

HAMPTON, RICHARD O.¹ and GEORGE BURT², ¹USDA-ARS, Oregon State University, Corvallis 97331, and ²West Coast Beet Seed Company, Salem, OR 97303. Endemic beet western yellows virus in western Oregon: Inoculum reservoir and influence on sugarbeet seed yields.

The Willamette Valley of Oregon has been a premier U.S. sugarbeet-seed production area for more than 60 years. Our work during 1989-95, based on ELISA serology, demonstrated that beet western yellows luteovirus (BWYV) is endemic in this region, in at least 25 crop and weed species, six of which had not been previously reported. Four species of aphids known to be BWYV vectors occur in western Oregon on one or more of these 25 plant species; however, only *Myzus persicae* (green peach aphid) has been investigated and found to be a principal vector of BWYV in the Pacific Northwest. Specific types/varieties of vegetable crops grown commercially in the Willamette Valley can be severely damaged by BWYV, particularly lettuce, spinach, garden beet, Swiss chard, and turnip. Because sugarbeet seed crops were sometimes perceived as the primary BWYV inoculum source, we sought to examine all components of the inoculum reservoir. This study also permitted a cursory assessment of BWYV infection on seed yields of selected sugarbeet varieties. Sugarbeet-seed crops were found to comprise one of three sub-reservoirs of BWYV inoculum, along with vegetable crops and both annual and perennial weed species. Limited data suggested that BWYV exerts little effect on sugarbeet seed yield.
