

Efficacy of fungicide mixtures for the management of *Phytophthora infestans* (US-1) on potato

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Date: 2009

Abstract

Fungicide application strategies (timing, frequency, rates and mixtures) are important for the control and resistance management of potato late blight caused by *Phytophthora infestans*. The efficacy of fungicide mixtures consisting of fenamidone + mancozeb and propamocarb HCL + mancozeb at various rates and in spray regimes containing metalaxyl and mancozeb was evaluated for late blight control (US-1) at four locations in Kenya. Propamocarb HCL + mancozeb significantly ($P < 0.05$) reduced foliar blight compared with mancozeb and the untreated control under moderate to severe disease pressure. Disease severity was significantly lower following application of propamocarb HCL + mancozeb at a rate of 4L ha⁻¹ than at rates of 2L and 3L ha⁻¹ in 1999 and 2000, but it was not significantly lower following applications at a rate of 3L ha⁻¹ in 2000 and 2001. There were no significant differences in mean final late blight score among the three rates of 0.9, 1.0 and 1.1 kg ha⁻¹ of fenamidone + mancozeb. All fungicide mixtures and application sequences significantly reduced the area under the disease progress curve and final late blight scores as compared with the unprotected control. Total and marketable tuber yield significantly ($P < 0.05$) increased in all fungicide-treated plots.