

## **Management of ascochyta blight on processing peas**

### **2005 Report to the Ontario Processing Vegetable Growers**

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#### **Summary**

Ascochyta blight is caused by the fungal pathogens *Mycosphaerella pinodes* (anamorph *Ascochyta pinodes*), *Ascochyta pisi*, and *Phoma medicaginis* and is a serious disease of dry peas in western Canada. Ascochyta blight was suspected of causing severe losses in fields of processing peas in Ontario during 2003. Variety and fungicides trials conducted in 2004 identified several pea varieties that were relatively resistant to the disease and fungicides that had potential for controlling the disease. In 2005, pea variety trials were conducted at one location in Ontario and one in Saskatchewan. Fungicide trials were conducted at research stations near Bradford and Saskatoon and in a grower's field in south western Ontario. Ascochyta severity and incidence in Ontario was very low due to the hot and dry environmental conditions experienced in Ontario during the 2005 growing season. However, a slight discolouration of unknown source was observed on the lower stem tissue and leaves in the trials. Weather conditions in Saskatoon were more conducive to disease development.

To assess fungicide efficacy, pyrimethanil (Scala at 740 gai/ha), azoxystrobin (Quadris Flowable, 115 gai/ha), pyraclostrobin (Headline EC, 150 gai/ha) and boscalid (Lance WDG, 294 gai/ha) were applied to 'Genie' once at early bloom or twice at early and late bloom. In addition, Microthiol Disperse was also assessed at one location. The fungicides had no affect on the severity of the slight discoloration observed on lower leaves and stems of pea plants. Pyrimethanil

(Scala at 740 gai/ha), azoxystrobin (Quadris Flowable, 115 gai/ha), pyraclostrobin (Headline EC, 150 gai/ha) and boscalid (Lance WDG, 294 gai/ha) did not significantly affect the yield or tenderness of peas in the absence of disease. The slight discolouration that was observed in 2005 tended to be more severe on variety "Bolero", "Ice Breaker", "Early Sweet 414", "Samish", and "CMG 307F" and least severe on "Radley", "Montana" and "Paso" at the Bradford sites.

Overall, Headline and Lance provided the best control of ascochyta blight of pea, and a single application at early bloom was effective. There were some differences in susceptibility to ascochyta blight among varieties of processing peas and distinct differences in susceptibility to powdery mildew were identified.

## **Conclusions**

Very little disease was observed in the Ontario variety and fungicide trials during 2005, probably due to the dry hot environmental conditions experienced throughout the growing season. Both ascochyta and powdery mildew developed in plots in Saskatchewan, which emphasizes the value of conducting trials in different regions of the country.

The slight disease that was observed in 2005 was most severe on varieties "Bolero", "Ice Breaker", "Early Sweet 414", "Samish", and "CMG 307F". In the Saskatchewan trial, with higher disease severity, Bolero and Samish were also relatively susceptible to ascochyta. In Ontario, disease was least severe on "Radley", "Montana" and "Paso". Powdery mildew was not observed at the Ontario sites in 2005.

Differences in susceptibility to both ascochyta blight and powdery mildew were identified, as they were in 2004. Processing pea variety "Durango", was relatively resistant to both diseases, as were PLS 062 and Legacy. Several lines were moderately susceptible to ascochyta, while at the same time, relatively more susceptible to powdery mildew. A few lines, such as "Mr. Big", "Jaguar" and "Kelly" were susceptible to ascochyta but quite resistant to powdery mildew.

The fungicide trials demonstrated that Headline and Lance were most effective in suppressing disease, and a single application at early bloom was as effective as two sprays, at early and at late bloom. A single application at late bloom was also effective, but not significantly different from the earlier spray. With low levels of disease at the Aylmer and Bradford sites, none of the fungicide sprays reduced disease below that found on the untreated check. There were no differences in the yield and tenderness of peas in the plots at the Aylmer site, indicating no phytotoxicity of the products, even under stressful growing conditions.