

## Control of sclerotinia stem rot in small-seeded lentil

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### Abstract

Sclerotinia stem rot, caused by the fungal pathogen *Sclerotinia sclerotiorum*, has been a serious problem in lentil production in years when late season precipitation occurs. Resistance to the pathogen is not available and recommendations on efficient disease management are not available in this crop. Management strategies for Sclerotinia stem rot in small-seeded lentils in the Black Soil zone were investigated at Rosthern, Saskatoon and Melfort over a period of 5 years. The objective was to study the influence of plant density (50 and 100 plants m<sup>-2</sup>), the efficacy of different fungicides (Benlate, Rovral Flo, Lance) and the timing of fungicide application (early flowering and late flowering) on the development of the disease. Three lentil varieties ('CDC Milestone', 'CDC Robin' and 'Crimson') were tested and showed different levels of resistance to white mold. Plant density, regulated through row spacing, had no significant effect on disease severity. Fungicide treatment significantly reduced disease in comparison to the control in some years but not in others. Individual fungicide efficacy and optimal timing of application was influenced by location and varieties. Yield increase through fungicide application was dependent upon disease severity and was only observed at some locations and in some years. Flower petal infection, although reflecting weather conditions during flowering, appeared to be a weak predictor of final disease severity, suggesting that flower petal infection in lentil is not the only strategy of the fungus to infect the plant. Results suggest that fungicide strategies for white mold control in lentil have limited benefit.