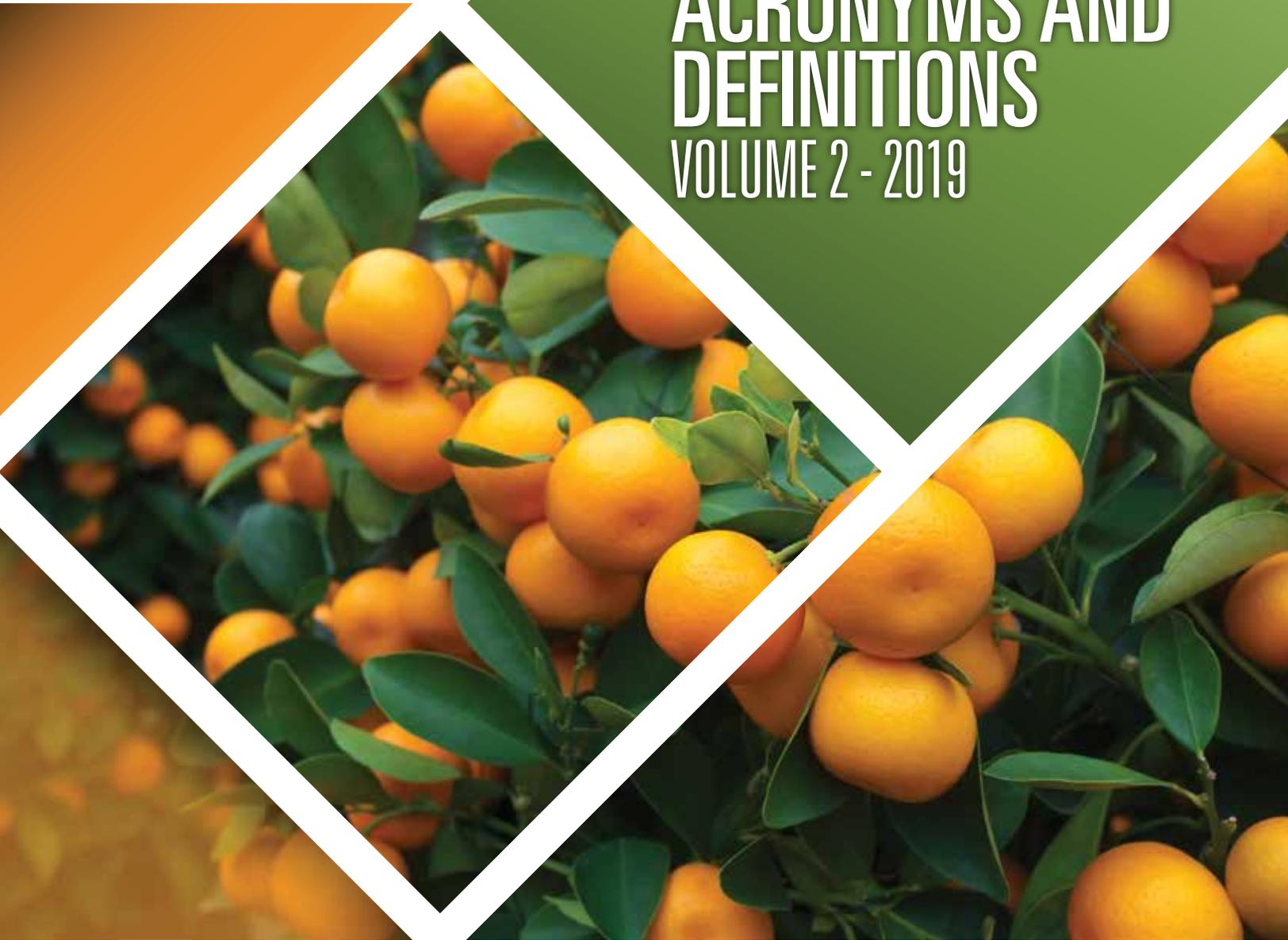


GLOSSARY OF  
**CITRUS INDUSTRY**  
**ACRONYMS AND**  
**DEFINITIONS**  
VOLUME 2 - 2019



[www.CitrusResearch.org](http://www.CitrusResearch.org)



Dear Citrus Industry Members and Friends,

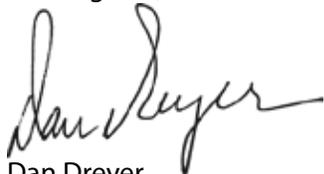
Four years ago, the Citrus Research Board (CRB) published its first eight-page Glossary of Citrus Industry Acronyms as a supplement to the Fall 2015 issue of *Citrograph*. The guide was intended to offer a clearer understanding of “the technical terms related to the cutting edge science that is the current focus of our industry.” The feedback was positive, and we learned that many readers have kept the glossary as a handy reference.

Our industry is continuing to evolve rapidly, which means we’re inundated by an ever-increasing alphabet soup mix of acronyms and terms used for organizations, diseases, treatments, regulations, systems, research processes and so forth. Research efforts have rapidly expanded in the fight against threats such as huanglongbing, and today’s research projects have given rise to a complex vocabulary that’s new to many in our industry.

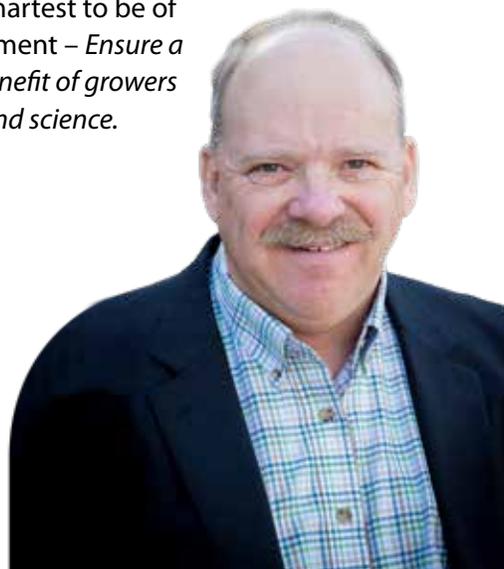
Therefore, as a service to the readers of *Citrograph*, we believe it would be helpful to update and expand the reference guide, and we are pleased to present the new Glossary of Citrus Industry Acronyms and Definitions. In addition to increasing the number of defined acronyms from the Fall 2015 edition, we also have taken many of the most commonly used glossary definitions of scientific terms from the pages of *Citrograph* and grouped everything together alphabetically in one guide. We would like to thank a number of our industry partners who teamed with us to provide their thoughts on terms and definitions for inclusion in the updated glossary.

On behalf of the CRB Board members and staff, we hope you will view this new guide as a useful “keeper.” As always, we deeply appreciate your support and will continue to work our hardest and smartest to be of service to you and to meet our mission statement – *Ensure a sustainable California citrus industry for the benefit of growers by prioritizing, investing in and promoting sound science.*

Best regards,



Dan Dreyer  
Chairman  
Citrus Research Board





# GLOSSARY OF CITRUS TERMS AND DEFINITIONS

Term	Acronym	Definition
<b>2,4-D</b>		An organic compound used in citrus production to delay and reduce unwanted fruit abscission.
<b>Absciscic Acid</b>	<b>ABA</b>	A phytohormone involved in plant development, dormancy and stress responses.
<b>Agricultural Research Service</b>	<b>ARS</b>	USDA agency that conducts research to find solutions to agricultural problems that affect Americans daily, from field to table. <a href="http://www.ars.usda.gov">http://www.ars.usda.gov</a>
<b>Agriculture Labor Relations Board (California)</b>	<b>ALRB</b>	Created in 1975 to ensure peace in the fields of California by guaranteeing justice for all agricultural workers and stability in agricultural labor relations. <a href="https://www.alrb.ca.gov">https://www.alrb.ca.gov</a>
<b>Animal and Plant Health Inspection Service</b>	<b>APHIS</b>	Multifaceted USDA agency with a broad mission area that includes protecting and promoting U.S. agricultural health, regulating genetically engineered organisms, administering the Animal Welfare Act and carrying out wildlife damage management activities. This is the regulatory arm of the USDA. <a href="http://www.aphis.usda.gov">http://www.aphis.usda.gov</a>
<b>Anti-microbial peptides</b>	<b>AMP</b>	Small proteins composed of 5 to 100 amino acids, produced by living organisms that have the ability to kill bacteria, viruses, fungi or cancerous cells in animals.
<b>Apical meristem</b>		The point of rapidly multiplying cells at the end of a shoot or root. These cells will differentiate to form the shoot or root tissue as they mature. The apical meristem is used for shoot-tip grafting because it often grows faster than the virus can multiply to move into this rapidly-growing tip of the shoot. For shoot-tip grafting, a thin (about 0.1 mm) slice of the apical meristem tip is cut and grafted onto a healthy rootstock.
<b>Area-wide management</b>	<b>AWM</b>	When growers or advisors approach pest management as a group in a geographic area, rather than on individual terms.
<b>Asian citrus psyllid</b>	<b>ACP</b>	An insect that can transmit the 'Candidatus Liberibacter' species of bacteria associated with huanglongbing (HLB) disease. <a href="http://www.californiacitrusthreat.org">http://www.californiacitrusthreat.org</a> <a href="http://www.citrusinsider.org">http://www.citrusinsider.org</a> ; <a href="http://ipm.ucanr.edu/PMG/r107304411.html">http://ipm.ucanr.edu/PMG/r107304411.html</a>
<b>Assembly Bill</b>	<b>AB</b>	Piece of proposed legislation introduced by a member of the Legislature.
<b>Association of Applied IPM Ecologists</b>	<b>AAIE</b>	An association founded to allow practitioners of IPM to exchange ideas and technical information to better inform farmers and horticulturalists in adopting IPM practices.
<b>Best management practices</b>	<b>BMPs</b>	Generic methods or techniques that consistently have shown results superior to those achieved by other means. Best practices are used to maintain quality as an alternative to mandatory legislated standards and can be based on self-assessment or benchmarking.
<b>Bioassay</b>		A test of the relative effects of a substance (e.g., an insecticide) on a test organism (e.g., ACP instars).
<b>Biological control (biocontrol)</b>		Suppression of a target pest population to less damaging levels by natural enemies (e.g., predators and parasitoids).
<b>Biopesticide</b>		Types of pesticides derived from natural materials such as animals, plants, bacteria and some minerals.
<b>Biosafety level 3</b>	<b>BSL-3</b>	A set of measures designed to contain harmful microbes or biological agents in an enclosed laboratory setting. Biosafety level three includes measures designed for work with indigenous or exotic microbes that can cause serious or potentially lethal disease.
<b>Brix</b>		A measurement of sugar in solution, indicated in degrees. One-degree brix equals one gram of sucrose in 100 grams of solution.

Term	Acronym	Definition
<b>Brix/acid ratio</b>		The ratio of the juice's Brix to the grams of anhydrous citric acid per 100 grams of the juice. Indicator of juice quality and predictor of consumer acceptability.
<b>Budwood</b>		Short lengths of young stems, free of thorns and leaves, with buds used for grafting onto rootstocks for the vegetative production of plants.
<b>California Agricultural Labor Association</b>	<b>CALA</b>	A non-profit compliance agency dedicated to helping the agriculture industry reduce liability and exposure, while reducing the individual costs of compliance. <a href="https://calaglabor.com/">https://calaglabor.com/</a>
<b>California Agricultural Statistics Service</b>	<b>CASS</b>	Prepares and distributes statistics on California agriculture. <a href="http://www.cdfa.ca.gov/statistics">http://www.cdfa.ca.gov/statistics</a> ; <a href="https://www.nass.usda.gov/Statistics_by_State/California/">https://www.nass.usda.gov/Statistics_by_State/California/</a>
<b>California Air Resources Board</b>	<b>CARB</b>	The agency charged with protecting the public from the harmful effects of air pollution and developing programs and actions to fight climate change. <a href="https://ww2.arb.ca.gov/homepage">https://ww2.arb.ca.gov/homepage</a>
<b>California Association of Agricultural Labor</b>	<b>CAAL</b>	A non-profit organization that promotes the long-term success of the farm labor contractors it represents by training them on California regulations covering safety, civil rights, compensation and other similar matters; representing them during government inspections and investigations; and advocating on their behalf with local, State and Federal government.
<b>California Citrus Growers Association</b>	<b>CCGA</b>	An association to share information and efficiently coordinate citrus marketing. <a href="https://www.calcitrusgrowers.com/">https://www.calcitrusgrowers.com/</a>
<b>California Citrus Mutual</b>	<b>CCM</b>	Non-profit grower-based trade association formed to work on issues and programs that will improve their members' bottom line. <a href="http://www.cacitrusmutual.com">http://www.cacitrusmutual.com</a>
<b>California Citrus Nursery Board</b>	<b>CCNB</b>	Marketing order authorized to support a program of variety improvement to assure the continued freedom of citrus nursery stock from pathologically harmful viruses and other economically threatening citrus diseases and mutations. <a href="http://ccnb.info">http://ccnb.info</a>
<b>California Citrus Nursery Society</b>	<b>CCNS</b>	A voluntary-membership organization working for the betterment of the citrus nursery industry in California by facilitating the exchange of information on relevant issues and by licensing and importing patented proprietary varieties. <a href="https://ccns.info/">https://ccns.info/</a>
<b>California Citrus Quality Council</b>	<b>CCQC</b>	Objective is to ensure that California citrus production meets domestic and international regulatory standards. <a href="http://www.calcitrusquality.org">http://www.calcitrusquality.org</a>
<b>California Citrus Research Foundation</b>	<b>CCRF</b>	The CCRF is a sister organization of California Citrus Mutual (CCM). Its purpose is to raise funds within the industry to support the building of a citrus-specific BSL-3 research laboratory, located in the research park area in Riverside, California.
<b>California Department of Food and Agriculture</b>	<b>CDFA</b>	Regulatory agency whose mission is to serve the citizens of California by promoting and protecting a safe, healthy food supply and enhancing local and global agricultural trade through efficient management, innovation and sound science, with a commitment to environmental stewardship. <a href="http://www.cdfa.ca.gov">http://www.cdfa.ca.gov</a>
<b>California Environmental Quality Act</b>	<b>CEQA</b>	A statute, implemented by the California Natural Resources Agency, that requires state and local agencies to identify the significant environmental impacts of their actions and to avoid or mitigate those impacts, if feasible. <a href="http://opr.ca.gov/ceqa/">http://opr.ca.gov/ceqa/</a>
<b>California Farm Bureau Federation</b>	<b>CFBF</b>	A non-profit, non-governmental voluntary organization with the purpose to protect and promote agriculture in California. <a href="http://www.cfbf.com">http://www.cfbf.com</a>



# GLOSSARY OF CITRUS TERMS AND DEFINITIONS

Term	Acronym	Definition
<b>California Irrigation Management Information System</b>	<b>CIMIS</b>	Program unit in the Water Use and Efficiency Branch, Division of Statewide Integrated Water Management, California Department of Water Resources (DWR) that manages a network of automated weather stations across the state. <a href="https://cimis.water.ca.gov/">https://cimis.water.ca.gov/</a>
<b>California Natural Resources Agency</b>	<b>CNRA</b>	A state cabinet-level agency with 25 departments that is responsible for protecting historical, natural and cultural sites, monitoring and controlling state land and waterways and regulating fish and game use. Wikipedia. <a href="http://resources.ca.gov">http://resources.ca.gov</a>
<b>California red scale</b>	<b>CRS</b>	An armored scale insect pest of citrus. <a href="http://www.ipm.ucdavis.edu/PMG/r107301111.html">http://www.ipm.ucdavis.edu/PMG/r107301111.html</a>
<b>'Candidatus Liberibacter'</b>		Bacteria that are associated with huanglongbing (HLB) or citrus greening in many citrus-producing areas around the world.
<b>'Candidatus Liberibacter asiaticus'</b>	<b>CLas</b>	CLas is the most widely spread species and is present in the United States.
<b>'Candidatus Liberibacter americanus'</b>	<b>CLam</b>	Found in South and Central America.
<b>'Candidatus Liberibacter africanus'</b>	<b>CLaf</b>	Limited to the continent of Africa and adjacent islands.
<b>Center for Plant Health Science and Technology</b>	<b>CPHST</b>	A center within the USDA-APHIS-PPQ Science and Technology Organization that provides scientific support for PPQ regulatory decisions and operations and is the main component of PPQ's Science and Technology core functional area, which also includes the National Clean Plant Network.
<b>Central California Orange Growers Cooperative</b>	<b>CCOGC</b>	A growers' cooperative that coordinates improved communication among citrus growers to enable informed decisions. <a href="https://www.ccogc.com/">https://www.ccogc.com/</a>
<b>Central California Tristeza Eradication Agency</b>	<b>CCTEA</b>	Grower-assessed and -directed organization formed from three San Joaquin Valley pest control districts following a Joint Powers Agreement. Currently manages the Citrus Pest Detection Program. <a href="https://www.cctea.org/">https://www.cctea.org/</a>
<b>Central Valley Project</b>	<b>CVP</b>	A federal water management project that includes a multi-purpose network of dams, reservoirs, canals, hydroelectric power plants and other facilities to transfer and manage water across the northern and central parts of California.
<b>Central Valley Regional Water Quality Control Board</b>	<b>CVRWB</b>	The largest of nine regional water boards in California; the regional Water Quality Control Boards work with the State Water Resources Control Board to protect water quality and allocate surface water rights. <a href="http://www.waterboards.ca.gov/about_us/">http://www.waterboards.ca.gov/about_us/</a>
<b>Central Valley Salinity Alternatives for Long-term Sustainability</b>	<b>CV-SALTS</b>	A collaborative stakeholder driven and managed program to develop sustainable salinity and nitrate management planning for the Central Valley. <a href="https://www.waterboards.ca.gov/centralvalley/water_issues/salinity/">https://www.waterboards.ca.gov/centralvalley/water_issues/salinity/</a>
<b>Citrus black spot</b>	<b>CBS</b>	A disease caused by the fungus <i>Guignardia citricarpa</i> .
<b>Citrus Clonal Protection Program</b>	<b>CCPP</b>	Provides a safe mechanism for the introduction into California of citrus varieties from any citrus-growing area of the world for research, variety improvement or use by the commercial industry of the state. <a href="http://ccpp.ucr.edu">http://ccpp.ucr.edu</a>

Term	Acronym	Definition
<b>Citrus Clonal Protection Program-Citrus Diagnostic and Research Laboratory</b>	<b>CCPP-CDRL</b>	Located at the UC Riverside campus. The sister facility to CCPP-RQF, for laboratory detection and research on graft-transmissible pathogens of citrus and alternative site for citrus therapy of high-risk citrus introductions from areas with diseases of quarantine significance such as huanglongbing. Seven different laboratory spaces totaling approximately 1,600 sq. ft. that allow the separation of sensitive diagnostic and research activities.
<b>Citrus Clonal Protection Program-Lindcove Foundation Facility</b>	<b>CCPP-LFF</b>	Located at the Lindcove Research and Extension Center (LREC). The maintenance and distribution point of citrus varieties for California that have successfully completed the introduction process (therapy and pathogen testing) at the CCPP-RQF and CCPP-CDRL. More than 75,000 sq. ft. of citrus protective structures (screenhouses and positive pressure greenhouses) holding more than 3,000 citrus budwood tree sources of 400 different citrus varieties and more than 20 acres of field evaluation blocks.
<b>Citrus Clonal Protection Program-Rubidoux Quarantine Facility</b>	<b>CCPP-RQF</b>	Located in downtown Riverside at the location of the original 1907 Citrus Experiment Station. The entry point for citrus variety introductions into California, the first of its kind in the world since the 1950s. More than 14,000 sq. ft. of citrus protective structures and home of the Delfino Family Plant Laboratory for citrus therapy and biological diagnosis of graft-transmissible diseases of citrus.
<b>Citrus Disease Subcommittee</b>	<b>CDS</b>	A permanent USDA subcommittee of the National Agricultural Research, Extension, Education and Economics Advisory Board that works to advance the research and extension capabilities related to citrus diseases.
<b>Citrus germplasm</b>		The broad range of citrus genetic material maintained for use by scientists and certification programs, but does not necessarily meet any regulatory standards; the reason for its existence is the preservation of citrus genetic diversity.
<b>Citrus Health Management Area</b>	<b>CHMA</b>	A grouping of commercial citrus groves in close proximity, where growers work cooperatively to manage the spread of HLB. Also referred to as a Psyllid Management Area (PMA).
<b>Citrus Health Response Program</b>	<b>CHRP</b>	A program administered by the U.S. Department of Agriculture-Animal and Plant Health Inspection Service to sustain the U.S. citrus industry, to maintain access to export markets and to safeguard other citrus growing states against a variety of citrus diseases and pests. <a href="http://www.aphis.usda.gov/plant_health/plant_pest_info/citrus/index.shtml">http://www.aphis.usda.gov/plant_health/plant_pest_info/citrus/index.shtml</a>
<b>Citrus leafminer</b>	<b>CLM</b>	An insect whose larvae mine beneath the surface of new flush leaves. <a href="http://www.ipm.ucdavis.edu/PMG/r107303211.html">http://www.ipm.ucdavis.edu/PMG/r107303211.html</a>
<b>Citrus peelminer</b>	<b>CPM</b>	An insect whose larvae feed beneath the surface of fruit or young stems causing cosmetic damage that devalues fruit grade. <a href="http://www.ipm.ucdavis.edu/PMG/r107303111.html">http://www.ipm.ucdavis.edu/PMG/r107303111.html</a>
<b>Citrus Pest &amp; Disease Prevention Committee</b>	<b>CPDPC</b>	Legislated committee created to advise the Secretary of Agriculture and the agricultural industry about efforts to combat serious pests and diseases that threaten the state's citrus crop. <a href="http://www.cdfa.ca.gov/citruscommittee">http://www.cdfa.ca.gov/citruscommittee</a> ; <a href="http://www.citrusinsider.org">http://www.citrusinsider.org</a>
<b>Citrus Pest &amp; Disease Prevention Division</b>	<b>CPDPD</b>	A division of CDFA that supports programs created to implement strategies as directed by the CPDPC.
<b>Citrus Pest &amp; Disease Prevention Program</b>	<b>CPDPP</b>	Supports programs created to implement strategies as directed by CPDPC.



# GLOSSARY OF CITRUS TERMS AND DEFINITIONS

Term	Acronym	Definition
<b>Citrus Pest Detection Program</b>	<b>CPDP</b>	Operated by the CCTEA, this program conducts field surveys and non-regulatory laboratory screening for any citrus pests of concern in the citrus pest control districts of the San Joaquin Valley, as well as laboratory testing by grower request from any non-HLB quarantined region of California.
<b>Citrus Research and Development Foundation</b>	<b>CRDF</b>	A non-profit corporation organized under Florida state laws as a direct support organization of the University of Florida that administers disease and production research and commercial product delivery projects to support the needs of the Florida citrus industry.
<b>Citrus Research Board</b>	<b>CRB</b>	Grower-funded and grower-directed program established under the California Marketing Act as the mechanism enabling the state's citrus producers to sponsor and support needed research. <a href="http://www.citrusresearch.org">http://www.citrusresearch.org</a>
<b>Citrus Research International</b>	<b>CRI</b>	A research and technical services organization based in South Africa that focuses primarily on citrus.
<b>Citrus Stubborn Disease</b>	<b>CSD</b>	Disease characterized by low yield of abnormally small fruit, the absence of fruit and the stunted, feathery growth of the canopy. Caused by the bacterium <i>Spiroplasma citri</i> . <a href="http://ipm.ucanr.edu/PMG/r107101211.html">http://ipm.ucanr.edu/PMG/r107101211.html</a>
<b>Citrus Tristeza Virus</b>	<b>CTV</b>	A viral species that causes decline, stem pitting and seedling yellows in citrus. <a href="http://ipm.ucanr.edu/PMG/r107101311.html">http://ipm.ucanr.edu/PMG/r107101311.html</a>
<b>Citrus undercover protection system</b>	<b>CUPS</b>	A commercial production system in which citrus trees are grown under protective screen structures to protect plants from certain pests and diseases.
<b>Citrus variegated chlorosis</b>	<b>CVC (1)</b>	Disease of citrus caused by the bacterium <i>Xylella fastidiosa</i> ssp. <i>pauca</i> and transmitted by sharpshooter insects. It is not known to occur in the United States at this time.
<b>Citrus Variety Collection</b>	<b>CVC (2)</b>	Housed at UC Riverside, the CVC provides information, new citrus hybrids and plant material. The collection encompasses virtually all the commercially important and historic citrus varieties of the world. <a href="https://citrusvariety.ucr.edu/">https://citrusvariety.ucr.edu/</a>
<b>Clean Water Act</b>	<b>CWA</b>	A federal law passed in 1972, administered by the EPA, which establishes the basic structure for regulating discharges of pollutants into U.S. waters and regulating quality standards for surface waters. <a href="http://www.epa.gov/oecaagct/lcwa.html">http://www.epa.gov/oecaagct/lcwa.html</a>
<b>Clustered Regularly Interspaced Short Palindromic Repeats/Crisper-associated protein 9</b>	<b>CRISPR/Cas9</b>	A genomic editing system with the capability of making precise genomic modifications by removing, adding or altering sections of DNA.
<b>Coachella Valley Agricultural Research Station</b>	<b>CVARS</b>	A 540-acre research field station managed by UC Riverside, which is representative of desert agricultural production systems for more than 50 different crops.
<b>Contained Research Facility</b>	<b>CRF</b>	A biocontainment facility housed at UC Davis that provides a secure environment for research on invasive plant pests such as CLAs. <a href="https://crf.ucdavis.edu/">https://crf.ucdavis.edu/</a>
<b>Cooperative Agricultural Support Services</b>	<b>CASS</b>	A local public agency that partners with state and county agencies and the agricultural industry to provide flexible and cost-effective services for agricultural project needs throughout California. <a href="http://www.agsupport.org">http://www.agsupport.org</a>
<b>Cooperative Research and Development Agreement</b>	<b>CRADA or CRDA</b>	An agreement between a government agency and a private company or university to work together on research and development intended to speed technology commercialization and optimize resources.

Term	Acronym	Definition
<b>County agricultural commissioner</b>	<b>CAC</b>	Serves as the primary and local enforcement agent for federal, state and county agricultural laws and regulations.
<b>Crop evapotranspiration</b>	<b>ET<sub>c</sub></b>	The rate of water loss from disease-free, well-fertilized crops, grown in large fields under optimum soil water conditions and achieving full production under the given climatic conditions.
<b>Customs and Border Protection</b>	<b>CBP</b>	Agency of the Department of Homeland Security whose mission is to prevent the illegal entry of people and goods while facilitating legitimate trade and travel. <a href="http://cbp.gov">http://cbp.gov</a>
<b>Cycle quantification</b>	<b>C<sub>q</sub></b>	The time point (measured in temperature cycles) when a PCR sample crosses the cycle threshold line.
<b>Cycle threshold</b>	<b>C<sub>t</sub></b>	The level of fluorescence required within a PCR reaction (due to increasing DNA copy numbers) to count as greater than background levels.
<b>Cytokinin</b>		A phytohormone involved in plant cell growth and differentiation with a role in flowering, fruit set and fruit growth.
<b>Data Analysis and Tactical Operations Center</b>	<b>DATOC</b>	A program designed to quickly address operations-based questions from the CPDPC that would benefit from scientific evaluation. These questions are addressed by a diverse group of experts available on an as-needed basis and result in the production of white papers to answer the question at hand.
<b>Deoxyribonucleic acid</b>	<b>DNA</b>	A double-stranded molecule that is coiled into a helix. This molecule encodes hereditary material passed from one generation to the next and includes instructions for an organism's growth, development and reproduction.
<b>Department of Pesticide Regulation</b>	<b>DPR</b>	A California state agency that regulates pesticide sales and use and fosters reduced-risk pest management. DPR's work includes product evaluation and registration, environmental monitoring, residue testing of fresh produce and statewide licensing of commercial applicators, dealers and advisers. DPR provides oversight of the local pesticide enforcement programs of all 55 county agricultural commissioners and their combined staffs of approximately 400 biologists. <a href="http://www.cdpr.ca.gov">http://www.cdpr.ca.gov</a>
<b>Department of Water Resources</b>	<b>DWR</b>	A department within the California Natural Resources Agency that is responsible for the management of water usage, including the delivery of water through the State Water Project (SWP). <a href="http://www.waterboards.ca.gov/about_us/">http://www.waterboards.ca.gov/about_us/</a>
<b>Early detection technology</b>	<b>EDT</b>	A technology to identify huanglongbing-affected plants prior to symptom expression or positive detection of 'Candidatus Liberibacter asiaticus' by polymerase chain reaction.
<b>Electrical conductivity</b>	<b>EC</b>	Potential of a solution to pass an electric current.
<b>Endangered Species Act</b>	<b>ESA</b>	A federal law passed in 1973 that requires federal agencies to consult with the Fish and Wildlife Service and/or the NOAA Fisheries Service to ensure their actions are not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of designated critical habitats of such species. <a href="http://www.fws.gov/endangered/laws-policies/index.html">http://www.fws.gov/endangered/laws-policies/index.html</a>
<b>Environmental impact report</b>	<b>EIR</b>	A study of all the factors that a land development or construction project would have on the environment in the area, including population, traffic, schools, fire protection, endangered species, archeological artifacts and community beauty.
<b>Environmental impact statement</b>	<b>EIS</b>	Under U.S. environmental law, a document required by the National Environmental Policy Act (NEPA) for certain actions significantly affecting the quality of the human environment. <a href="http://www.environment.fhwa.dot.gov/projdev/docueis.asp">http://www.environment.fhwa.dot.gov/projdev/docueis.asp</a>



# GLOSSARY OF CITRUS TERMS AND DEFINITIONS

Term	Acronym	Definition
<b>Environmental Protection Agency</b>	<b>EPA</b>	An independent agency of the U.S. federal government designed to protect people and the environment from significant health risks. Sponsors and conducts research and develops and enforces environmental regulations. <a href="https://www.epa.gov/">https://www.epa.gov/</a>
<b>Environmental Quality Incentives Program</b>	<b>EQIP</b>	A voluntary program administered by the USDA that provides financial and technical assistance to agricultural producers to help plan and implement conservation practices that address natural resource concerns and looks for opportunities to improve soil, water, plant, animal, air and related resources on agricultural land and non-industrial private forestland. <a href="http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/eqip/">http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/eqip/</a>
<b>Enzyme-linked immunosorbent assay</b>	<b>ELISA</b>	A method to detect an antigen (usually proteins, polysaccharides or lipids and usually from the surface of a virus or bacteria) by an antibody. In most cases, an enzyme attached to the antibody is activated when the antigen is present causing a color change in the reaction mixture.
<b>Ethylene</b>		A phytohormone involved in regulating the ripening of fruit, opening of flowers and abscission of leaves.
<b>Evapotranspiration</b>	<b>ET</b>	A combination of water evaporation from soil and transpiration from plants.
<b>Farm Service Agency</b>	<b>FSA</b>	USDA agency that administers farm commodity, crop insurance, credit, environmental, conservation and emergency assistance programs for farmers and ranchers. <a href="http://www.fsa.usda.gov">http://www.fsa.usda.gov</a>
<b>Federal Insecticide, Fungicide and Rodenticide Act</b>	<b>FIFRA</b>	Federal statute that governs the registration, distribution, sale and use of pesticides in the U.S.
<b>Food and Drug Administration</b>	<b>FDA</b>	The Federal agency responsible for protecting and promoting public health through the regulation and supervision of food safety, tobacco products, dietary supplements, prescription and over-the-counter pharmaceutical drugs (medications), vaccines, biopharmaceuticals, blood transfusions, medical devices, electromagnetic radiation emitting devices (ERED) and veterinary products. <a href="http://www.fda.gov/default.htm">http://www.fda.gov/default.htm</a>
<b>Food Safety Modernization Act</b>	<b>FSMA</b>	A federal act passed in 2011 that provides the FDA new authority to regulate how foods are grown, harvested or processed.
<b>Foreign Agricultural Service</b>	<b>FAS</b>	The foreign affairs agency with primary responsibility for the U.S. Department of Agriculture's overseas programs including market development, international trade agreements and negotiations, and collection of statistics and market information. <a href="http://www.fas.usda.gov/">http://www.fas.usda.gov/</a>
<b>Fuller rose beetle</b>	<b>FRB</b>	Brown, flightless snout beetles that can be a quarantine concern; all are females that reproduce without mating.
<b>Gene</b>		A specific sequence of nucleotides that provide the coded instructions for its function.
<b>Generally recognized as safe</b>	<b>GRAS</b>	A property of a common substance that is considered by the FDA as not harmful when found or used on food.
<b>Genetically engineered</b>	<b>GE</b>	The altering of the genetic composition of a cell or organism by one of various molecular biological procedures.
<b>Genetically modified organism</b>	<b>GMO</b>	Any organism whose genetic material has been altered, such as by adding a desirable gene, using genetic engineering techniques.
<b>Genomics</b>		The study of an organism's complete set of DNA.
<b>Geographic Information System</b>	<b>GIS</b>	A computer system framework used to gather and map geographic information.
<b>Gibberellic acid</b>	<b>GA<sub>3</sub></b>	A naturally occurring phytohormone and also a plant growth regulator used to delay overripening. <a href="http://ipm.ucanr.edu/PMG/r107900111.html">http://ipm.ucanr.edu/PMG/r107900111.html</a>

Term	Acronym	Definition
<b>Glassy-winged sharpshooter</b>	<b>GWSS</b>	An insect that can carry and spread variant types of the bacterium, <i>Xylella fastidiosa</i> , which causes several plant diseases, including Pierce's disease of grape and citrus variegated chlorosis. <a href="http://ipm.ucanr.edu/PMG/PESTNOTES/pn7492.html">http://ipm.ucanr.edu/PMG/PESTNOTES/pn7492.html</a>
<b>Global positioning system</b>	<b>GPS</b>	A satellite-based radio-navigation system used to determine the ground position of an object.
<b>Good agricultural practices</b>	<b>GAP</b>	Good Agricultural Practices (GAP) and Good Handling Practices (GHP) are voluntary audits that verify that fruit and vegetables are produced, packed, handled and stored as safely as possible to minimize risks of microbial food safety hazards. GAP and GHP audits verify adherence to the recommendations made in the U.S. Food and Drug Administration's <a href="#">Guide to Minimize Microbial Food Safety Hazards for Fresh Fruits and Vegetables (pdf)</a> and industry-recognized food safety practices. In 2015, the USDA Audit Program performed audits in 50 states, Puerto Rico and Canada, covering more than 90 commodities. <a href="https://www.ams.usda.gov/services/auditing/gap-ghp">https://www.ams.usda.gov/services/auditing/gap-ghp</a>
<b>Groundwater Sustainability Agency</b>	<b>GSA</b>	A structure for managing California's groundwater resources at the local level. <a href="https://water.ca.gov/Programs/Groundwater-Management/SGMA-Groundwater-Management/Groundwater-Sustainable-Agencies">https://water.ca.gov/Programs/Groundwater-Management/SGMA-Groundwater-Management/Groundwater-Sustainable-Agencies</a>
<b>Groundwater sustainability plan</b>	<b>GSP</b>	Detailed agenda for how groundwater basins will reach long term sustainability.
<b>Grower liaison</b>	<b>GL</b>	An individual designated as a local point of contact and resource for government officials, researchers, scientists and commercial citrus growers to help facilitate the spread of information on pest management and disease eradication.
<b>Host range</b>		A term used in entomology to characterize the number of species a natural enemy can use for food and/or reproduction and an indication of host use breadth. A broad host range indicates that the natural enemy can successfully exploit several different species.
<b>Host specificity</b>		A term used in entomology to characterize a natural enemy's prey and/or reproductive preferences for different species. High host specificity indicates that the natural enemy has a narrow host range and high fidelity for particular prey/host species.
<b>Huanglongbing</b>	<b>HLB</b>	Also known as citrus greening, this citrus disease is associated with several species of ' <i>Candidatus Liberibacter</i> ', is spread by the Asian citrus psyllid (ACP) and is characterized by a long asymptomatic period and indistinct symptomology; often confused with nutrient or other deficiencies. <a href="http://www.californiacitrusthreat.org">http://www.californiacitrusthreat.org</a> ; <a href="https://citrusinsider.org/">https://citrusinsider.org/</a> ; <a href="http://ipm.ucanr.edu/PMG/PESTNOTES/pn74155.html">http://ipm.ucanr.edu/PMG/PESTNOTES/pn74155.html</a>
<b>In planta</b>		A term meaning "in plant," which refers to experiments on live (plant) organisms.
<b>In silico</b>		An expression meaning "performed on computer or via computer simulation."
<b>In vitro</b>		A term meaning in a laboratory vessel (tube, culture dish, etc.) and outside the natural setting of a living organism.
<b>Indole acetic acid</b>	<b>IAA</b>	A plant hormone, the most abundant of the auxin class, with roles in plant growth and development.
<b>Inoculum</b>		A small amount of a substance (usually a microorganism, bacteria, fungi, etc.) used to infect a second material (e.g. tree, culturing media, etc.).
<b>Insect growth regulators</b>	<b>IGRs</b>	A chemical that inhibits the life cycle of an insect.
<b>Instar</b>		A phase between two periods of molting in the development of an insect.



# GLOSSARY OF CITRUS TERMS AND DEFINITIONS

Term	Acronym	Definition
<b>Integrated Pest Management</b>	<b>IPM</b>	An ecosystem-based strategy that focuses on long-term prevention of pests or their damage through a combination of techniques such as biological control, habitat manipulation, modification of cultural practices and use of resistant varieties. <a href="http://www.ipm.ucdavis.edu">http://www.ipm.ucdavis.edu</a>
<b>International Codex Alimentarius</b>	<b>CODEX</b>	A collection of international food standards and pesticide limits developed to protect the health of consumers and promote fair practices in food trade.
<b>International Organization of Citrus Virologists</b>	<b>IOCV</b>	Organization that promotes cooperative international study of citrus diseases caused by viruses and other graft-transmissible and systemic pathogens of citrus and disseminates knowledge concerning their identity and relationships, effects and importance, means of spread, control, management and/or prevention.
<b>International Plant Protection Convention</b>	<b>IPPC</b>	A multilateral treaty deposited with the Food and Agriculture Organization of the United Nations (FAO) that aims to secure coordinated, effective action to prevent and to control the introduction and spread of pests of plants and plant products. <a href="https://www.ippc.int/en/">https://www.ippc.int/en/</a>
<b>International Research Conference on Huanglongbing</b>	<b>IRCHLB</b>	Biennial international conference that focuses on huanglongbing research.
<b>Interregional Research Project No. 4</b>	<b>IR-4</b>	Federally funded program established in 1963 to conduct the research necessary to obtain registrations of pest control agents needed to grow minor crops.
<b>Invasive</b>		A non-native pest that causes significant ecological or economic damage. Invasive species typically spread and establish rapidly and widely.
<b>Irrigated Lands Regulatory Program</b>	<b>ILRP</b>	Regulates discharges from irrigated agricultural lands to prevent impairing water. <a href="http://www.swrcb.ca.gov/water_issues/programs/agriculture/">http://www.swrcb.ca.gov/water_issues/programs/agriculture/</a>
<b>Isolate</b>		A pure microbial strain.
<b>Jasmonic acid</b>	<b>JA</b>	A plant hormone with numerous roles including plant defense, development and abiotic stress responses.
<b>Light brown apple moth</b>	<b>LBAM</b>	An insect known to damage a wide range of crops. <a href="http://cirs.ucr.edu/light_brown_apple_moth.html">http://cirs.ucr.edu/light_brown_apple_moth.html</a>
<b>Lindcove Research and Extension Center</b>	<b>LREC</b>	Located in Exeter, California, and situated on 175 acres, LREC is one of nine research and extension centers operated by the University of California (UC) that supports research projects by UC academics, as well as local and regional partners that address critical needs in horticulture, pests and diseases and breeding new varieties.
<b>Marketing order</b>		Agricultural policy that allows producers to promote marketing of a commodity (managing supply, demand or price) and support research with collective funds.
<b>Maximum Residue Level</b>	<b>MRL</b>	Regulated by the Environmental Protection Agency and U.S. Foreign Agricultural Service to limit how much pesticide residue can remain on food and feed products or commodities. <a href="http://www.epa.gov/pesticides/food/viewtols.htm">http://www.epa.gov/pesticides/food/viewtols.htm</a>
<b>Melon fruit fly</b>	<b>MFF</b>	An insect whose larvae tunnel into fruit or plant parts, providing a wound where decay organisms can enter, leaving the fruit a rotten mass unfit for consumption. <a href="https://www.cdffa.ca.gov/plant/pdep/target_pest_disease_profiles/melon_ff_profile.html">https://www.cdffa.ca.gov/plant/pdep/target_pest_disease_profiles/melon_ff_profile.html</a>

Term	Acronym	Definition
<b>Memorandum of understanding</b>	<b>MOU</b>	Type of agreement between two or more parties, indicating a common line of action.
<b>Metabolomics</b>		The study of all the metabolites (small molecules) in a given sample.
<b>Microbial pesticides</b>		Consist of a microorganism (e.g., a bacterium, fungus, virus or protozoan) as the active ingredient. Microbial pesticides can control many different kinds of pests, although each separate active ingredient is relatively specific for its target pest(s).
<b>Microbiome</b>		Ecological community of microorganisms (both beneficial and non-beneficial) that live in a particular environment.
<b>Microbiota</b>		Microorganisms that populate a particular site or habitat.
<b>Micrografting</b>		Attachment of one-millimeter (or smaller) shoot tips excised from citrus lateral buds to sterile citrus seedling rootstocks. This method is used to regenerate healthy plants from cryopreserved shoot tips.
<b>Mode of action</b>		A specific functional or anatomical change in a living organism following exposure to a substance.
<b>Montreal Protocol</b>		International treaty designed to protect the ozone layer by phasing out the production of numerous substances responsible for ozone depletion. It has been ratified by 197 parties, including 196 states and the European Union, making it the first universally ratified treaty in United Nations history.
<b>Huanglongbing-Multi-Agency Coordination Group</b>	<b>HLB-MAC</b>	The USDA-APHIS HLB-MAC Group is composed of government and industry representatives who help to coordinate and prioritize Federal research with industry's efforts to complement and fill research gaps, reduce unnecessary duplication, speed progress and more quickly provide practical tools for citrus growers to use. <a href="https://www.usda.gov/topics/disaster/multi-agency-response-devastating-citrus-disease">https://www.usda.gov/topics/disaster/multi-agency-response-devastating-citrus-disease</a>
<b>Nanoparticles</b>		Particles consisting of lipid shells with encapsulated proteins (e.g., anti-bacterial chimeras) for <i>in planta</i> delivery.
<b>Naphthalene acetic acid</b>	<b>NAA</b>	An organic compound used to control pre-harvest fruit drop, flower induction and fruit thinning.
<b>National Agricultural Research, Extension, Education and Economics Advisory Board</b>	<b>NAREEEAB</b>	Provides advice to the USDA Secretary of Agriculture, land-grant colleges and universities on top priorities and policies for food and agricultural research, education, extension and economics. The Citrus Disease Subcommittee comprises industry members from California, Florida and Texas. <a href="https://nareeeab.ree.usda.gov/about-nareeeab">https://nareeeab.ree.usda.gov/about-nareeeab</a>
<b>National Agricultural Statistics Service</b>	<b>NASS</b>	This USDA agency conducts hundreds of surveys every year and prepares reports on agricultural production, prices paid and received, farm labor and wages, farm finances, chemical use and changes in the demographics of U.S. producers. <a href="http://www.nass.usda.gov/index.asp">http://www.nass.usda.gov/index.asp</a>
<b>National Clean Plant Network</b>	<b>NCPN</b>	A national committee created to provide expertise, advice and recommendations, including prioritization of funding, to the Governing Board of the National Clean Plant Network relative to the development, maintenance and distribution of pathogen-tested citrus propagative materials. <a href="http://nationalcleanplantnetwork.org/Citrus_CPN">http://nationalcleanplantnetwork.org/Citrus_CPN</a>
<b>National Clonal Germplasm Repository for Citrus and Dates</b>	<b>NCGRCD</b>	USDA program that preserves and distributes germplasm of citrus and citrus relatives, mostly of non-commercial plant material. It is located in Riverside, California, and associated with the University of California, Riverside.



# GLOSSARY OF CITRUS TERMS AND DEFINITIONS

Term	Acronym	Definition
<b>National Environmental Policy Act</b>	<b>NEPA</b>	Administered by US-EPA, this Act establishes national environmental policy and goals for the protection, maintenance and enhancement of the environment and provides a process for implementing these goals within the federal agencies. <a href="http://www.epa.gov/compliance/nepa/index.html">http://www.epa.gov/compliance/nepa/index.html</a>
<b>National Institute of Food and Agriculture</b>	<b>NIFA</b>	A U.S. Federal government body to consolidate all federally funded agricultural research, which is subordinate to the Department of Agriculture. <a href="https://nifa.usda.gov/">https://nifa.usda.gov/</a>
<b>National Labor Relations Board</b>	<b>NLRB</b>	An independent federal agency that protects the rights of private sector employees to join together, with or without a union, to improve their wages and working conditions. <a href="http://www.nlr.gov/">http://www.nlr.gov/</a>
<b>Natural Resources Conservation Service</b>	<b>NRCS</b>	This USDA agency works with landowners through conservation planning and assistance designed to benefit the soil, water, air, plants and animals that result in productive lands and healthy ecosystems. <a href="http://www.nrcs.usda.gov/wps/portal/nrcs/site/national/home/">http://www.nrcs.usda.gov/wps/portal/nrcs/site/national/home/</a>
<b>Navel and Valencia Export to Korea</b>	<b>NAVEK</b>	Program that was established through negotiations between USDA-APHIS and Korean National Plant Protection and Quarantine Service to comply with quarantine laws and help the California orange industry maintain trade with Korea.
<b>Neonicotinoid</b>		A systemic insecticide chemically related to nicotine.
<b>New Varieties Development and Management Corporation</b>	<b>NVDMC</b>	A Florida corporation focused on citrus varietal improvement for both fresh and processed varieties. <a href="http://nvdmc.org/">http://nvdmc.org/</a>
<b>Next generation sequencing</b>	<b>NGS</b>	Also known as high-throughput sequencing, a method for sequencing genomes rapidly and at relatively low cost.
<b>North American Plant Protection Organization</b>	<b>NAPPO</b>	The phytosanitary standard-setting organization recognized by the North American Free Trade Agreement (NAFTA). <a href="http://www.napppo.org">http://www.napppo.org</a>
<b>Nucleotides</b>		Chemical compounds that serve as the “building blocks” of DNA and RNA.
<b>Nymph</b>		An immature form of an insect.
<b>Occupational Safety and Health Administration</b>	<b>OSHA</b>	This agency is charged with assuring safe and healthful working conditions for working men and women by setting and enforcing standards and by providing training, outreach, education and assistance. <a href="http://www.osha.gov/">http://www.osha.gov/</a>
<b>Parasitism</b>		Relationship between species where one organism lives on or in a second (host) organism and causes it harm.
<b>Parasitoid</b>		An organism that develops within a host, killing it. Parasitoids are generally specialized and have species-specific hosts. <i>Tamarixia</i> is a parasitoid of ACP nymphs.
<b>Perishable Agricultural Commodities Act</b>	<b>PACA</b>	Regulates the buying and selling of fresh and frozen fruit and vegetables to prevent unfair trading practices and to assure that sellers will be paid promptly. <a href="http://nationalaglawcenter.org/research-by-topic/paca/">http://nationalaglawcenter.org/research-by-topic/paca/</a>
<b>Pest control advisor</b>	<b>PCA</b>	An EPA licensed industry professional who specializes in pest management strategies and serves as an important resource for large and small citrus growers in treating and managing the impact of psyllid populations on citrus fruit.
<b>Pest control district</b>	<b>PCD</b>	Commodity-specific special district composed of local growers responding to pests and diseases.
<b>Pesticide Use Reporting</b>	<b>PUR</b>	Program administered by the California Department of Pesticide Regulation (DPR) requiring all agricultural pesticide use to be reported monthly to county agricultural commissioners, who in turn, report the data to DPR.

Term	Acronym	Definition
<b>Phloem</b>		A living tissue in vascular plants that can conduct sugars and other metabolites long distances based on a concentration gradient; movement generally occurs from source tissues (photosynthetically active leaves) to sinks (developing fruit, new leaves and roots).
<b>Phytotoxicity</b>		Toxic effects of a chemical compound on plant growth. Damage to plant due to toxicity may be caused by trace metals, salinity, pesticides, herbicides or plant-produced chemicals.
<b>Pierce's Disease Control Program</b>	<b>PDCP</b>	CDFA special program engaged in control and eradication of glassy-winged sharpshooter. The program uses the same yellow-panel traps used for Asian citrus psyllid (ACP) monitoring, and traps are checked for ACP, as well.
<b>Plant growth regulator</b>	<b>PGR</b>	A natural or synthetic chemical that when applied to a plant, affects the growth and differentiation of plant parts.
<b>Plant Health &amp; Pest Prevention Service</b>	<b>PHPPS</b>	A CDFA agency whose purposes are to protect California's food supply from the impact of exotic pests, its environment and natural resources from direct pest impact and increased pesticide use, the public from pests that pose threats to human health and its position in the global economy. <a href="http://www.cdfa.ca.gov/plant/">http://www.cdfa.ca.gov/plant/</a>
<b>Plant Pest Diagnostics Center</b>	<b>PPDC</b>	Branch of CDFA providing timely and accurate plant pest diagnostics, consultation to pest prevention programs, improvement services for plant quality, research on new pest and disease species and curation of scientific resources. <a href="https://www.cdfa.ca.gov/plant/PPD/">https://www.cdfa.ca.gov/plant/PPD/</a>
<b>Plant Protection Act</b>	<b>PPA</b>	Statute relating to plant pests and noxious weeds that consolidated related responsibilities previously spread over various legislative statutes and implemented by USDA-APHIS.
<b>Plant Protection and Quarantine</b>	<b>PPQ</b>	USDA-APHIS program that safeguards U.S. agriculture and natural resources against the entry, establishment and spread of economically and environmentally significant pests and facilitates the safe trade of agricultural products.
<b>Plant Protection and Quarantine Center for Plant Health Science and Technology</b>	<b>PPQ CPHST</b>	USDA-APHIS center that provides scientific support for PPQ regulatory decisions and operations and is the main component of PPQ's Science and Technology core functional area, which also includes the National Clean Plant Network.
<b>Polyembryony</b>		The production of more than one plant from an individual seed. In citrus, many of these plants arise from maternal rather than zygotic (from both parents) tissue, giving a genotype identical to the mother tree instead of a hybrid embryo.
<b>Polymerase Chain Reaction</b>	<b>PCR</b>	An enzymatic and temperature dependent chemical reaction that can produce many copies of a specific piece of DNA when necessary elements are present.
<b>Conventional PCR</b>	<b>cPCR</b>	This type of PCR uses a DNA template and produces (or should produce) an amplified segment or segments of DNA that can be separated by size (visualized as bands) through a slab of agarose gelatin by running an electrical current through the gelatin. Size-separated target bands can be removed, cleaned and used for additional molecular biology tasks such as sequencing or cloning.
<b>Digital droplet PCR</b>	<b>ddPCR</b>	This PCR method emulsifies the initial reaction mixture in oil to create many thousands of reactions within droplets. This method has been used to increase PCR sensitivity.
<b>Quantitative PCR</b>	<b>qPCR</b>	This PCR method measures the increase in PCR products during the thermal cycling procedure through the use of a fluorescent dye that binds within double-stranded DNA. This allows for an estimation of the initial amount of "template" DNA present in the sample.



# GLOSSARY OF CITRUS TERMS AND DEFINITIONS

Term	Acronym	Definition
Quantitative reverse transcription PCR	qRT-PCR	A variant of qPCR that is used to quantify RNA transcript levels in a sample.
Reverse transcriptase PCR	RT-PCR	A variant of PCR used to transcribe RNA into DNA and then use the subsequent DNA produced as the template for conventional PCR.
Principal investigator	PI	Primary individual (research group leader) responsible for a research study.
Produce Marketing Association	PMA (1)	Mission is to connect, to inform and to deliver business solutions that enhance members' prosperity. <a href="http://www.pma.com/">http://www.pma.com/</a>
Programmatic environmental impact report	PEIR	An EIR prepared on a series of actions that can be characterized as one large project. <a href="https://www.ucop.edu/design-services/_files/ceqa-implementation-guidance.pdf">https://www.ucop.edu/design-services/_files/ceqa-implementation-guidance.pdf</a>
Promoter		Genetic element that regulates where, when and how many copies of a gene to transcribe to RNA for protein production or other purposes.
Proteomics		Field of study that examines the structure and function of the set of proteins produced under certain conditions or by an organism.
Psyllid management area	PMA (2)	Small, manageable areas where a network of growers coordinate area-wide management of ACP. <a href="https://citrusinsider.org/psyllid-and-disease-control/psyllid-management-areas/">https://citrusinsider.org/psyllid-and-disease-control/psyllid-management-areas/</a>
Public service announcement	PSA	TV or radio ad used to convey message of public interest.
Pyrethroids		Synthetic insecticides similar to naturally occurring pyrethrins produced by pyrethrum flowers ( <i>Chrysanthemum cinerariaefolium</i> and <i>C. coccineum</i> ).
Recombinase enzyme		An enzyme that can "cut and paste" DNA without the gain or loss of nucleotides after binding to a specific stretch of DNA.
Recombinase Mediated Cassette Exchange	RMCE	A technique that uses enzymes to replace one segment of genetic material with a second segment in a location-specific manner.
Residual control (or persistence)		The amount of time after application that an insecticide effectively kills pests.
Resistance-breaking (RB) genotype	RB	A genotype of CTV that can replicate in trifoliolate orange and its hybrids, leading to symptom development.
Rhizosphere		The zone (few mm in thickness) surrounding the plant root system where plant, microorganisms and soil come together, influencing root chemistry and biology.
Risk Management Agency	RMA	A USDA agency with a mission to promote, support and regulate sound risk management solutions to preserve and strengthen the economic stability of America's agricultural producers. <a href="http://www.rma.usda.gov/">http://www.rma.usda.gov/</a>
Ribonucleic Acid	RNA	A nucleic acid present in all living cells. RNAs are transcribed from DNA and link the transcriptional and translational processes that convert DNA to protein. Some viruses store their genetic information in RNA, rather than DNA.
Double stranded RNA	dsRNA	While most RNA is single stranded, when two complementary RNA strands match up, double-stranded RNA can be produced. This structure is involved in several cellular processes including gene silencing.
Messenger RNA	mRNA	A type of RNA transcribed from genes and used to "translate" genetic sequences into amino acids that link to form proteins.

Term	Acronym	Definition
<b>MicroRNA</b>	<b>miRNA</b>	A short segment of RNA (about 22 nucleotides) that affects gene expression.
<b>Small RNA</b>	<b>sRNA</b>	A broad term for a RNA molecule (about 50 to 250 nucleotides) often involved in affecting gene expression.
<b>Transfer RNA</b>	<b>tRNA</b>	A specific sequence of RNA that physically links mRNA and amino acids to aid in protein production.
<b>RNA interference</b>	<b>RNAi</b>	A biological process by which RNA molecules inhibit gene expression by activating native antiviral responses that “cut up” and destroy matching RNA. A popular method to developing “knock out” variants to study genes of interest.
<b>Root exudation</b>		Roots of vascular plants release organic compounds (sugars, amino acids, lipids, vitamins, etc.) released by roots of vascular plants that may serve as chemical attractants or repellents to a microbial community in the rhizosphere.
<b>Salicylic acid</b>	<b>SA</b>	A plant hormone with numerous roles including plant defense induction, plant growth and development and photosynthesis.
<b>Section-Township-Range</b>	<b>STRs</b>	One mile-square grid.
<b>Selectable marker</b>		A gene that confers a specific, measurable trait.
<b>Senate Bill</b>	<b>SB</b>	Piece of proposed legislation that either originated or was modified in the Senate.
<b>Servicio Nacional de Sanidad, Inocuidad y Calidad Agroalimentaria</b>	<b>SENASICA</b>	An administrative body of the Ministry of Agriculture, Livestock, Rural Development fisheries and food (SAGARPA) responsible for, among other things, preventing the introduction of pests into Mexico. <a href="http://www.senasica.gob.mx/">http://www.senasica.gob.mx/</a>
<b>Shoot-tip graft</b>	<b>STG</b>	A minute shoot tip grafted under hygienic conditions onto a seedling rootstock grown <i>in vitro</i> .
<b>Smuggling Interdiction and Trade Compliance</b>	<b>SITC</b>	Implemented by USDA-APHIS to detect and prevent the unlawful entry and distribution of prohibited and/or non-compliant products that may harbor exotic plant and animal pests, disease or invasive species.
<b>Specialty Crop Farm Bill Alliance</b>	<b>SCFBA</b>	A national coalition of more than 140 specialty crop organizations representing 350 specialty crops. <a href="http://farmbillalliance.org/">http://farmbillalliance.org/</a>
<b>Specialty Crop Research Initiative</b>	<b>SCRI</b>	A USDA-NIFA program to address the critical needs of specialty crop industries by awarding grants to support research and extension.
<b>Spiroplasma citri</b>	<b>Sc</b>	A bacterium that causes citrus stubborn disease. <a href="http://ipm.ucanr.edu/PMG/r107101211.html">http://ipm.ucanr.edu/PMG/r107101211.html</a>
<b>State Water Resources Control Board</b>	<b>SWRCB</b>	Addresses water quality and rights regulation. <a href="http://www.swrcb.ca.gov/">http://www.swrcb.ca.gov/</a>
<b>Sustainable Groundwater Management Act</b>	<b>SGMA</b>	A three-bill legislative package that requires governments and water agencies of high and medium priority basins to halt overdraft and bring groundwater basins into balanced levels of pumping and recharge.
<b>Sweet Orange Scab</b>	<b>SOS</b>	A disease caused by the fungus <i>Elsinoë australis</i> . The disease results in scab-like lesions that develop primarily on the fruit rind. <a href="http://www.citrusresearch.org/sweet-orange-scab/">http://www.citrusresearch.org/sweet-orange-scab/</a>
<b>Systemic</b>		The movement of something throughout an organism, most often found in reference to a pesticide.



# GLOSSARY OF CITRUS TERMS AND DEFINITIONS

Term	Acronym	Definition
<b>Technical Assistance for Specialty Crops</b>	<b>TASC</b>	Program that provides funding to eligible U.S. organizations for projects that address sanitary, phytosanitary and technical barriers that prohibit or threaten the export of U.S. specialty crops. <a href="https://www.fas.usda.gov/programs/technical-assistance-specialty-crops-tasc">https://www.fas.usda.gov/programs/technical-assistance-specialty-crops-tasc</a>
<b>Texas Citrus Pest and Disease Management Corporation</b>	<b>TCPDMC</b>	A nonprofit corporation that manages and controls citrus pests and diseases in Texas by planning, carrying out and operating a suppression program, while incorporating an area-wide, integrated pest management approach. <a href="https://texascitrusindustry.com/the-corporation-tcpdmc/">https://texascitrusindustry.com/the-corporation-tcpdmc/</a>
<b>Top-working</b>		The process of grafting a new cultivar onto an already established tree with a developed root system.
<b>Transcription and Translation</b>		The process by which an organism's DNA sequence is converted from genes to RNA molecules to amino acids to proteins and other products.
<b>United Nations Food and Agriculture Organization</b>	<b>FAO</b>	A specialized agency of the United Nations that leads international efforts to defeat hunger by acting as a neutral forum where all nations meet as equals to negotiate arguments and debate policy. <a href="http://www.fao.org/home/en/">http://www.fao.org/home/en/</a>
<b>United States Department of Agriculture</b>	<b>USDA</b>	A federal executive department that provides leadership on food, agriculture, natural resources, rural development, nutrition and related issues based on public policy, the best available science and effective management. <a href="https://www.usda.gov/">https://www.usda.gov/</a>
<b>University of California Cooperative Extension</b>	<b>UCCE</b>	Functions as the University of California's Division of Agriculture and Natural Resource outreach arm, which consists of farm, 4-H and nutrition, family and consumer science advisors.
<b>University of California Integrated Pest Management</b>	<b>UC IPM</b>	The University of California Statewide IPM Program helps residents, growers, land managers, community leaders and other professional pest managers prevent and solve pest problems with the least unintended impacts on people and their surroundings.
<b>University of California, Davis</b>	<b>UCD</b>	One of ten campuses of the University of California located in Davis, California.
<b>University of California, Riverside</b>	<b>UCR</b>	One of ten campuses of the University of California located in Riverside, California.
<b>University of Florida Institute of Food and Agricultural Sciences</b>	<b>UF/IFAS</b>	A federal-state-county partnership housed on the main campus of the University of Florida, which is dedicated to developing knowledge in agriculture, human and natural resources, the life sciences and enhancing and sustaining the quality of human life by making that information accessible.
<b>University of Florida's Citrus Research and Education Center</b>	<b>UF-CREC</b>	The largest, off-campus experiment station in the University of Florida's Institute of Food and Agricultural Sciences, which focuses its research entirely on citrus to deliver innovative solutions that empower citrus and other agricultural interests to conduct responsible and profitable businesses.
<b>Variety Index</b>		A comprehensive set of diagnostic tests, including bio-indexing and laboratory tests, to detect all known graft transmissible pathogens of citrus that are required before release from quarantine can be requested.
<b>Vector</b>		A small organism, such as an insect, that carries a pathogen from host-to-host.
<b>Viroids</b>		Infectious small RNA species, typically 300-600 nucleotides that do not encode for any protein and can only be transmitted and replicated in plants.
<b>Virus</b>		A subcellular infective agent usually consisting of a protein coat and a nucleic acid molecule. Requires the living cells of animals, plants or bacteria to multiply.





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IF THERE ARE ANY ADDITIONAL CITRUS INDUSTRY-RELATED ACRONYMS OR TERMS THAT YOU WOULD LIKE TO SEE ADDED TO THE LIST,  
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