Japanese Dodder, *Cuscuta japonica*, control 
and eradication efforts in Alameda County 2015 to 2017. 
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Summary
Over the last decade, Alameda County along with other regions of California have experienced recurring sporadic infestations of *Cuscuta japonica*. Japanese Dodder, *Cuscuta japonica* is a parasitic plant of foreign origin with purported medicinal uses used by certain south-east Asian cultural communities. The plant is spread by direct movement of strands by people or wildlife, which attaches to a susceptible host and rapidly grows and overtakes the host. Japanese Dodder is CFDA A-rated and is subject to quarantine enforcement action. Infestations of Japanese Dodder are mechanically removed by affected property owners under departmental supervision. Disposal of deep burial of infested host material at the landfill is required by quarantine regulation resulting in labor-intensive removal projects. To date, Japanese Dodder has been found primarily in urban residential neighborhoods and associated parklands, but this pest poses a serious threat to natural resource areas if spread occurs to remote or inaccessible areas or other high value sites. State eradication funding for Japanese Dodder was terminated in 2011. Local agencies have worked cooperatively since then with affected property owners to maintain control of the pest locally. In 2015 the Alameda County Department of Agriculture was awarded funds by the US Forest Service and CFDA to support ongoing eradication efforts in Alameda County. During this period over 20 infestations have been removed by departmental staff in cooperation with agency collaborators and affected property owners. During this work, in-situ control of the pest with herbicides with successful host recovery has been observed. Alternative control strategies are also proposed to assist affected owners greater flexibility for disposal and treatment.

Project Work
Since 2006 approximately 50 Japanese Dodder infestations have been detected in Alameda County. Almost all infestations have occurred in the City of Oakland along with two outlier sites. An infestation has been found in the City of Berkeley and another at the northern county bordering Contra Costa County in approximately 2006. State Eradication funding was dropped in 2011. Since 2011 Alameda County has worked collaboratively with affected property owners and other local agencies to remove infestations on a voluntary basis under departmental supervision. In 2012 the Alameda Department of Agriculture/Weights and Measures received an award from the U.S. Forest Service, State and Private Forestry Program and CFDA to support ongoing eradication efforts. Since 2011, there have been approximately 20 infestations of Japanese Dodder on public and private properties. Two date, all previously known infestations have been removed and treated with the exception of two new detections in recent weeks. With the completion of this project work, ongoing facilitated removal with affected property owners will resume as needed until additional funding sources can be obtained. Official abatements may be sought if circumstances warrant such action. For example if Japanese Dodder is found at high value natural resource sites. If ongoing removal efforts are not maintained this pest will likely resurge in dramatic fashion.

Observations & New Questions?

- Japanese Dodder control and host recovery was observed in hardy ornamental host material (*Hedera spp.* and *Nerium oleander*) with repeated in situ glyphosate treatments (1 to 2% glyphosate) following gross mechanical removal. This method provides a reduced-effort, less-destructive alternative to complete mechanical removal of infested hosts, or intensive herbicide treatments.
- Japanese Dodder has not been observed to produce fertile flowers (or fruit) in California. Tarped chipped loads of infested woody material decay rapidly and do not appear prone to natural movement or reinfection of new hosts provided they remain isolated for sufficient time for the dodder to die or decay. Therefore tarped, isolated material should be safe to dispose of in green waste streams approved for other agricultural pests (e.g. SOD, LBAM, ACP) instead of by deep burial in a landfill as required by standard quarantine procedures. In the absence of a formal statewide eradication program, this strategy could provide greater flexibility for disposal of infested material by affected property owners with reduced regulatory oversight and effort.
- Could repeated pressure steaming of infested hosts in residential or urban settings provide an alternative to mechanical removal or herbicide treatments in appropriate locations.

References & Resources


University of California Weed Research Information Center (WRIC). http://wric.ucdavis.edu/

http://www.naturalmedicinalherbs.net/herbs/c/cuscuta-japonica

Acknowledgements

This work was made possible with funding support to the Alameda County Department of Agriculture/Weights and Measures by U.S. Forest Service State and Private Forestry Program and the California Department of Food and Agriculture (CFDA). Additional in-kind field support was provided by the City of Oakland Public Works Dept. Park & Tree Service Division, Oakland Housing Authority, Peralta Hacienda Historical Park, University of California Grounds Services-Facility Services, and affected property owners of the City of Oakland.

Extensive Live Oak infestation on private property. Photo, August 2015

Japanese Dodder, *Cuscuta japonica* is a parasitic vine of the Convolvulaceae (alternatively Cuscutaceae) known to originate from Southeast Asia. The plant has purported medicinal properties and is illegally transported and cultivated for such uses. Locally it appears the plant is moved primarily by direct movement of plant strands from infected hosts, or intensive herbicide treatments. Control of Japanese Dodder involves direct physical removal of the host, or killing the host with herbicides, followed by landfill disposal as required by quarantine regulations.


Street tree removals in cooperation with City of Oakland Public Works Dept, Tree Services Division 2016 & 2017

Voluntary removal by owner with hired vendor. Agriculture Dept. hauled material to disposal site February 2016.


Example of purported medicinal uses of Japanese Dodder found on internet. Research is warranted on possible medicinal properties of this plant for possible pharmaceutical advances and also to protect public health.

Early reports and confirmation August 2013. Repeated voluntary attempts of removal by owner unsuccessful.

Complete final removal by Alameda County Department of Agriculture/Weights & Measures Department October 2015. Initial street tree removal by City of Oakland (not shown). Site monitoring ongoing.

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Background

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