

FINDINGS REGARDING A TREATMENT PLAN FOR THE JAPANESE BEETLE

Between June 4 and July 20, 2020, a total of 92 Japanese beetles (JB), *Popillia japonica* Newman, were trapped in the communities of Arden-Arcade and Rancho Cordova, Sacramento County. Based on the survey data, pest biology, information from the California Department of Food and Agriculture (CDFA) Japanese Beetle Science Advisory Panel (JBSAP), recommendations provided to me by the CDFA Primary State Entomologist, and the CDFA “Action Plan for Japanese Beetle *Popillia japonica* (Newman),” I have determined that an infestation of Japanese beetle exists in the area.

The JB is originally from Japan, and was first found in the U.S. in 1916 in New Jersey. Both as adults and as grubs (the larval stage), the JB is a destructive plant pest. Adults feed on the foliage and fruits of several hundred species of fruit trees, ornamental trees, shrubs, vines, and field and vegetable crops. Among the plants most commonly damaged are apple, pears, caneberries, pears, blueberries, cherries, plums, corn, rose, grape, crabapple, turf grass and beans. Adults leave behind skeletonized leaves and large, irregular holes in leaves. The grubs develop in the soil, feeding on the roots of various plants and grasses and often destroy turf in lawns, parks, golf courses, and pastures. Today, JB is the most widespread turf-grass pest in the United States. Efforts to control the larval and adult stages are estimated to cost more than \$460 million a year. Losses attributable to the larval stage alone have been estimated at \$234 million per year — \$78 million for control costs and an additional \$156 million for replacement of damaged turf (USDA Program Aid No. 1599, Managing the Japanese Beetle: Homeowner’s Handbook, revised 2015). Additionally, as a general feeder, the JB likely poses a serious threat to the general environment and to some of California’s threatened and endangered species.

In order to prevent the spread of JB through the movement of aircraft, the USDA maintains a Japanese Beetle Federal Domestic Quarantine, 7 CFR 301.48 and a companion manual “Japanese Beetle Program Manual for Airports.” The National Plant Board has representatives from each state’s agricultural department. On March 4, 2016, it issued a revised “U.S. Domestic Japanese Beetle Harmonization Plan.” This plan governs the movement of nursery stock between states to ensure JB is not artificially spread. Finally, the Department maintains the Japanese Beetle Exterior Quarantine, Section 3280, Title 3, California Code of Regulations, to prevent the artificial introduction of JB into the State. In 2007, the Oregon Department of Agriculture conducted an economic risk analysis for the impact of JB in Oregon. They concluded that the estimated crop damage costs to be \$32,110,400 and estimated quarantine costs to be \$2,312,832 if JB were not controlled. As the value of California’s affected industries are substantially larger than Oregon’s, the economic impacts would be substantially higher. In addition, quarantines would target the movement of California produced nursery stock, which was valued at \$3.41 billion in 2017.

This decision to proceed with treatment is based upon a realistic evaluation that it will be possible to eliminate JB from this area and prevent its spread using currently available technology in a manner that is based on an action plan developed in consultation with the JBSAP. Due to the size of the infested area and the number of beetles detected, historical data indicates that eradication is possible. The first California detection occurred in Los Angeles County in 1951, and the first infestation occurred in Sacramento County in 1961; in the following years, occasional re-introductions have been detected and successfully eradicated. In making this decision, the CDFA has evaluated possible treatment methods. In accordance with integrated pest management principles, the following is the list of options that have been

considered for the treatment of this JB infestation: 1) physical controls; 2) cultural controls; 3) biological controls; and 4) chemical controls.

Based upon input from professional staff and outside experts familiar with JB, I have concluded that there are no physical, biological, or cultural control methods that are effective to treat the JB that allow the CDFA to meet its statutory obligations. To eradicate JB, I am ordering a soil treatment that is applied using ground-based equipment. The treatment will be performed using either a liquid formulation or dry granular formulation of Acelepryn® (chlorantraniliprole) that is applied to the soil surface over vulnerable roots in turf and ground cover. A description of this method is in the Work Plan summary below and in the enclosed Work Plan. This method was selected based upon biological effectiveness, minimal public intrusiveness, cost, and minimal impacts to the environment.

A Program Environmental Impact Report (PEIR) has been prepared which analyzes the JB treatment program in accordance with Public Resources Code (PRC), Sections 21000 et seq. The PEIR was certified in December 2014, and is available at <http://www.cdca.gov/plant/peir/>. The PEIR addresses the treatment of the JB at the program level and provides guidance on future actions against the JB. It identifies feasible alternatives and possible mitigation measures to be implemented for individual JB treatment activities. The JB program has incorporated the mitigation measures and integrated pest management techniques as described in the PEIR. In accordance with PRC Section 21105, this PEIR has been filed with the appropriate local planning agency of all affected cities and counties. No local conditions have been detected which would justify or necessitate preparation of a site specific plan.

Sensitive Areas

The treatment area has been reviewed by consulting the California Department of Fish and Wildlife's California Natural Diversity Database for threatened or endangered species. The CDFA also consults with the United States Fish and Wildlife Service, the National Marine Fisheries Service and the California Department of Fish and Wildlife when rare and endangered species are located within the treatment area. Mitigation measures will be implemented as needed. The CDFA will not apply pesticides to bodies of water or undeveloped areas of native vegetation. All treatment will be applied to residential properties, common areas within residential development, non-agricultural commercial properties, and right-of-ways.

Work Plan

The maximum treatment program area encompasses those portions of Sacramento County which fall within 1.5 miles around each property on which a JB has been detected and any subsequent detection sites within the program boundaries. This Notice of Treatment is valid until July 20, 2023, which is the amount of time necessary to carry out the treatment plan across three life cycles of JB as required by the treatment protocol for JB. A map of the treatment program boundaries is attached. The work plan consists of the following elements:

1. Delimitation. Intensive trapping is triggered after each beetle is detected. Following confirmation of the specimen, trap densities are increased over a 49-square mile area (127 km²). Trap density in the core square mile is increased to 100 traps within 24 hours of the detection. Trap densities in the remainder of the delimitation area are increased from the core outward within 48 hours of the find to complete a 100-25-5-5 array. Higher core trap densities, such as 160 or 640 traps per square mile, have been used in the

past for heavy infestations and may be adopted if needed. Traps in the core mile are serviced daily for the first week, and all others serviced at least once within the first week. After one week of negative finds, trap inspection frequency changes to weekly. Delimitation trapping then continues for the remainder of the season. If eradication is not triggered, trap densities revert to detection levels after two consecutive years of negative finds. If eradication is triggered, trap densities revert to detection levels after two consecutive years of negative finds following the last treatment. In addition, visual survey for adults may occur on host plants within 400 meters of a detection at the discretion of program management. Other visual survey methods which may be used include sweep-netting host plants. Visual inspections may also be conducted as needed outside the 400-meter radius.

2. Treatment. Treatment is triggered or expanded by the detection of a total of two or more adult Japanese beetle within three miles of each other and within the same year or by one or more immature beetles (eggs, larvae, pupae). Treatments will occur in a 200-meter radius of each detection location. Treatments are applied for one year past the last beetle detected, but may be extended to two years at the discretion of project management. The treatment targets young grubs. The treatment plan will be implemented within a 200- meter radius of each detection site, as follows:
 - The soil surface of grass turf areas and other ground cover plantings will be treated in order to target the young grubs. Acelepryn® (chlorantraniliprole), is applied to the ground using either hydraulic spray equipment or dispersal of solid granules.

Public Information

Residents are notified in writing at least 48 hours in advance of any treatment in accordance with the Food and Agricultural Code (FAC), Section 5779. Following the treatment, completion notices are left with the residents listing recommended precautions to take when re-entering the treated portion of the property. Information concerning the JB program will be conveyed directly to local and State political representatives and authorities via letters, emails, and/or faxes. Treatment and other information is posted at <http://cdfa.ca.gov/plant/JB/index.html>. Press releases, if issued, are prepared by the CDFA information officer and the county agricultural commissioner, in close coordination with the program leader responsible for treatment. Either the county agricultural commissioner or the public information officer serves as the primary contact to the media.

For any questions related to this program, please contact the CDFA toll-free telephone number at 800-491-1899 for assistance. This telephone number is also listed on all treatment notices.

Duty to Act

Under my statutory authority, as Secretary of the California Department of Food and Agriculture, I have decided, based upon the likely environmental and economic damage that would be inflicted by an established infestation of the JB in this area, that it is incumbent upon me to attempt to address this threat.

My duty to act, and this decision, is based upon authority set forth in Sections 24.5, 401.5, 403, 407, 408, 5401-5405, and 5761-5764 of the FAC, authorizing and mandating the Secretary to: thoroughly investigate the existence of the pest; determine the probability of the pest spreading

to other areas; adopt regulations (Title 3 of the California Code of Regulations, Section 3589) as are reasonably necessary to carry out the provisions of this code; abate a pest from the established treatment area; and to prevent further economic damage. The project work plan above describes the CDFA's actions that are necessary to mitigate the effects of this pest.

Karen Ross

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Karen Ross, Secretary

Date