Questions and Answers: USDA’s Multi-Agency Emergency Response Framework To Combat a Devastating Citrus Disease

Q. Why is the U.S. Department of Agriculture (USDA) creating a multi-agency emergency response framework?
A. One of the most serious citrus diseases in the world—Huanglongbing (HLB)—poses a very real and growing threat to citrus production in the United States. USDA heard from and listened to the citrus industry’s request for more urgency and greater coordination on the response to HLB. Immediately, USDA established a new, unified emergency response framework to better position the Department to respond in a more agile, concerted, and direct way to both the immediate and long-term needs of the citrus industry.

Q. Is USDA providing funding for this initiative?
A. To jump-start the initiative, USDA is providing $1 million to be used in support of research projects that can bring practical and short-term solutions to the growers in their efforts to combat the disease.

Q. What are the participating agencies and organizations and their roles?
A. Participating organizations include USDA’s Animal and Plant Health Inspection Service (APHIS), Agricultural Research Service (ARS), and National Institute of Food and Agriculture (NIFA), as well as State departments of agriculture and industry groups.

The first order of business will be for the participants to collaboratively define their specific roles and responsibilities under the framework. Each participating organization brings special expertise, resources, and perspectives to the fight against HLB. The Federal and State participants also have statutory and regulatory authorities that have been crucial in slowing the spread of the disease.

APHIS will take the lead and will convene joint agency planning and resource management through its Citrus Health Response Program.

Q. How will the new, unified framework operate?
A. These partners are forming an HLB Multi-Agency Coordination (MAC) Group—or HLB MAC Group—to jointly collaborate on policy decisions, establish priorities, allocate critical resources, and collect, analyze, and disseminate information.

Q. How will the HLB MAC Group benefit citrus growers?
A. The HLB MAC Group will 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.

Q. How will the HLB MAC help in the short term?
A. The HLB MAC will help right away by providing the industry with a single Federal point of contact for all Federal and State entities that work on citrus issues. In addition, the framework will maintain and share a common operating picture of HLB response that is accessible across jurisdictions and functional agencies. This common operating picture will greatly improve strategy development, policymaking, and resource allocation—ensuring funds are invested where they can have maximum impact based on input of all participants.

Q. Why is HLB such a serious concern for America’s citrus industry?
A. Economically, HLB puts at risk America’s entire citrus crop, worth $3.15 billion in the 2012-2013 growing season. The economic damage HLB has caused in Florida alone is alarming. According to University of Florida research, the disease cost the State more than $4.5 billion in lost citrus production and led to more than 8,200 lost jobs from the 2006/07 to 2010/11 production seasons. Since the initial detection of HLB in Florida in 2005, the disease has affected the vast majority of Florida’s citrus-producing areas.

Q. Where has HLB been found in the United States?
A. In addition to Florida, HLB has been detected in Georgia, Louisiana, and South Carolina, as well as Puerto Rico and the U.S. Virgin Islands. In 2012, it was
detected in small areas in Texas and in one residential citrus tree in California. The disease has been found in 14 states in Mexico and is a constant threat to citrus in Texas, California, and Arizona.

Q. What damage does HLB cause, and how does it spread?
A. HLB, also known as citrus greening, is named for the green, misshapen, and bitter-tasting fruit it causes. While the disease poses no danger to humans or animals, it has devastated millions of acres of citrus crops throughout the United States and abroad. The citrus disease is primarily spread by the gnat-sized Asian citrus psyllid (ACP) insect and can affect any variety of citrus trees. It is a bacterial disease transmitted from infected to healthy plants by the ACP or the grafting of infected tissues onto healthy host plants. HLB spreads internally throughout the plant. Other than tree removal, there is no effective control once a tree is infected. Currently, there is no known cure for the disease.

Q. How many States and Territories are under quarantine for the ACP?
A. A total of 15 States or Territories are under full or partial quarantine due to the detected presence of the ACP: Alabama, American Samoa, Arizona, California, Florida, Georgia, Guam, Hawaii, Louisiana, Mississippi, Northern Mariana Islands, Puerto Rico, South Carolina, Texas, and the U.S. Virgin Islands.

Q. How is USDA currently combatting HLB?
A. Three USDA agencies have primary roles in combating HLB: the Animal and Plant Health Inspection Service (APHIS), Agricultural Research Service (ARS), and National Institute of Food and Agriculture (NIFA). ARS and NIFA focus on research, and APHIS focuses on survey and detection, regulatory action, and the development of data and protocols the citrus industry can use to manage, suppress, and slow the spread of the disease.

Q. How has APHIS been combatting HLB?
A. APHIS’ Citrus Health Response Program (CHRP) funds the administration of domestic regulations, pest surveys, coordinated area-wide suppression of ACP, and several initiatives in cooperation with State regulatory agencies and the citrus industry in all of the major citrus-producing States: Arizona, California, Florida, and Texas. In fiscal year (FY) 2013, the CHRP provided approximately $41 million in funding for such efforts. The CHRP sustains the U.S. citrus industry, maintains growers’ continued access to export markets, and safeguards citrus-growing States against various citrus diseases and pests.

The CHRP is also designed to achieve the industry's short- and mid-term goals, which include slowing the spread of HLB through the early detection of the disease on trees, protecting disease-free nursery stock, employing safeguarding measures, enforcing regulations, and suppressing the ACP through area-wide pest management and biological control. CHRP’S long-term goals are to encourage sustainable management of HLB through the deployment of management tools developed by researchers, such as resistant trees, biotechnology, and new chemistry to suppress HLB.

APHIS also conducts an active public outreach and education program called Save Our Citrus. The program increases the urgency about the risk of moving citrus plants, focusing on both English- and Spanish-speaking audiences in States and Territories with Federal citrus quarantines. Save Our Citrus builds awareness of citrus diseases among plant enthusiasts and online shoppers of citrus plants and materials. It also provides an overarching public service announcement to convey the serious message of risk to citrus, driving the public to an updated website with a wealth of information and downloadable resources.

Q. How does ARS apply science to combat HLB?
A. For HLB-related research, ARS committed $1.49 million in FY 2012 and $1.39 million in FY 2013. The President's Budget Proposal for FY 2014 for ARS includes $1.49 million for research to combat the disease. ARS has responded to HLB with appropriated funds since 2006. Currently, ARS is using a multi-faceted approach aimed at the three components of the disease: resistance in the citrus host, suppression of the ACP vector, and control of the presumed causal organism, ‘Ca. Liberibacter asiaticus’ (Las). ARS’ primary accomplishments include:

- A national plan for development of HLB-resistant trees is in place, and ARS scientists in Fort Pierce are using conventional breeding and biotechnology approaches to developing citrus cultivars with resistance to HLB. Several conventionally bred cultivars and rootstocks appear to be tolerant to HLB and also show good horticultural characteristics.

- New management strategies are being developed for the ACP, including screening potential attractants and repellents; biological control strategies (with insect, viral, and fungal parasites); low volume spray applicators; interfering with transmission of HLB; and enhancing diagnostics of infectious psyllids as a means of early warning of the disease.
NIFA is providing funding for some of this research, which supports ARS and university researchers.

- The genomic sequence of the ACP vector has recently been completed and is publically available. ARS scientists and collaborators published the full genomic sequence of Las, the organism presumed to be responsible for HLB. The full sequence of the citrus rootstock cultivar ‘Carizzo’ has been completed and is now available on a public database. ‘Carizzo’ is the single most important rootstock to the U.S. citrus industry and has resistance or tolerance to a number of major citrus diseases, including HLB.

- ARS scientists are also investigating whether the production of good-tasting citrus fruit and juice may continue from existing cultivars even after they become infected with HLB.

A. What is NIFA’s role in the effort against HLB?

Q. NIFA supports research on HLB, providing $878,000 in FY 2009, $1.67 million in FY 2010, $217,000 in FY 2011, and $10.4 million in FY 2012.

NIFA’s Plans for FYs 2013 and 2014 include:

- A $9 million Coordinated Agricultural Project funded by NIFA is looking for ways to limit the spread of the disease. The project, funded in FY 2012, will continue until August 2017. Cooperating institutions include the Citrus Research and Development Foundation, Citrus Research Board, University of Florida, and ARS.

- Small Business Innovation Research (SBIR) projects funded in FY 2012 are investigating innovative management techniques to address the ACP vector. The SBIR program is open to proposals addressing problems impacting citrus production. Funding decisions have yet to be made for FY 2013. $1.2 million was recently awarded from the Agricultural and Food Research Initiative (AFRI) to develop innovative strategies for controlling ACP. Crop losses caused by disease, insects, or weeds are included in the single research priority of the FY 2013 Food Security RFA. This request for applications (RFA) closed on July 17, 2013; awards have not yet been announced.

- The four 2013 Regional Integrated Pest Management RFAs offer opportunities for HLB projects.

- NIFA expects that land-grant universities in States that produce citrus will continue to invest capacity funds in research and extension efforts to address problems with HLB. Each university determines how its capacity funds will be invested through priority-setting processes that engage local stakeholders.

NIFA works closely with the Citrus Disease Research and Development Advisory Committee of the National Agricultural Research, Extension, Education and Economics Advisory Board. The Board advises the Secretary of Agriculture and land-grant colleges and universities on top priorities and policies for food and agricultural research, education, extension and economics. Twenty-five members comprise the Board, each representing a specific category of U.S. agricultural stakeholders, as mandated by Congress.

Q. How are the citrus-producing States fighting HLB?

A. States are heavily involved as strong USDA partners in implementing a variety of response activities, such as conducting ACP and HLB surveys and ACP treatments, entering into compliance agreements with packing houses to ensure that fruit packing processes meet certain standards to minimize disease spread, and certifying citrus products.

The States use their regulatory authority to establish intrastate HLB quarantine areas that parallel the Federal quarantine areas.

Q. How is industry responding to the HLB threat?

A. The citrus industry works closely with USDA and State departments of agriculture to combat HLB. The industry coordinates its HLB and ACP management efforts based on USDA- and State-provided data on ACP and HLB detections and population distribution. Industry-funded initiatives include operational activities, research, and outreach and education.

Citrus nursery representatives and scientists have developed a list of research initiatives they want to pursue, and they wish to be kept apprised of the latest progress in HLB research.

Q. What are the industry’s efforts in Florida?

A. In 2009, the Florida citrus industry formed the non-profit Citrus Research and Development Foundation (CRDF) to oversee HLB research and development efforts in the State. Since FY 2009, the CRDF has applied $89.6 million toward this research. The CRDF is still finalizing its FY 2014 funding estimate. Its wide range of funded projects includes the development of disease-resistant plants and studies to interrupt the breeding and feeding of the ACP.
Q. What are the industry’s efforts in California?
A. California citrus growers fund and direct citrus research through the Citrus Research Board (CRB), which was established in 1968. The CRB focuses on three research areas: plant security, market security, and invasive pests. Since 2011, the CRB has committed $11.7 million to citrus research programs. For 2014, the organization projects that $5 million has or will be put directly into sponsored research. In October 2013, it hosted the 4th Annual Citrus Health Research Forum. The CRB has created the Citrus Pest & Disease Prevention Program Web site for public outreach and education.

Q. What are the industry’s efforts in Texas?
A. Texas Citrus Mutual (TCM) is managing operations to slow the spread of the disease, coordinating much of the operational activities through grower-led work groups that also involve scientists and regulators. Funding comes from both industry and USDA's Citrus Health Response Program.

The Texas citrus industry actively monitors ACP populations; surveys for HLB; manages an integrated, area-wide management program for ACP in commercial citrus; treats residential citrus; removes HLB-infected commercial and residential citrus; and conducts outreach to homeoweners. The Texas industry estimates that its total investment in HLB-related efforts in 2014 will be about $700,000. TCM and other State partners created an HLB outreach Web site call Texas Citrus Greening that USDA partially funded.

Q. What are some online resources with information on HLB (also called citrus greening disease) and the ACP?
A. Online resources on HLB and the ACP include the following:

**Huanglongbing Multi-Agency Coordination Group**
- Multi-Agency Response to Devastating Citrus Disease

**Federal Regulatory Information**
- USDA's Animal and Plant Health Inspection Service: Citrus Greening
- USDA's Animal and Plant Health Inspection Service: Citrus Health Response Program

**HLB and ACP Quarantine Area Maps**

**State Regulatory Information**
- Arizona Department of Agriculture
- California Department of Food and Agriculture
- Florida Department of Agriculture and Consumer Services
- Texas Department of Agriculture

**Public Outreach and Education Web Sites**
- Citrus Research Board's Citrus Pest & Disease Prevention Program
- Save Our Citrus
- Texas Citrus Greening

**Academia**
- University of California-Davis
- University of California Integrated Pest Management Program
- University of Florida's Citrus Greening Training
- University of Florida's Citrus Research and Education Center
- University of Florida IFAS Extension
- Texas A&M University – Kingsville Citrus Center

**Additional Resources**
- California Citrus Mutual
- California Citrus Quality Council
- Florida Citrus Mutual
- Texas Citrus Mutual
- Texas Citrus Exchange

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