

FOR INFORMATION AND ACTION
DA-2008-32
July 14, 2008

SUBJECT: *Candidatus* Liberibacter spp. as putative causal agent of Zebra Chip of potatoes

TO: STATE AND TERRITORY AGRICULTURAL REGULATORY OFFICIALS

On July 11, 2008, the Animal and Plant Health Inspection Service (APHIS) confirmed the identification of *Candidatus* Liberibacter spp. in potato tubers showing typical symptoms of Zebra Chip (ZC) disease from two field samples collected in Texas. ZC is an emerging disease that causes foliar symptoms, including purple top, small leaves, engrossment of the stems, and swollen axillary buds. The disease also causes necrotic brown to black lines to form across tubers and reduces marketability of the tubers for potato chips. Potato psyllid, *Bactericera cockerelli* (Homoptera: Psyllidae), is a known vector of the disease, but the causal agent was unknown. APHIS and other scientists have been studying ZC since it was first detected in the United States in 2000. Using PCR amplification and sequencing of the PCR product, APHIS determined that samples of ZC-affected Russet Norkota potato tubers from Texas tested positive for DNA sequences from *Ca.* Liberibacter spp. This species is not described in the current literature and is different from *Ca.* Liberibacter spp., which causes citrus greening or Huanglongbing disease.

ZC has been known to occur in Central America and Mexico for at least 15 years. In the United States, ZC of potato is most severe in southern Texas, but it has been reported as far north as Colorado. The psyllid is most severe in Texas, but it has also been reported in several central and western States. The ZC causal agent has not been reported in any other crops in the United States.

Potato tubers that are heavily infected with ZC do not sprout. Weakly infected tubers sprout and potato psyllids feeding on the plant spread the pathogen to other potato plants. Controlling the potato psyllid and planting ZC-free potatoes can help potato growers protect their crops from ZC. APHIS will evaluate adding ZC to the Seed Potato Certification program to ensure the availability of clean seed potato.

For more information about ZC, you may contact Mr. Craig Fedchock (Director, Phytosanitary Issues Management), at (301) 734-5291.

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