Highlights of CPHST Recent Activities
November 16, 2010

Agricultural Quarantine Inspection and Port Technology

- Launched a new version of the Commodity Treatment Information System in Oct. 2010 with several new features.
- Expanding capacity for US export specialty crop irradiation treatments:
  - Irradiated US peaches approved for export to Mexico
  - Determining irradiation treatment dosages for Light Brown Apple Moth (LBAM), European Grapevine Moth (EGVM) and spotted winged *Drosophila* and effects of this treatment on commodity quality.
- Validating vacuum-steam heat treatment for logs and tiles as an alternative to methyl bromide. The equipment is commercially available and treatment time is several hours instead of days.
- Validating cold treatment for *Bactrocera zonata and B. invadens* for imported fruits. This is an ARS & PPQ collaboration to develop import and domestic treatments.
- Developing an improved method of sample selection for inspection of propagative material at Plant Inspection Stations. Sample selection is based on numbers of plants and boxes, not just boxes or a fixed percentage.
- Assisted Professional Development Center with development of Irradiation and Cold Treatment Vessel Inspection training.

Risk and Pathway Analysis

- Developing proposals to integrate climate change scenarios into animal and plant pest forecasting systems and response programs for invasive species in the United States.
- Updated a risk assessment for citrus black spot (CBS) to ensure a scientific basis for developing regulatory activities. The assessment is in an external peer review process associated with a major policy change.
- Developed a new Sharepoint site (RegDev) to track regulatory projects.
- Q-56 Fruit and vegetable market access requests: Cleared 19 original and revised 37 risk assessments/pest lists.
- Q-37 Plants for propagation requests: Cleared 5 original weed risk assessments, and two revised risk assessments.
- New Pest Advisory Group analyzed 48 pests and completed 20 pre-assessments for organisms not considered NPAG pests.
- Worked with Emergency and Domestic Programs on seven New Pest Response Guidelines documents.
- Collected information on new pests of concern through the Global Pest and Disease Database and Exotic Pest Information Collection and Analysis program.

Domestic Survey, Detection, and Identification

- Developing a search gateway called "ID Source" to direct users to pest identification resources on the internet.
- Developing several digital identification tools- including tools for palm pests, bark beetles, and noxious weeds disseminules.
- Providing support for Cooperative Agricultural Pest Survey (CAPS):
  - Farm Bill has provided opportunity to increase methods support 4 fold
  - Several new projects to fill gaps in detection systems for CAPS pests
  - Delivered CAPS corn commodity-based reference and survey guidelines
  - Prepared several sections of the National Survey Guidelines
  - Provide 30,000-50,000 pheromone lures annually to CAPS

Response and Recovery Systems Technology- Pathogens and Weeds

- Organized Technical Working Groups in response to Citrus Greening, Citrus Black Spot, Sweet Orange Scab, Plum Pox Virus and *Phytophthora ramorum*.
- Developed or validated molecular diagnostics for numerous pathogens, including Sweet Orange Scab, Citrus Black Spot, and Citrus Leprosis Virus.
- Expanded the National Plant Protection Laboratory Accreditation Program (NPPLAP) Proficiency Test program. Currently 16 labs are certified for *P. ramorum* and 10 labs are certified for citrus greening/HLB testing.
- Provided hands-on molecular laboratory training for U.S. diagnosticians for several quarantine diseases and for international diagnosticians for citrus greening/HLB.
- Validating CANARY technology for rapid diagnosis, and evaluating this method for testing for Citrus Variegated Chlorosis.
- Evaluating citrus management systems in China with the presence of citrus greening/HLB. This project has already identified effective field management strategies such as fertilization and irrigation management, flush management, and use of oils and soaps to repel Asian citrus psyllid (ACP). In addition, three new natural enemies for ACP have been identified.
- Providing *P. ramorum* program support: updating sampling protocols, assisting nursery assessment teams, and overseeing research projects at the National Ornamentals Research Site at Dominican University of California (NORS-DUC).
- Tropical Soda Apple Biocontrol: Assessment of establishment, spread and impact, and economic value of biocontrol program.
- Providing potato cyst nematode program support for field bioassay protocols and deep sampling protocols.
- Demonstrated that ornamental Japanese bloodgrass could revert to wild-type cogongrass, an invasive weed.

Response and Recovery Systems Technology- Arthropods

- Organized Technical Working Groups for Emerald Ash Borer, Sirex woodwasp, Light Brown Apple Moth (LBAM), and European Grapevine Moth (EGMV).
- Implemented an area-wide psyllid management pilot project over the last 3 years in Texas that now covers 4700 acres. The project has demonstrated the effectiveness of insecticide application to control Asian Citrus Psyllid (ACP) in citrus if applied before the spring flush of growth, resulting in a 90% reduction in the number of adult psyllids.
- EGVM Program Support: Production of lures, phenology/life table/host studies, traps and survey protocols, pesticide recommendations, mating disruption materials.
- Developed rearing systems for *Trichogramma* spp. which are potential biocontrol agents for LBAM.
- Developed LBAM molecular diagnostics to speed identification.
- LBAM Management through Sterile Insect Technique (SIT). Conducted small scale releases of sterile LBAM and preparing for large scale releases for SIT.
- Developed new treatments for imported fire ant in nursery stock and sod
- Confirmed establishment of two phorid fly species for biocontrol of IFA in over half of the quarantine area.
- Asian Citrus Psyllid biocontrol: development of parasitoid mass-rearing techniques, assessment of new parasitoid strains.
- Emerald Ash Borer biocontrol: foreign exploration for new agents, development of BC release & evaluation protocols.
- Developing survey protocols and New Pest Response Guidelines for Red Palm Weevil.
- Initiated use of molecular diagnostics to identify immature fruit fly larvae intercepted at ports of entry to provide pathway and trend analysis on fruit fly introductions. The pilot project began Nov. 2010 at 2 ports.
- Using molecular diagnostics to trace the origin of Asian longhorned beetle outbreaks.
- Developing DNA-based and morphological methods to determine origin of fruit fly detections and help target exclusion and response activities.
- Development of faster and cheaper ground application systems for grasshopper programs.
- Demonstrated the potential for a newly discovered US fungal pathogen to control rangeland grasshoppers, Mormon cricket, and pink bollworm in field trials.