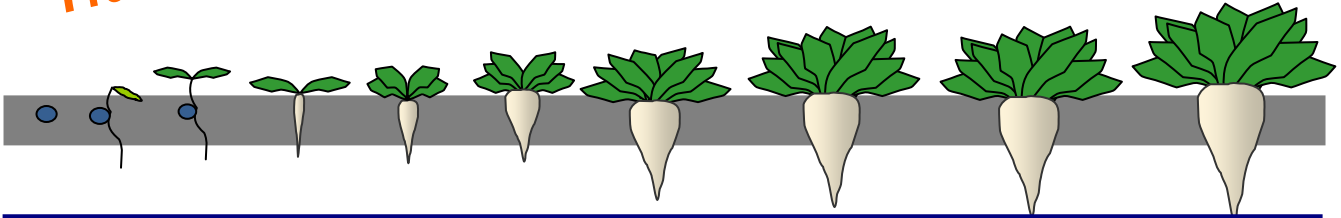


From the Field

Providing Practical, Timely, Useful Crop Production Information

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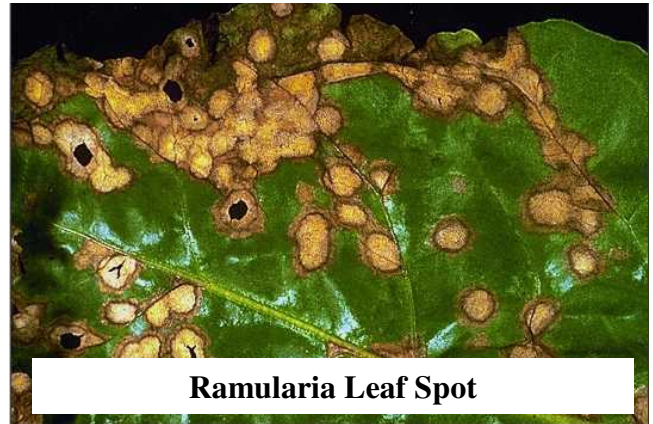
There have been quite a few questions on leaf spots already this year, and they are not Cercospora leaf spot, well not yet.

The leaf spots that I have been seeing include:

- Ramularia
- Alternaria
- Phoma
- Bacterial

Ramularia Leaf Spot

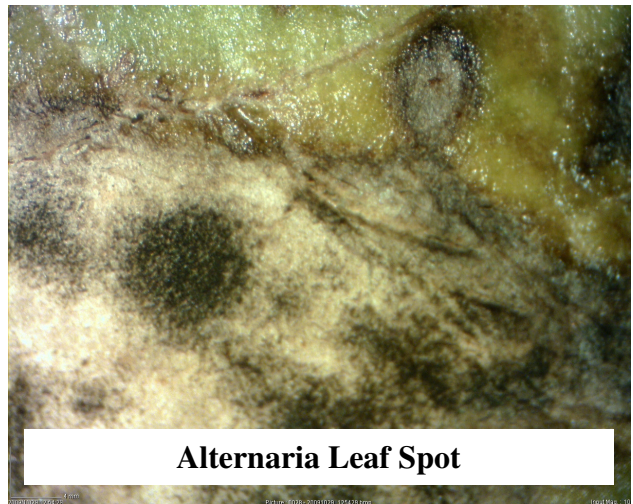
- Cause: *Ramularia beticola*, a fungus. Most likely it is seedborne. It is believed to persist in sugarbeet debris at least 1 year. The disease is not considered an economic problem.
- Symptoms: Leaf spots, which occur on older leaves, are light brown and fairly large (4 to 7 mm). As they mature, they develop a gray to white center (sporulation of the fungus) and a dark to reddish brown margin.
- Cultural control: At least a 3-year rotation out of sugarbeet is helpful.



Ramularia Leaf Spot

Alternaria Leaf Spot

- Cause: *Alternaria tenuis*. The causal agent is a parasite which infects first those leaves being primarily damaged by other causes, e. g. due to mechanical damaging of the leaves after other pathogen infections.
- Symptoms: Beginning at the edge or tip the leaf, thus becoming brown and



Alternaria Leaf Spot

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then dying.

- A black, velvety coat develops on the tissue (bearer of conidia).
- As the economic importance is only secondary, no control measures of the disease are needed.

Phoma Leaf Spot

- Cause: Causal agent: *Phoma betae* (= *Pleospora betae*)
- Symptoms: Large, bright, round lesions develop on the leaves with concentrically dark rings consisting of numerous pycnidia. Often the dead tissue becomes brittle.
- Economic importance: The pathogen mainly attacks beet seed crops, but is rarely of economic importance in industrial beet cultivation.
- Control: Due to the low losses caused by this disease, it is not worthwhile controlling. The disease can be seed borne and all beet seed is treated with Thiram as a protection.



Bacterial Leaf Spot

- Cause: Causal agent is *Pseudomonas syringe*.
- Symptoms: Brown to black spots of irregular form and size mainly on the leaf edges or in hollows of the leaf blade. The dead tissue in the center of the spots often becomes brittle. The damage incurred can recover under dry and warm conditions.
- Epidemiology: Wet and cool weather conditions over a longer period of time favors infection. The pathogen penetrates the leaf tissue through fissures or wounds (caused by hail or insects).
- Risks: Longer periods of rain, damage to the leaf .
- Economic importance: Minor
- Control: No control measures have been developed.

