

FINDING OF EMERGENCY

The Secretary of the Department of Food and Agriculture finds that an emergency exists, and that the foregoing adoption of a 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. Government Code Section 11346.1(a)(2) requires that, at least five working days prior to submission of the proposed emergency action to the Office of Administrative Law, the adopting agency provide a notice of the proposed emergency action to every person who has filed a request for notice of regulatory action with the agency. After submission of the proposed emergency to the Office of Administrative Law, the Office of Administrative Law shall allow interested persons five calendar days to submit comments on the proposed emergency regulations as set forth in Government Code section 11349.6.

The Department does not have a record of any person requesting a notice of regulatory actions under Government Code Section 11346.4(a)(1). Therefore, the provisions of Government Code Section 11346.1(a)(2) do not appear to be applicable to this emergency action as no one has requested such notice.

Description of Specific Facts Which Constitute the Emergency

On June 17, 2010, the United States Department of Agriculture (USDA), Animal and Plant Health Service (APHIS), issued an interim rule "Citrus Greening and Asian Citrus Psyllid; Quarantine and Interstate Movement Regulations, Federal Register, Vol. 75, No. 116."

This federal emergency rulemaking was necessary to prevent the artificial spread of Huanglongbing (HLB), and Asian citrus psyllid (ACP), *Diaphorina citri*, a vector of HLB and it established the areas under quarantine, hosts and restrictions. The rulemaking replaced numerous federal orders which had been issued beginning in September of 2005 (APHIS subsequently issued revised Federal Orders on May, 3, 2006, October 30, 2007, November

2, 2007, January 11, 2008, June 5, 2008, June 24, 2008 and July 14, 2008, August 6, 2008, September 12, 2008, October 1, 2008, April 10, 2009, June 19, 2009, July 29, 2009, November 20, 2009, December 16, 2009 and May 17, 2010.).

On July 14, 2010, the Department's program staff reviewed the new federal rule and determined that the USDA had added four new hosts to the regulation: *Amyris madrensis* (mountain torchwood), *Choisya arizonica* (Arizona orange), *Choisya ternate* (Mexican or mock orange) and *Esenbeckia berlandieri* (Berlandier's jopoy). Additionally, the USDA cannot regulate less than the entire State unless the State has a parallel regulation which regulates the intrastate movement of host material and which is substantially the same as the federal regulation which restricts the interstate movement of host material. Additionally, the immediate amendment of this regulation by adding these four hosts is necessary to prevent the spread of the vector to noninfested areas within the State and beyond, thereby avoiding serious environmental impacts and economic harm to the citizens of California by preventing the possible destruction of thousands of acres of citrus groves when HLB is introduced into California.

Effective September 5, 2008, the Department adopted an emergency ACP Interior Quarantine, Section 3435, which added a portion of San Diego County. The Department has amended this regulation several times as ACP was detected in new areas. The purpose of this quarantine is to prevent the artificial spread of ACP. If these four new hosts are not immediately added to the regulation, private parties or the nursery trade may unknowingly be moving ACP on these hosts to uninfested areas; thus undermining the integrity of the Department's efforts to prevent the spread of ACP.

To remain substantially the same as the new federal regulation and to prevent the artificial spread of ACP, it is necessary to immediately add these four new hosts to Section 3435, Asian Citrus Psyllid Interior Quarantine.

Huanglongbing (HLB), which is associated with several species of the genus *Candidatus Liberibacter*, a phloem-limited, uncultured bacteria is also known as citrus greening (CG).

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.

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.

In response to ACP detections in Tijuana, Mexico, the Department adopted an Asian Citrus Psyllid Eradication Area regulation which was effective on July 24, 2008. Since that time, the Department implemented its “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). The immediate survey plans have two major components, an Urban and Rural Residential Detection Survey and a Nursery Detection Survey.

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 tip 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. 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 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 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.

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.

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/quarantine 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. Nursery stock: bifenthrin, permethrin, acephate, dinotefuran, Imidacloprid + cyfluthrin, azadirachtin, *B. bassiana*, pyriproxyfen, pyrethrin + rotenone, Kryocide and dinotefuran.
2. 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. "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.

The effect of the amendment of this regulation will be to implement the State's authority to regulate these four additional hosts under the current State quarantine regulation for ACP. Any quarantine actions undertaken by the Department will be in cooperation and coordination with the USDA and the affected county agricultural commissioners. It is immediately necessary to implement quarantine actions in order to prevent the artificial spread of ACP to the uninfested areas of California on these new hosts. Therefore, it is necessary to amend this regulation as an emergency action.

The Department also relied upon the following documents for this proposed emergency action:

Email dated July 14, 2010, from Gary Leslie to Stephen Brown.

“Citrus Greening and Asian Citrus Psyllid; Quarantine and Interstate Movement Regulations,” June 17, 2010, Federal Register, Vol. 75, No. 116.

“California Citrus Industry Jockeying for Effective Psyllid, Greening Control,” May 2, 2009, Western Farm Press.

“Expansion of the Citrus Greening Federal Quarantine Area Due to the Presence of the Disease in the Commonwealth of Puerto Rico,” November 20, 2009, United States Department of Agriculture, Animal and Plant Health Inspection Service, Plant Protection and Quarantine.

“2008 California Citrus Acreage Report,” November 21, 2008, United States Department of Agriculture National Agricultural Statistics Service.

“Occurrence and Spread of *Candidatus Liberibacter Asiaticus*, the Causal Agent of Huanglongbing Disease of Citrus in Malaysia,” 2008, Research Journal of Agriculture and Biological Sciences.

“Detection of ‘*Candidatus Liberibacter asiaticus*’ in *Diaphorina citri* and its Importance in the Management of Citrus Huanglongbing in Florida,” 2008, The American Phytopathological Society.

“New Pest Response Guidelines,” June 2, 2008, United States Department of Agriculture, Animal and Plant Health Inspection Service, Plant Protection and Quarantine.

“Citrus Huanglongbing: The Pathogen and its Impact,” September 6, 2007, The American Phytopathological Society.

“Citrus Greening: Questions and Answers,” March 2007, United States Department of Agriculture, Animal and Plant Health Inspection Service, Plant Protection and Quarantine.

Authority and Reference Citations

Authority: Sections 407 and 5322, Food and Agricultural Code.

Reference: Sections 407, 5322, 5761, 5762 and 5763, Food and Agricultural Code.

Informative Digest

Existing law 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 (FAC Section 5321).

Existing law also provides that the Secretary may establish, maintain and enforce quarantine, eradication and other such regulations as he deems necessary to protect the agricultural industry from the introduction and spread of pests (Food and Agricultural Code, Sections 401, 403, 407 and 5322).

Section 3435. Asian Citrus Psyllid Interior Quarantine.

The amendment of Section 3435 will add *Amyris madrensis* (mountain torchwood), *Choisya arizonica* (Arizona orange), *Choisya ternate* (Mexican or mock orange) and *Esenbeckia berlandieri* (Berlandier's jopoy) to the articles and commodities covered. The effect of this amendment is to provide authority for the State to restrict the movement of these new hosts from a regulated area to prevent the artificial spread of ACP to uninfested areas of California.

Mandate on Local Agencies or School Districts

The Department of Food and Agriculture has determined that Section 3435 does not impose a mandate on local agencies or school districts, except that an agricultural commissioner of a county under quarantine has a duty to enforce it. No reimbursement is required under Section 17561 of the Government Code because the affected county agricultural commissioners requested that this regulation be implemented and the addition of these four new hosts will not create a new mandate.

Cost Estimate

The Department has also determined that the regulation will involve no additional costs or savings to any state agency because initial funds for state costs are already appropriated, no nondiscretionary costs or savings to local agencies or school districts, no reimbursable savings to local agencies or costs or savings to school districts under Section 17561 of the Government Code and no costs or savings in federal funding to the State.