Pest e-alerts

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Wet Weather and Unusual Canola Diseases

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The wet weather of May appears to have subsided but has left behind some unusual disease outbreaks on canola as the crop nears harvest. Black spot (*Alternaria* spp.), powdery mildew (*Erysiphe* spp.), and black rot (*Leptosphaeria maculans*) have been observed on stems and pods of maturing canola at unusually high levels this year. The impact of these foliar diseases may contribute to both pod shattering and possibly seed quality. Their damage to the crop this year is yet to be determined, but their presence is likely to have adverse effects where the rainy weather has made timely harvest a challenge in some areas of the state.

Black spot on pods is widespread this year. Information on this disease is mostly from Canada where it is a problem on spring canola. The disease is caused by at least three species of fungus *Alternaria*. Canola is generally resistant to the black spot on the leaves but as canola approaches maturity, pods and stems become increasingly susceptible to infection. The disease causes black spots on pods (Fig. 1 and 2) and stems, but it is the pod infections that are believed to cause the most damage because they make pods more susceptible to premature shattering. Severe black spot on pods may increase green seed count, cause seed shriveling, and reduce oil content. In examining diseased pods, seeds do not appear to be severely impacted. Josh Bushong, OSU canola extension specialist reports that shattering is being observed in severely affected fields. The fungus survives on old crop stubble and to a lesser extent on infected seed. In Canada, fungicide applied at 95% bloom provides economical disease control. Swathing is recommended to reduce shattering losses from black spot. However, straight cutting is apparently necessary in some areas of the state this year where muddy fields prevented timely swathing.

Fig 1. Alternaria black spot on canola pods.

Fig 2. Alternaria black spot on mature canola pods.

Josh also reported that some fields have black discoloration only on the pod tips (Fig. 3). I found similar symptoms in areas of my research trials and verified that *Alternaria* spp. also caused the pod tip discoloration. It is unknown whether or not this is a different species of *Alternaria*, a differential variety response, or a different time of infection relative to crop maturity.

Fig 3. Black tips on canola pods caused by *Alternaria* spp.

Powdery mildew has been previously observed on canola leaves, stems, and pods after flowering is complete during periods of high humidity. The disease is easy to identify by the white powdery colonies covering affected plant parts (Fig. 4). The disease is not considered economically important and there is little information available on it. However, it has been particularly severe this year probably due to the extended periods of high humidity and cloud cover, which generally favors powdery mildew disease development. Josh Bushong asked about the cause of white powdery residue on a canola swather (Fig. 5) and I suspect that powdery mildew dust (spores) are the culprit although we did not get a sample to verify that diagnosis.

Black leg lesions on pods have also been confirmed this year although it appears to be less widespread than black spot or powdery mildew. Black leg is characterized by tan or grey colored spots on the pods with tiny, pepper-like dots within the spots (Fig. 6). While the pod infections are less damaging than the basal stem cankers, pod infections result in seedborne black leg which can be important in the introduction of the disease into new areas or the introduction of new races and strains.

Fig 4. Powdery mildew on canola pods.

Fig 5. White residue on canola swather possibly from powdery mildew.

Fig 6. Black leg lesion on canola pod.

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