

# Powdery Mildew in Field Pea

By Ray McVicar, Provincial Special Crops Specialist, SAF  
& Penny Pearse, Provincial Plant Disease Specialist, SAF

Two distinct growth stages are occurring in our pea crops this year. Peas are often the first crop to be planted and the 2005 growing season got off to a quick start on many farms as growers seeded in late April to try to reduce the risk of crop injury due to early fall frost. When the cool and wet weather occurred in early May seeding was delayed, resulting in pea crops planted in late May and June.

When it comes to powdery mildew in pea, the seeding date can be very important.

Powdery mildew is caused by a fungus (*Erysiphe polygoni*) and symptoms usually first appear in fields around the middle of July. Symptoms include white, powdery spots on lower leaves and stems which can eventually spread to the entire plant. Severely affected crops are covered in a white mat of powdery spores and may appear to have a bluish or silvery sheen. The underside of infected leaves turn yellow below the powdery infection.

The disease is favoured by warm, sunny and dry conditions during the day, along with cool nights favouring heavy dew in the morning. Heavy rain can actually wash some of the powdery spores and growth off the leaves, resulting in less infection.

Early infections reduce the useable leaf area, cause stunted plants and affect the development of the pods and seeds. The disease can reduce yield, delay maturity, make it difficult to do a proper job of desiccating the crop, and sometimes lead to an increased occurrence of combine fires. Late seeding in past years compounded the harmful effect of the disease, since the pods and seeds of many pea crops were not developed before the infestation occurred.

Late-maturing varieties can be severely affected.

Many new pea varieties are resistant to powdery mildew, while older varieties are susceptible. The SAF publication [Varieties of Grain Crops 2005](#) includes a description of resistance for each variety. As of 2003, all new entries into the Western Canadian Pea Co-op Trials must have powdery mildew resistance.

There are steps growers can take to reduce the impact of powdery mildew on susceptible varieties.

- Seed pea early (before the last week of May) to give the crop the opportunity to develop pods and seeds before disease symptoms appear in mid-July, thereby avoiding the full impact of disease. The appearance of the disease on crops whose pods and seeds have already developed may look bad, but will have very little economic impact. Seeding early-maturing varieties is also recommended.
- In conditions turn dry, pea producers are encouraged to start to scout their fields for powdery mildew. Typically symptoms start to show up by late.

## Powdery mildew in field pea

- KUMULUS<sup>®</sup> DF is a registered fungicide for the control of powdery mildew in dry pea. This product, which is 80 per cent sulphur, is a protectant fungicide and will not cure leaves that are already diseased. Therefore, application must be made prior to infection or as soon as the first sign of powdery mildew is evident. Growers who have used KUMULUS DF should thoroughly flush their sprayers soon after application to prevent plugging.

- HEADLINE® EC Fungicide is registered for the control of powdery mildew on pea crops. Application timing for HEADLINE EC is at the early flower stage or the onset of symptoms. This product is also registered to control mycosphaerella blight in field pea.
- Spray-water volumes should be kept high to ensure proper coverage of all the crop foliage. Repeat applications may be required at seven to ten day intervals if the same weather conditions persist.

Powdery mildew spores over-winter in small black fruiting bodies on plant residue. The spores are ejected into the air and can be carried long distances. Producers are advised not to plant field pea adjacent, especially downwind, to fields heavily infected the previous year. Severely infected crops can result in seed that is contaminated with powdery mildew. Planting clean, debris and disease-free seed will reduce the risk of early infections. ⚙