

INFORMATION ALERT: Late Blight in Alberta.

Late blight, a highly destructive plant disease, has been reported in areas of southern and central Alberta in a number of commercial potato fields, market gardens and many urban residential plantings of potatoes and tomatoes. It is being contained in commercial potato fields with fungicidal sprays. However, with late identification and limited control options for home gardeners, the disease has been largely unchecked in residential locations. There is the potential for continued spread of the disease, due to air-borne spores that are being produced on infected plants. There is a risk of introduction into greenhouse tomato operations.

Late blight is caused by the fungus *Phytophthora infestans* (Mont.), and is found in most potato and vegetable-growing areas of Canada, although it does not occur every year on the Prairies. It can infect potato, tomato, eggplant and solonaceous weeds, such as nightshade and wild tomato. Late blight is an aggressive disease that, if left unchecked, can cause significant and rapid crop losses, both in the field and in storage.

Initial symptoms are typically noted on older leaves, appearing as dark, water-soaked areas (lesions), sometimes with yellow edges, that move in from leaf tips/margins, becoming brown and brittle within a couple of days. Late blight lesions are not contained by the leaf veins, as they are in another more common foliar disease called early blight, caused by the fungus *Alternaria solani*). A fluffy white growth may be visible on the underside of affected leaves at the margin of the lesions. Lesions may develop on plant stems and on potato tubers and tomato fruit. Late blight develops most quickly under warm and wet/humid conditions and can spread very rapidly through a field or garden. Plants may be rapidly defoliated, die and yields can be significantly reduced. Tubers may be infected, with irregular, sunken lesions that are often around the eyes. Tuber rot can penetrate deeply into the potato and has a reddish-brown colour. This disease can spread within potato piles in storage.



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On the Prairies, the late blight pathogen does not form an overwintering spore type. Rather, it overwinters on living tissues and the disease is carried forward from one season to another on infected seed potatoes, cull piles and volunteer potatoes. In-season spread is by spores produced on infected tissues and diseased crop debris. Spores can move considerable distances on the wind or will move within the fields by rain or water splash.

Late blight can be managed in commercial crops using protective fungicidal sprays (with rotating chemistries), applied at regular intervals when conditions favour disease development. Volunteer potato plants and solanaceous weeds should be controlled. Infected plant materials should be disposed of as quickly as possible, either by burying or freezing. Leaving cull piles or diseased materials in the open can lead to infection of healthy plants. Killing potato tops can help to minimize tuber infection, as this encourages tuber skin set and stops top growth. Tubers should be heavily graded and culled before storage in an attempt to prevent entry of the disease into storage.

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