

[Back](#)

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Outbreak of *Iris yellow spot virus* in Onion Seed Crops in Central Oregon.

F. J. Crowe, Department of Botany and Plant Pathology, Oregon State University, Central Oregon Agricultural Research Center, 850 NW Dogwood Lane, Madras 97741-8988; and H. R. Pappu, Department of Plant Pathology, Washington State University, Pullman 99164-6430. *Plant Dis.* 89:105, 2005; published on-line as DOI: 10.1094/PD-89-0105C, 2005. Accepted for publication 4 October 2004.

Iris yellow spot virus (IYSV) of the genus *Tospovirus*, family *Bunyaviridae* is considered an emerging or reemerging pathogen affecting onions in the United States. The virus has been endemic to the Treasure Valley of southern Idaho for more than a decade (4). Reports of its further spread came from several states in the region, most recently from New Mexico and Washington (1,3). During the 2004 growing season, a few onion seed crops near Madras (Jefferson County) in central Oregon showed symptoms suggestive of IYSV infection, including characteristic diamond-shaped scape lesions (2). By July, scapes in one-half of a 4-ha field were 100% symptomatic and 95% lodged, leading to nearly total crop failure; in the other half, scapes were 30 to 40% symptomatic and 15% lodged, with symptoms and lodging increasing weekly at 8 weeks before harvest. The half of this crop with greater incidence was immediately adjacent to a field where very limited IYSV-like symptoms were noticed in a 2002–2003 onion seed crop that was harvested in mid-August 2003, after the highly symptomatic 2003–2004 onion seed crop was planted next to it in early July 2003. Both crops were planted from true seed. In another onion seed crop located 1,000 m away, IYSV-like symptoms were abundant around the field edges in July and through the field in August 2004, with approximately 5% lodging by mid-August. A small number of plants with IYSV-like symptoms were present in a few more distant fields, but not in most onion seed fields in central Oregon. Symptomatic plants were collected and tested in the laboratory for confirmation of IYSV infection. IYSV was confirmed using enzyme-linked immunosorbent assay (ELISA) with a commercially available antiserum (Agdia Inc., Elkhart, IN). Total nucleic acids were extracted, and using primers specific to the nucleocapsid (*N*) gene of IYSV (3), reverse transcription-polymerase chain reaction (RT-PCR) was done. RT-PCR gave DNA amplicons of the expected size. The DNA amplicons were cloned and sequenced. Nucleotide sequence comparisons with known IYSV *N* gene sequences confirmed virus identity. The rapid spread of IYSV in the Pacific Northwest and its severity of incidence often leading to 100% incidence is a cause for concern for onion growers and industry. Efforts to identify management practices to reduce its impact have to be undertaken on a regional basis because of its widespread occurrence across

several states in the northwestern United States.

References: (1) R. Creamer et al. Plant Dis. 88:1049, 2004 (2) L. J. du Toit et al. APSnet image of the week. On-line publication: <http://apsnet.org/online/archive/2003/IW000030.asp>, 2003. (3) L. J. du Toit et al. Plant Dis. 88:222, 2004. (4) J. M. Hall et al. Plant Dis. 77:952, 1993.

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