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. 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

The light brown apple moth (*Epiphyas postvittana*) was first detected in California on February 27, 2007 in Alameda County and on March 7, 2007, the light brown apple moth (LBAM) was first detected in Contra Costa County. Through the deployment of delimiting detection traps, numerous additional adult male moths were trapped in both counties. As a result, the Department adopted an emergency regulation, Section 3591.20, which became effective on March 21, 2007. The Department continued to deploy detection traps in additional counties. As a result of multiple detections of LBAM, the Department amended Section 3591.20 to add the counties of Marin and San Francisco (effective April 3, 2007); Santa Clara County (effective April 20, 2007); Monterey, San Mateo and Santa Cruz counties (effective April 23, 2007); and, Napa County (effective June 5, 2007). The Department also proposed the emergency adoption of Section 3434, Light Brown Apple Moth Interior Quarantine (effective April 20, 2007). Emergency amendments to Section 3434 were subsequently made adding portions of Alameda, Contra Costa, Marin, Monterey, San Benito, San Mateo and Santa Cruz counties (effective June 6, 2007) and Napa County (effective June 7, 2007).

On May 2, 2007, the United States Department of Agriculture (USDA) issued a federal order regulating the interstate movement of host material from the infested areas of California and all of Hawaii. Another federal order issued was on April 28, 2008 and included Sonoma and Santa Barbara counties.

On June 21, 2007, emergency amendments to the State regulation were effective adding portions of Alameda, Monterey and Santa Cruz counties; and, including all harvested fruits and vegetables as regulated commodities. On July 18, 2007, emergency amendments were effective adding portions of Alameda, Contra Costa, Los Angeles, Marin, Monterey, San Francisco, San Mateo, Santa Clara, Santa Cruz and Solano counties. On August 21, 2007, emergency amendments were effective adding additional portions of the counties of Alameda, Monterey, San Francisco, San Mateo, Santa Clara, Santa Cruz and Solano. On September 28, 2007, emergency amendments were made, primarily to merge some of the regulated areas of Alameda, Contra Costa, Marin, San Francisco, San Mateo and Santa Clara counties into one regulated area. On November 8, 2007, an emergency amendment became effective which increased the regulated areas of Half Moon Bay and Pescadero, San Mateo County; and, the jointly regulated areas of Monterey and Santa Clara counties. Emergency amendments were made adding (San Mateo and Santa Clara counties) and removing areas (Los Angeles, Marin, Monterey, Napa and Santa Clara counties - effective November 29, 2007); removing an area (Oakley, Contra Costa County - effective December 3, 2007); and, on December 21, 2007, several expansions became effective for areas in Contra Costa, San Mateo and Santa Clara counties. Subsequent emergency amendments were made expanding or removing existing regulated areas which were effective on February 4 and 8, March 12, 17, and 21, April 8 and 18, May 2 and 7, 2008 and establishing the Sonoma area of Sonoma County (effective May 2, 2008).

On May 15, 2008, a new regulated area was established in the Martinez area of Contra Costa County; and, areas were expanded in the Vallejo area of Solano County, the Mountain View, Palo Alto and San Jose areas of Santa Clara County and the Belmont,

Redwood City and San Carlos areas of San Mateo County. Subsequent emergency amendments were made effective May 23, June 11 and 16, July 11 and 28, August 13, 18 and 26, September 10 and 23, October 14 and 20, November 12, December 12, 2008; January 14, February 27; March 5, 10 and 30, April 27, May 20 and 26, 2009.

In late October 2007, the USDA established a new regulatory protocol which was distributed to county agricultural commissioners as "Phytosanitary Advisory No. 31-2007." This regulatory protocol was adopted based upon the recommendations of the LBAM Technical Working Group (TWG). The purpose of the protocol is to determine when it is appropriate to initiate or remove interstate regulatory restrictions pertaining to LBAM in response to new detections or the elimination of incipient LBAM populations. A key component of this regulatory protocol is the revision of the triggers for initiating a regulated area. Under the recommendations of the TWG, a single detection (trapping) of a male LBAM more than three miles from another male LBAM, no longer warrants a quarantine response. This is contingent upon the deployment of LBAM traps at the appropriate delimitation levels in buffer areas surrounding the single detection. Prior to this regulatory protocol, the detection of a single LBAM was the agreed upon trigger for initiating a quarantine area. The Department reviewed and concurs with this new protocol and is applying the same criteria contained in it to initiate or remove LBAM regulatory restrictions pertaining to the intrastate movement of regulated articles and commodities.

The Department uses Geographic Information Systems (GIS) mapping programs to plot the locations of all the detections of LBAM. As a result, based upon the criteria contained in the USDA regulatory protocol, the Department determined that there are new infestations of LBAM requiring the expansion of regulated areas.

On November 24, 2008 (Pest and Damage Record (PDR) #1489592), April 20 (PDR #5010068), May 4 (PDR #5010834) and 21 (PDR #5016667), 2009, adult LBAM were trapped in the Pescadero area of San Mateo County. On April 21, 2009 (PDR #5010209),

an adult LBAM was trapped in the San Gregorio area of San Mateo County. These LBAM were trapped within three miles of each other and within one life cycle. This meets the regulatory protocol for expanding the quarantine area in these areas of San Mateo County.

On December 1, 2008 (PDR #1537840), an adult LBAM was trapped in the Graton area of Sonoma County. On May 5 (PDR #1421931) and May 7 (PDR #s 1421989 and 1421986), 2009, adult male LBAM were trapped in the Rohnert Park area of Sonoma County. On May 11, 2009 (PDR #1537933), an adult male LBAM was trapped in the Sebstopol area of Sonoma County. On May 7, 2009 (PDR #s 1537909 and 1537910), adult male LBAM were trapped in the Sonoma area of Sonoma County. These LBAM were trapped within three miles of each other and within one life cycle. This meets the regulatory protocol for expanding the quarantine area in these areas of Sonoma County.

On March 19, 2008 (PDR #1282305) and May 14, 2009 (PDR #5011183), adult male LBAM were trapped in the Hollister area of San Benito County. These LBAM were trapped within three miles of each other and within one life cycle. This meets the regulatory protocol for expanding the quarantine area in this area of San Benito County.

On March 31, 2009 (PDR #1503658), an adult male LBAM was trapped in the Concord area of Contra Costa County. On March 27 (PDR #1454197) and April 27 (PDR #5010480), 2009, adult male LBAM were trapped in the Pittsburg area of Contra Costa County. On April 23 (PDR #5010317) and May 4 (PDR #1503400), 2009, adult male LBAM were trapped in the Pittsburg area of Contra Costa County. On April 28, 2009 (PDR #5010670), an adult LBAM was trapped in the Oakley area of Contra Costa County. On April 29, 2009 (PDR #1503420), an adult LBAM was trapped in the San Ramon area of Contra Costa County. On April 30, 2009 (PDR # 1503010), an adult LBAM was trapped in the Clayton area of Contra Costa County. These LBAM were trapped within three miles of each other and within one life cycle. This meets the regulatory protocol for expanding the quarantine area in these areas of Contra Costa County.

On April 9 (PDR #1502680) and May 14 (PDR #1483243), 2009, adult male LBAM were trapped in the Dublin area of Alameda County. On May 6 (PDR #1502300) and 14 (PDR #1483242), 2009, adult male LBAM were trapped in the Pleasanton area of Alameda County. These LBAM were trapped within three miles of each other and within one life cycle. This meets the regulatory protocol for expanding the quarantine area in these areas of Alameda County.

On April 14, 2009 (PDR #5009856), an adult male LBAM was trapped in the Monte Sereno area of Santa Clara County. On April 15 (PDR #5009867) and 27 (PDR #5010478), adult male LBAM were trapped in the Cupertino area of Santa Clara County. On April 27, 2009 (PDR #5010474), an adult male LBAM was trapped in the Saratoga area of Santa Clara County. On April 28 (PDR #5010454), 30 (PDR #5010825) and June 1 (PDR # 5016640), 2009, adult male LBAM were trapped in the Gilroy area of Santa Clara County. These LBAM were trapped within three miles of each other and within one life cycle. This meets the regulatory protocol for expanding the quarantine area in these areas of Santa Clara County.

On April 6, 2009 (PDR #5008712), an adult male LBAM was trapped in the Los Gatos area of Santa Cruz County. On April 28, 2009 (PDR #5010399), an adult male LBAM was trapped in the Felton area of Santa Cruz County. These LBAM were trapped within three miles of each other and within one life cycle. This meets the regulatory protocol for expanding the quarantine area in these areas of Santa Cruz County.

On April 24 (PDR #1421913) and May 7 (PDR #1421985), 2009, adult male LBAM were trapped in the Benicia area of Solano County. These LBAM were trapped within three miles of each other and within one life cycle. This meets the regulatory protocol for expanding the quarantine area in this area of Solano County.

On May 12 (PDR #5011001) and 18 (PDR #5011301), 2009, adult male LBAM were trapped in the Salinas area of Monterey County. These LBAM were trapped within three miles of each other and within one life cycle. This meets the regulatory protocol for expanding the quarantine area in this area of Monterey County.

On May 13, 2009 (PDR #1536180), an adult male LBAM was trapped in the Yountville area of Napa County. On May 14, 2009 (PDR #1542595), an adult male LBAM was trapped in the Napa area of Napa County. These LBAM were trapped within three miles of each other and within one life cycle. This meets the regulatory protocol for expanding the quarantine area in these areas of Napa County.

LBAM is a highly polyphagous pest that attacks a wide number of fruits and other plants. Hosts occurring in California that are of significant agricultural or environmental concern include, but are not limited to: alder, alfalfa, apple, apricot, avocado, blueberry, blackberry, broccoli, cabbage, camellia, cauliflower, ceanothus, chrysanthemum, citrus, clematis, clover, columbine, cottonwood, currant, cypress, dahlia, ferns, fir, geranium, grape, hawthorn, honeysuckle, kiwi, lupine, madrone, mint, oak, peach, pear, peppers, persimmon, poplar, potato, raspberry, rhododendron, rose, sage, spruce, strawberry, walnut and willow**.** It is an insect species that feeds upon over 250 species of native and ornamental plants. The general area of infestation contains numerous sensitive plant species and habitats. There is a threat for adverse consequences to some of these sensitive species if LBAM becomes permanently established in California.

Prior to the infestations here, this species had a relatively restricted geographic distribution, being found only in portions of Europe, Oceania and Hawaii. The pest is native to Australia but has successfully invaded other countries. The likelihood and consequences of establishment by LBAM have been evaluated in pathway initiated risk assessments. LBAM was considered highly likely of becoming established in the United States and the consequences of its establishment for United States agricultural and natural ecosystems

were judged to be severe. The United States Department of Agriculture, Animal Plant and Health Inspection Service (USDA, APHIS) estimated that approximately 80 percent of the continental United States may be climatically suitable for LBAM.

In its native habitat of Australia, LBAM generally completes three generations annually. More than three generations can be completed if temperatures and host plants are favorable. In southeastern Australia where it is warmer, four generations can be completed. In contrast, two generations occur in Tasmania, New Zealand and in Great Britain. In Australia, generations do not overlap, but they do in Great Britain. As the population builds, LBAM is more abundant during the second generation. Therefore, the second generation causes the most economic damage as larvae move from foliage to fruit. The size of the third generation is typically smaller than the previous two due to leaf fall (including attached larvae) as temperatures decline in autumn. LBAM does not diapause and its continued development is slowed under cold winter temperatures. In cold climates, the pest overwinters as larvae. Because LBAM causes damage in a wide range of climate types in Australia, pest status is not dictated by climate.

LBAM causes economic damage from feeding by caterpillars, which may:

- destroy, stunt or deform young seedlings;
- spoil the appearance of ornamental and native plants; and
- injure deciduous fruit-tree crops, citrus and grapes.

Based upon losses in Australia, annual losses in California are expected to be much higher as the agricultural sector is larger and more variable. Additionally, LBAM, if not eradicated, will cause economic damage to California's export markets due to the implementation of quarantines by foreign and state governments.

Where it occurs, LBAM is difficult to control with sprays because of its leaf-rolling ability, and because there is evidence of resistance due to overuse of the same insecticides.

Conifers are damaged by needle-tying and chewing. Larvae have been found feeding near apices of Bishop Pine seedlings where they spin needles down against the stem and bore into the main stem from the terminal bud. LBAM constructs typical leaf rolls (nests) by webbing together leaves, a bud and one or more leaves, leaves to a fruit, or by folding and webbing individual mature leaves. During the fruiting season, they also make nests among clusters of fruits, such as grapes, damaging the surface and sometimes tunneling into the fruits. During severe outbreaks, damage to fruit may be as high as 85 percent.

Egg masses are most likely to be found on leaves. The larvae are most likely to be found near the calyx or in the endocarp; larvae may also create “irregular brown areas, round pits, or scars” on the surface of a fruit. Larvae may also be found inside furled leaves, and adults may occasionally be found on the lower leaf surface.

LBAM is an actionable pest for the USDA, APHIS and requires the Australian Quarantine and Inspection Service to take corrective actions to prevent this pest from being associated with apples, citrus, pear fruits and other host commodities being exported to the United States. Host fruit exported from New Zealand faces similar restrictions by USDA, APHIS and the New Zealand Ministry of Forestry and Fisheries is responsible for any corrective actions at origin. Any host commodity arriving in the United States that is infested with or contaminated by LBAM is issued a Federal Emergency Action Notice and must be either destroyed, reexported or undergo an appropriate quarantine treatment prior to its release into the United States commerce. Canada and Japan also treat LBAM as a quarantine action pest. The People’s Republic of China requires all host fruit imported to originate from orchards that are free from LBAM.

Wherever LBAM occurs in association with vineyards, it is considered to be a very important agricultural pest. Unless properly managed, LBAM causes substantial risks to crop yield and quality by causing both direct and indirect damage. Emerging larvae in the spring may feed upon both the flowers and newly set fruitlets causing a direct loss in yield.

Later in the year, LBAM larvae feeding on maturing fruit can cause indirect loss by introducing botrytis infections into the grape bunches. As an example, in 1992 in Australia, 70,000 larvae per hectare were documented and caused a loss of 4.7 tons of Chardonnay fruit. Damage in the 1992-93 Chardonnay season at Coonawarra, southern Australia, cost $2,000 per hectare.

In South Australia, LBAM is also a significant pest of apricots and can attack other stone fruit. Peaches are also damaged by feeding that occurs on the shoots and fruit.

The first generation (in spring) causes the most damage to apples while the second generation damages fruit harvested later in the season. Some varieties of apples such as 'Sturmer Pippin' (an early variety), 'Granny Smith' and 'Fuji' (late varieties) can have up to 20 percent damage while severe attacks can damage up to 75 percent of a crop.

In Australia, when insecticides are not applied, typically between five to 20 percent of fruit is damaged, but this can exceed 30 percent. In New Zealand, damage to unsprayed crops commonly reaches 50 percent (Wearing et al., 1991). More information regarding potential economic impact in California may be found in the environmental assessment prepared by USDA at www.aphis.usda.gov/plant_health/ea/downloads/lbam_ea_sc.pdf. In 10 of California's affected counties, it is estimated that LBAM could cause $160 to $640 million in losses. These estimates were derived from the agricultural impacts in Australia and New Zealand. This estimate does not include economic costs to the nursery industry nor to other significant host crops in California such as apricots, avocados, kiwifruit, peaches, etc., grown in other counties.

Exact economic impacts on international and domestic exports are uncertain at this time. California is the nation's leader in agricultural exports and in 2003 shipped more than $7.2 billion in both food and agricultural commodities around the world. Some countries have specific regulations against this pest, and many others consider it a regulated pest that

would not be knowingly allowed to enter. Additional measures, such as preharvest treatments and postharvest disinfestation, would likely have to be taken to ensure that shipments to these countries are free from LBAM. In addition, LBAM is an exotic pest, i.e., it is not established in the continental United States, and therefore other states within the United States would likely impose restrictions on the movement of potentially infested fruits, vegetables and nursery stock. These restrictions could severely impact the domestic marketing of California agricultural products.

The majority of California does have a climate which would favor the LBAM. Additionally, LBAM may have seven or more generations under some California climatic conditions. If unchecked, this would enable LBAM to build higher population levels in California. Given the known economic damages occurring in LBAM's present range, its potential damage to California's environment and agricultural industry could be devastating, especially without adequate control measures.

This proposed change would expand the contiguous regulated area in the counties of Alameda, Contra Costa, Monterey, San Mateo, Santa Clara and Santa Cruz, Solano and Sonoma by approximately 233 square miles. It would expand the contiguous regulated area of Napa, Solano and Sonoma by approximately 62 square miles. It would expand the regulated Hollister area of San Benito County by 22 square miles and the regulated Sebastopol area of Sonoma County by approximately 65 square miles. It would also establish a new regulated area of approximately 34 square miles in the Gilroy area of Santa Clara County. This would result in a total of approximately 3,194 square miles under regulation within the State. The effect of this proposed change to the regulation will be to establish authority for the State to perform quarantine activities against LBAM (*Epiphyas postvittana*) in these additional areas.

Unless the State's LBAM regulation is substantially the same as the LBAM federal regulation and orders, the USDA cannot regulate less than the entire State. As an

example, on January 11, 2008, the USDA issued a Federal Order that expanded its citrus greening (CG) quarantine to encompass the entire State of Florida. This action was a result of the USDA confirming detections of CG in two new Florida counties: Lake and Hernando. Following discussions with the State of Florida, the USDA determined that parallel quarantine actions proposed by the State of Florida were not adequate and, therefore, it was necessary to impose statewide restrictions on the movement of all live host plants and host plant parts from Florida.

Therefore, as there are commercial nurseries located within the proposed regulated area, this emergency amendment to Section 3434 is also necessary to ensure the State's regulation continues to be substantially the same as the federal order issued April 28, 2008, which includes the October 2007 regulatory protocol.

To prevent the spread of the LBAM to non-infested areas in order to protect California's agricultural industry and environment, it is necessary to begin quarantine activities against the LBAM immediately. Therefore, it is necessary to amend this regulation as an emergency action.

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

Federal Domestic Quarantine Order, *Epiphyas postvittana,* (Light Brown Apple Moth), DA-2008-17.

Federal Domestic Quarantine Order, *Epiphyas postvittana,* (Light Brown Apple Moth), DA-2007-42.

For Information/Action, DA-2008-02, dated January 11, 2008, to State and Territory Agricultural Regulatory Officials, from Rebecca Bech and its attachments.

"Pest Profile," updated March 16, 2007, Kevin Hoffman, California Department of Food and Agriculture.

"Lightbrown apple moth, Exotic host plants-common," printed March 13, 2007, http://www.hortnet.co.nz/key/stone/info/hostplnt/iba-exo2.htm.
"Lightbrown Apple Moth Life Cycle," printed March 12, 2007, HortFACT.

"Light Brown Apple Moth, *Epiphyas postvittana,*" printed March 12, 2007, Government of South Australia.

"Light brown apple moth development calculator," printed March 12, 2007, NSW Department of Primary Industries.

"Light brown apple moth in citrus," June 2006, Primefact Number: 216.

"Botrytis and the Light Brown Apple Moth," undated, Bayer CropScience.

"Light Brown Apple Moth Procedures for USA Citrus Export Program," updated June 2006.

"China Export Quarantine IPM Guide," January 2006, Steven Falivene, NSW, DPI.

"Mini Risk Assessment, Light Brown Apple Moth, *Epiphyas postvittana* (Walker), [Leptidoptera: Tortricidae], September 21, 2003, Department of Entomology, University of Minnesota.

"Pests and Pest Management, Impact on Climate Change," February 2000, Dr. Robert W. Suthherst, CSIRO Entomology.

Letter dated May 19, 2009 from Rick Landon to A.G. Kawamura.

Letter dated April 28, 2008, from Lisa Correia to A.G. Kawamura.

Letter dated March 17, 2008, from William D. Gillette to A.G. Kawamura.

Letter dated July 12, 2007, from Kurt E. Floren to A.G. Kawamura.

Letter dated July 11, 2007, from Jearl D. Howard to A.G. Kawamura.

Letter dated June 1, 2007, from David R. Whitmer to A.G. Kawamura.

Letter dated May 25, 2007, from Ken Corbishley to A.G. Kawamura.

Letter dated May 24, 2007, from Paul J. Matulich to A.G. Kawamura.

Letter dated May 4, 2007, from Eric Lauritzen to A.G. Kawamura.

Letter dated May 4, 2007, from Gail M. Raabe to A.G. Kawamura.

Letter dated April 11, 2007, from Greg Van Wassenhove to A.G. Kawamura.

Letter dated April 4, 2007, from Scott T. Paulsen to A.G. Kawamura.

Letter dated April 3, 2007, from Edward P. Myer to A.G. Kawamura.

Letter dated April 2, 2007, from Dennis F. Bray to A.G. Kawamura.

Letter dated March 30, 2007, from Stacy Carlsen to A.G. Kawamura.

Authority and Reference Citations:

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

Reference: Sections 407 and 5322, 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 3434. Light Brown Apple Moth Interior Quarantine.

The proposed amendment of Section 3434(b) will expand the contiguous regulated area in the counties of Alameda, Contra Costa, Monterey, San Mateo, Santa Clara and Santa Cruz, Solano and Sonoma by approximately 233 square miles. It will expand the contiguous regulated area of Napa, Solano and Sonoma by approximately 62 square miles. It will expand the regulated Hollister area of San Benito County by 22 square miles and the regulated Sebastopol area of Sonoma County by approximately 65 square miles. It will also establish a new regulated area of approximately 34 square miles in the Gilroy area of Santa Clara County. This would result in a total of approximately 3,194 square miles under regulation within the State. The effect of this amendment of the regulation is to establish the authority for the State to perform quarantine activities against LBAM in this additional area.

Mandate on Local Agencies or School Districts

The Department of Food and Agriculture has determined that Section 3434 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 these changes to the regulation be made.

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.