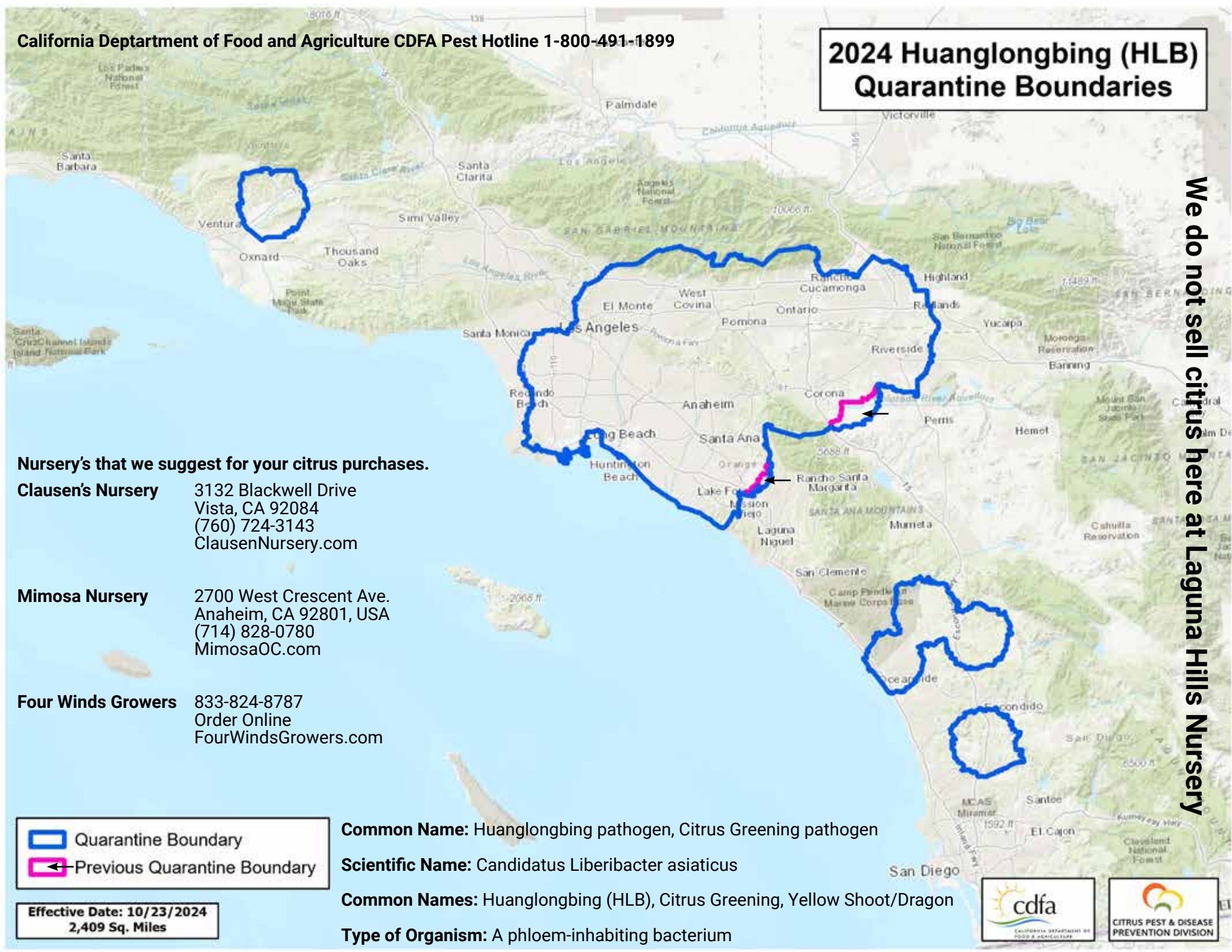


2024 Huanglongbing (HLB) Quarantine Boundaries





We do not sell citrus here at Laguna Hills Nursery

Nursery's that we suggest for your citrus purchases.

Clausen's Nursery 3132 Blackwell Drive
Vista, CA 92084
(760) 724-3143
ClausenNursery.com

Mimosa Nursery 2700 West Crescent Ave.
Anaheim, CA 92801, USA
(714) 828-0780
MimosaOC.com

Four Winds Growers 833-824-8787
Order Online
FourWindsGrowers.com

-  Quarantine Boundary
-  Previous Quarantine Boundary

Effective Date: 10/23/2024
2,409 Sq. Miles

Common Name: Huanglongbing pathogen, Citrus Greening pathogen

Scientific Name: Candidatus Liberibacter asiaticus

Common Names: Huanglongbing (HLB), Citrus Greening, Yellow Shoot/Dragon

Type of Organism: A phloem-inhabiting bacterium



CITRUS in California

Here at Laguna Hills Nursery, **we do not sell citrus**, we only share information for Southern California gardeners.

"The plant disease known as **Huanglongbing (HLB)** or citrus greening is caused by a phloem-restricted bacterium which is **vectored by the Asian citrus psyllid (ACP)**. The scientific name of the bacterium is **Candidatus Liberibacter asiaticus (CLAs)**. The "Candidatus" portion of the name indicates that this organism has not been cultured and is therefore characterized on the basis of DNA properties. Two other related forms of the bacterium are known—one of African origin and one of South American origin, both of which can be also be vectored by ACP. *Candidatus Liberibacter* is differentiated from other citrus-infecting bacteria by the presence of a cell wall and its location in the phloem tissue of the host's vascular system." CDFA



Image and information sourced from CDFA – California Department of Food & Agriculture.
https://www.cdfa.ca.gov/citrus/pests_diseases/hlb/PestProfile.html

"The heat-sensitive African form of the pathogen, *Candidatus Liberibacter africanus*, has been reported from Africa and the Middle East. *Candidatus Liberibacter americanus*, a more

heat-tolerant form, has been reported in Brazil and Florida. The Asian form, CLAs, which is also heat-tolerant, is primarily distributed in Asia but has also been reported from the Western Hemisphere in several states in the USA, the Caribbean, Mexico, and Central America (USDA-APHIS-PPQ, 2006). In the USA it has been reported in Florida (2005), Louisiana (June 2008), South Carolina (2009), Texas (2012), and California (2012)." CDFA

"**HLB can be difficult to detect** since the host may remain symptomless for months to years before exhibiting symptoms of infection. **An early symptom of the disease is blotchy, yellow, asymmetrical mottling of the leaves.** This leaf symptom is different from nutritional disorders which are more often vein-delimited and tend to be more symmetrical. The yellow mottling of the foliage gives rise to the development of yellow shoots on single random branches (nutritional disorders generally show more uniform symptom distribution in trees). Progressive yellowing of greater portions of the canopy follows. HLB bacteria do not cause foliar wilting such as that observed in trees infected by other citrus pathogens. **More advanced symptoms include twig dieback, stunting, and decline in the tree's health to the point where the tree bears only a few, small, deformed (lop-sided) fruits that are poorly colored and bitter tasting.** Tree mortality usually occurs several months to years after infection.

The HLB pathogen is moved from tree to tree by ACP feeding on an infected tree then moving to and feeding on a non-infected tree. After gaining entrance to the tree's vascular system, the pathogen takes up residence in the phloem tissue. As the bacterium multiplies and moves within the tree's vascular system, it chokes off the supply of nutrients moving throughout the plant, weakening the plant and eventually killing it. While insect vectoring of the HLB pathogen

is the primary means of disease spread, the movement of infected host plant material, either in the form of nursery stock or of plant tissue for grafts and buds, can also contribute significantly to the rapid and potentially long-distance spread of the disease." CDFA

Hosts for *Candidatus Liberibacter asiaticus*, the bacterial pathogen that causes HLB, include nearly all citrus species and hybrids, as well as numerous citrus relatives in the Family Rutaceae. A comprehensive host list for the HLB pathogen can be found listed in the California Department of Food and Agriculture Huanglongbing Disease State Interior Quarantine #3439

"**HLB has been described as the most devastating disease of citrus in the world.** HLB affects almost all citrus cultivars and causes substantial economic and environmental losses to the citrus industry as well as residential backyard citrus by shortening the life of trees and making fruit and juice inedible. In a recent study in Florida, the presence of HLB increased citrus production costs by 40 percent (Irey et al. 2008). It is estimated that over the last five years in Florida, HLB has caused the loss of over 6,600 jobs, over \$1.3 billion in lost revenue to the citrus industry, and the loss of over \$3.6 billion in total economic activity (Hodges and Spreen 2012).

There are currently no curative methods to control HLB and there are no chemical controls that specifically target the bacterium. Thus, comprehensive control measures for HLB focus largely on prevention of infection by eradicating infected plants, controlling the vector, ACP, and the production and planting of HLB-free trees." CDFA



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