

Evaluation of Systemic Induced Resistance for Suppression of *Xanthomonas hortorum* pv. *carotae* in Carrot Seed Crops

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Bacterial blight caused by *Xanthomonas hortorum* pv. *carotae* (*Xhc*) is the most important pest to the carrot seed industry in the Pacific Northwest USA. Copper-containing products such as ManKocide are applied regularly to carrot seed crops in the Pacific Northwest in an attempt to prevent contamination of seed by *Xhc*, but the effect of this treatment is typically poor to fair. Other alternative chemical strategies, including foliar applications of Actigard, also have shown limited efficacy. A recent report showed that a root drench with Actigard, an inducer of systemic acquired resistance (SAR), offered 4 months of good protection against bacterial canker of citrus, whereas a corresponding foliar treatment provided partial protection for only a week. A preliminary study we conducted demonstrated that a root drench with Actigard significantly reduced colonization of carrots leaves inoculated with *Xhc*. Since drip irrigation has become a widely adopted cultural management tool to suppress contamination of carrot seed by *Xhc* in the semi-arid production areas of central Oregon and central Washington, it provides an ideal method by which to introduce SAR inducers to carrot seed crops via the roots. Therefore, we are conducting greenhouse and field experiments to evaluate this approach as an alternative tactic for management of bacterial blight in carrot seed crops. Greenhouse and field trials are currently being conducted in central Oregon, the most important carrot seed production area in the U.S. Preliminary results will be presented during the meeting.