of Food and Agriculture has determined that the adoption and subsequent amendments of Section 3435 do 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 Department has determined there are approximately 1,888 nurseries within the regulated area. The cost of compliance for nurseries was calculated using the average per plant pesticide costs for foliar and drench treatments and the average per plant applicator costs. The assumptions included:

1. At any one time, plants will cover two thirds of the acreage in a nursery;
2. The cost of pesticide per ounce was used;
3. The cost of approved foliar pesticide per plant was determined;
4. The cost of approved drench pesticide per plant was determined;
5. The costs of application were determined;
6. Each nursery had an average of one tenth of an acre of host material; and
7. Each nursery sold one tenth of an acre of host material per year (approximately 719 plants/year).

There are many variables that may impact the actual cost for compliance. There are currently six different foliar and three drench labeled products that are registered for use in California and which may be used for treatment to obtain quarantine certification. The product costs will also vary based upon the given volume purchased at any one time. The method of application, foliar or drenching, affects the cost of application, and the type of material used may affect the length of time the plant material is eligible for quarantine certification.

The length of time to treat an acre varies greatly depending on size of the container holding the nursery stock (one gallon container versus 36" box), the size and spacing of the containers, walkways, roadway, etc.

Other factors that may affect the cost of compliance include:

- How long the nursery stock is held at the affected nursery prior to its sale and the need to have replacement stock in the production cycle.

- Pending sales contracts may vary from nursery to nursery and drive the nursery's choice of approved materials to use.
- Labor costs may vary from nursery to nursery.
- Whether the nursery has a qualified pesticide applicator on site or has to hire one varies from nursery to nursery and size of the nursery may be a factor.
- The availability of the necessary treatment equipment and type of equipment may vary from nursery to nursery.
- There is a substantial difference between start-up and ongoing costs.
- A nursery may have two to three crops per year in its production cycle.

Therefore, rather than there being a single prescriptive treatment, there are a number of possible treatment combinations available to ensure that the performance standard, "treated in a manner to eliminate live life stages of ACP from nursery stock", is met based upon the biological risk of the nursery stock being exposed to a live life stage of ACP.

To calculate the average cost per citrus tree, the Department used a figure of one citrus tree per four square feet. This results in 7,187 container trees per acre based upon the assumption of an average of two thirds of an acre being occupied by plants in the production nursery.

The cost per ounce for approved registered foliar pesticides ranges from a low of \$6.72 to \$8.14 per fluid ounce. Based upon the labeled application rates, the foliar costs per plant range from \$0.004 to \$0.13 per plant. The average cost per plant is \$0.01.

The cost per ounce for approved registered drench pesticides ranges from a low of \$0.47 to \$9.07 per fluid ounce and \$0.52 per tablet. Based upon the labeled application rates, the drench costs per plant range from \$0.08 to \$0.47 per plant. The average cost per plant is \$0.23.

The application of the pesticide accounts for approximately three quarters of the costs. If the nursery hires an applicator, the applicator costs alone can be \$4.37 per plant. If a nursery conducts their own treatments, the costs are approximately \$1 per plant.

The total increased production costs per plant range from a low of \$1.24 (nursery staff performs treatment) to a high of \$4.61 (nursery hires applicator) per plant. It is likely that these increased costs would ultimately be passed on to the consumer.

The cost impact of the changes in the regulations on a representative private person or citrus grower is not expected to be significantly adverse. Initially, there were very few packinghouses within the quarantine area and growers were required to field clean their fruit prior to shipping it outside the quarantine. Costs incurred for field cleaning of such fruit for shipment outside the regulated area is about 0.65 to \$1.00 per field box. According to one grower it was costing nine dollars a bin. The Department believes these costs translate into costs of approximately \$300 per acre for only those growers who do not have access to a packing facility located within the regulated area. The expansion of the quarantine due to these amendments has led to a larger number of packing houses being included in the regulated area which has the effect of lowering grower costs. The Department has also determined that this 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 emergency adoption and subsequent emergency amendments to Section 3435 were necessary to ensure the State's regulation continued to be substantially the same as the federal order. If the State's regulation is not substantially the same as the federal order, the USDA cannot regulate less than the entire State.

Some of the businesses located outside the current regulated area are also interstate shippers. Therefore, this regulatory action was necessary to provide 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 on California's interstate commerce.

Within the quarantine area, the Department has identified 884 yard maintenance businesses that must safeguard all host material being removed from properties within the quarantine area by placing it in plastic bags for disposal at a landfill. The plastic bags are inexpensive and there is no extra material for disposal at a landfill, as it would have been removed anyway.

The Department has also determined there are approximately 26 fruit harvesters, 39 host hauler/transporters, 26 host packers, one processor, 331 growers, 371 cut flower/greenery producers and 753 farmers markets/swap meets. The Department is not aware of any increased costs of compliance for these affected businesses.

Based on the preceding information, it was determined that the amendments of Section 3435, may have an adverse economic impact on some nursery businesses producing or selling host nursery stock within the regulated area, and commercial citrus producers within the regulated area but it is not expected to be significantly adverse to all nurseries or producers. Additionally, the costs are likely to be passed on to the consumer. For the most part, there are a number of optional ways to comply that are available to the affected businesses so they may select the means with the lowest cost and easiest implementation for them. For the majority of businesses within the regulated area, no additional costs will be incurred.

Assessment

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

Alternatives Considered

The Department of Food and Agriculture must determine that no alternative considered would be more effective in carrying out the purpose for which the action is proposed or would be as effective and less burdensome to affected private persons than the proposed action.

Information Relied Upon

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

Email dated November 19, 2009 from Connie Valenzuela to Wendi Wilkinson.

Email dated November 19, 2009 from John Snyder to Wendi Wilkinson.

Email dated November 19, 2009 from John Snyder to Stephen Brown.

Email dated November 19, 2009 from Jim Guthrie to John Snyder.

Email dated November 17, 2009 from Osama El-Lissy to Robert Leavitt.

Letter dated November 17, 2009 from Stephen L. Birdsall to A.G. Kawamura.

Letter dated November 2, 2009 from John Gardner to A.G. Kawamura.

Letter dated October 27, 2009 from John Snyder to A.G. Kawamura.

Pest and Damage Record (PDR) #1287826, dated October 27, 2009, PDR #1492559, dated October 26, 2009, PDR #1492627, dated October 21, 2009, PDR #1263283, dated September 23, 2009, PDR #1443227, dated August 24, 2009, PDR #1443225, dated August 18, 2009, PDR #1317305, dated May 9, 2008, PDR #1309321, dated February 20, 2008, PDR #1308175, dated January 31, 2008, PDR #1464311, dated October 12, 2007, PDR #1463970, dated August 2, 2007, California Department of Food and Agriculture, Plant Health and Pest Prevention Services.

Letter dated August 27, 2009, from Kurt Floren to A.G. Kawamura.

Letter dated August 25, 2009, from Rick Le Feuvre to A.G. Kawamura.

Letter dated March 13, 2009, from John Snyder to A.G. Kawamura.

Letter dated November 26, 2008, from Stephen L. Birdsall to A.G. Kawamura.

Letter dated October 24, 2008, from Stephen L. Birdsall to A.G. Kawamura.

Letter dated October 23, 2008, from Robert G. Atkins to A.G. Kawamura.

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