

Wheat Yield Reduction Due to Wheat Curl Mite (Acari: Eriophyidae) Infestations¹

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ABSTRACT Greenhouse tests conducted during 1998–1999 and 1999–2000 evaluated the effect of nonviruliferous wheat curl mites (*Aceria tosichella* Keifer) on the hard red winter wheat cultivar “Ike.” Differences in wheat curl mite numbers between artificially infested plants and controls averaged 9,702 and 12,938 for plants harvested in 1999 and 2000, respectively. In 1999 the wheat curl mites caused significant losses of 30% in grain yield, 23% in kernel weight, and 12% in test weight. In 2000 the losses were 9% in grain yield, 13% in kernel weight, and 1% (insignificant) in test weight. The only explanation that we have for the reduced effect of wheat curl mites in 2000 compared with 1999 is that growing conditions were more favorable in 2000. The controls had 28% higher yields and 24% more kernels per spike in 2000 than in 1999. Because significant losses in grain yield were found both years, greenhouse and previously published field results were in agreement that wheat curl mites cause losses in addition to those resulting from the viruses they vector.

KEY WORDS wheat curl mite, Acaria, Eriophyidae, *Aceria tulipae*, Gramineae, wheat, *Triticum aestivum*

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