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R. M. Harveson

Panhandle Research and Extension Center, rharveson2@unl.edu

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plant disease

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Disease Notes

A Severe Outbreak of *Ascochyta* Blight of Chickpeas in Western Nebraska

R. M. Harveson

University of Nebraska, Panhandle Research and Extension Center, Scottsbluff 69361

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Interest in chickpea (*Cicer arietinum* L.) production as an alternative crop to sugar beets and dry beans has rapidly increased in the Nebraska Panhandle. Production (concentrated near Alliance in Box Butte County) has increased from 80 ha in 1999 and 800 ha in 2000, to almost 4,000 ha in 2001. In mid-July 2001, symptoms in fields consisted of circular, dark brown lesions (0.5 to 1.0 cm) on leaves and pods containing pycnidia (225 to 240 μm) arranged in concentric rings. Symptom appearance followed unusually high rainfall events (over 25 cm the previous week), and the epidemic affected virtually all chickpeas planted in the area. Infected leaves incubated in humidity chambers in the laboratory produced nonseptate, hyaline, oval to oblong conidia measuring 8.5 to 10.0×4.0 to $4.5 \mu\text{m}$ that oozed out of pycnidia in a mucilaginous mass. Based on symptoms and fungal morphology (1), the pathogen was identified as *Ascochyta rabiei* (Pass.) Labr. Because of the seedborne nature of the disease, pathogen identity was further verified by planting seeds from infected pods in the greenhouse. Emerging plants exhibited similar symptoms to those from field infections, and the pathogen was identified from newly developed lesions. A section 18 emergency exemption was obtained for the use of the fungicide Quadris (azoxystrobin) on 2,400 to 2,800 ha in Nebraska. This measure averted serious losses, but 15 to 20% reductions in yield and quality were still recorded from treated fields. Infected plants collected from untreated fields had almost 60% losses in both pod number and total seed weight compared with uninfected plants. Disease occurrence in the Western Hemisphere was first reported from Canada in 1974, followed by other chickpea-growing states in the United States, including California, Washington, Idaho, and North Dakota (2–4). To my knowledge, this is the first report of the disease in Nebraska, and its presence poses a significant threat to the developing chickpea industry in the state, as the planted area is expected to increase in the foreseeable future.

References:

(1) D. J. Allen. *The Pathology of Tropical Food Legumes*. John Wiley and Sons, New York, 1983.

(2) M. L. Derie et al. *Plant Dis.* 69:268, 1985.

(3) P. Guzman et al. *Plant Dis.* 79:82, 1995. (4) W. J. Kaiser and F. J. Muelbauer. *Phytopathology* 74:1139, 1984.