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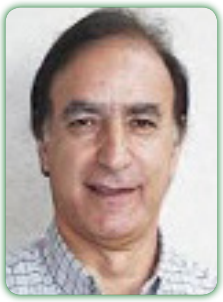

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Bacterial spot (*Xanthomonas cucurbitae*): An emerging disease of cucurbits

Bacterial spot of cucurbits, caused by *Xanthomonas cucurbitae*, is an emerging disease in the United States (US) and other cucurbit growing areas of the world. The pathogen can infect all cucurbit crops, but its major hosts are pumpkins and winter squash. Leaves and fruits of cucurbits are infected by *X. cucurbitae* at all growth stages. Infected fruits are usually colonized by opportunistic fungi and bacteria, and rot. Our surveys in the North Central Region in the US during 2012-2013 showed that 159 of 180 and 71 of 79 of pumpkin and squash fields, respectively, had fruits infected with *X. cucurbitae*. The average incidence of fruits with bacterial spot in all pumpkin and squash fields surveyed was 25 and 19%, respectively. We identify the pathogen based on the colony morphology on yeast dextrose agar (YDC), polymerase chain reaction (PCR) test using RST2/RST3 primers, and pathogenicity test on susceptible pumpkin 'Howden'. X. cucurbitae survived in infected leaves and fruits in the field for more than 24 months. Also, *X. cucurbitae* survived longer than 18 months in the seeds at 4 and 22°C and remained viable. No cultivar of cucurbits resistant to *X. cucurbitae* is available. We eradicated the pathogen in the naturally-infected and artificially infested seeds by hot-water treatment at 55°C for 15 min and HCl treatment at 0.5% concentration for 40 min. Also, in our field trials, copper oxychloride + copper hydroxide (Badge X2 DF), copper sulfate (Cuprofix Ultra 40 DF), oxytetracycline (Mycoshield 40 WSP), copper sulfate pentahydrate (Phyton-016B), copper hydroxide (Kocide-3000 46.1 DF) plus acibenzolar-s-methyl (ActiGard 50 WG), Kocide-3000 46.1 DF plus famoxadone + cymoxanil (Tanos 50D WG), an extract from *Reynoutria sachalinensis* (Regalia), and *B. subtilis* (Serenade ASO) were effective in reducing incidence and severity of bacterial spot on both leaves and fruits compared to controls.

Biography

Mohammad Babadoost received his MS in Plant Pathology from Washington State University and PhD in Plant Pathology from North Carolina State University. In 1999, he joined the faculty of the University of Illinois at Urbana-Champaign, and he is now a Professor of Plant Pathology and Extension Specialist. He conducts research and extension programs on the biology and management of vegetable and fruit crops diseases, and teaches "Plant Disease Diagnosis and Management" and "Outreach Education Skills." He has served as an Editor of the *APS-FNT and ASHS HortTechnology* and as a Reviewer for more than 20 journals. He has published 1 book, 4 book chapters, 1 monograph, 10 bulletins, 51 refereed articles, 86 articles in proceedings, 88 abstracts, and 175 articles in newsletters. He has developed a profound commitment to sharing his expertise in developing countries to advance the science of plant pathology and establishing food security in the world.

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