



## Blossom blight of alfalfa is common in most years

CATEGORY [disease](#) | October 20, 2021

Surveys of alfalfa seed production fields on the Canadian Prairies from 1993 to 2017 demonstrated that epidemics of blossom blight caused by *Botrytis cinerea* Pers. and *Sclerotinia sclerotiorum* (Lib.) de Bary developed almost every year at some locations. It appears likely that blossom blight continues to cause alfalfa seed yield loss in most years at different locations where cool, wet weather at flowering occurs.

The objectives of this paper were to publish observations on the symptoms of blossom blight, and to summarize the results of the reports on its distribution and severity on the Canadian Prairies over a 25-year period from 1993 to 2017.

Blossom blight symptoms were identified easily when conditions were highly conducive for epidemic development with cool and wet weather during flowering. Grey mycelium with abundant sporulation covered infected flowers when infected by *B. cinerea*, or white mycelium characteristic

of *S. sclerotiorum*. When infection was caused by *B. cinerea*, visible discolouration was almost entirely limited to the florets and mycelium spread rapidly from floret to floret. Visible discolouration and occasionally clumps of white mycelium developed in the flowers, pedicels, pods and stalk of the raceme when infection was caused by *S. sclerotiorum*. Stem rot caused by *S. sclerotiorum* can also occur when conditions are cool and wet, and stands are heavy and lodged.



Blossom blight caused by *B. cinerea*. Main photo of blossom blight caused by *S. Sclerotiorum*. Photos courtesy Bruce Gossen.

Under less favourable conditions for disease development, old flowers were often found stitched in place by fungal mycelium. As the plants matured, individual pods were found missing from the bottom or middle of the flower cluster when infected by *B. cinerea* or the entire flower cluster may be missing when infected by *S. sclerotiorum*.

The surveys found that the incidence of infection by *B. cinerea* was often higher than that of *S. sclerotiorum*, but *S. sclerotiorum* caused more damage per unit of incidence. Infection by *S. sclerotiorum* generally destroyed the entire raceme because the pathogen progressed from infected florets to attack the stalk of the raceme and adjacent pods. In contrast, *B. cinerea* only attacked florets, and even the tiniest pod appeared to be immune from infection.

### **Lower incidence in drier years**

In early surveys, many sites in Saskatchewan and northern Alberta in 1995 with above-normal rainfall had severe symptoms of blossom blight. In contrast in 1996 when weather at flowering was warm and dry, levels of blossom blight were generally low, except in occasional fields that received higher than average precipitation, usually associated with localized thunderstorms.

In 1997, the incidence of both *B. cinerea* and *S. sclerotiorum* was low across most of Alberta and Saskatchewan because of hot and dry conditions. The exception was in the Peace River region of northern Alberta where cool, wet conditions resulted in a high incidence of *B. cinerea*.

In subsequent years leading up to 2017, levels of blossom blight across the Prairie region were generally low. However, epidemics of blossom blight developed in some parts of the alfalfa seed production areas of the Prairie Provinces almost every year. These infections were the result of above-normal precipitation and/or below normal temperature.

The irrigated production area of southern Alberta was the exception. Levels of both pathogens were generally low. Several research studies concluded that blossom blight incidence and severity were relatively low and yield potential relatively high in areas with both low average rainfall during flowering and irrigation to support crop growth.

The two pathogens occurred together in most fields, but their relative importance varied from year-to-year. In general, *S. sclerotiorum* was more common in southern Alberta and Manitoba, and *B. cinerea* was more common in northern Alberta, northern Manitoba and throughout Saskatchewan.

Given the results of the surveys over 25 years, it is likely that blossom blight will cause yield loss at some locations in most years, depending on whether cool, wet weather conditions occur at the flowering stage. Agronomists and alfalfa seed producers should scout accordingly, and apply a foliar fungicide according to label directions.

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