



Alternaria in potato

FACTSHEET

Alternaria is a fungal disease, causing damage in potatoes

Alternaria or early blight causes disease in a lot of horticultural crops, and leaf spots are among the most common symptoms. Potato is one of the vulnerable crops for Alternaria.



Leaf and tuber infection early blight potato
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Control with help of DSS on platform.[ipmdecisions.net](https://platform.ipmdecisions.net)

The DSS is a weather-based model, derived from a model originally developed for leaf spot diseases in tomato. Fungicide treatments may be needed to protect the crop when the lower or high threshold value for Aggregated Daily Disease Severity Value (DSV) is reached. When a fungicide against early blight is applied and entered into the DSS parameters (figure 1), accumulation of DSV is reset and starts over at 0.

DSS parameters

The model uses temperature and leaf wetness as input parameters. The model calculates daily risk values (DSV: Disease Severity Values) based on temperature and leaf wetness the previous day. DSV represents the risk of attack of early blight the previous 24 hours. Daily values of DSV are accumulated until a threshold value is reached, and treatment is recommended.

It is important to check and adapt the default DSS parameters to the location where used:



1. Start day of the control period, standard value is the first of March.
2. End day of the control period, depending on the length of the growing season.
3. Fungicide applications against early blight. These applications are considered effective.

Figure 1.
Parameters DSS to be customized

DSS output

The DSS shows information about the risk of infection of the potato crop.



Figure 2.
Risk information from DSS early blight in potato

The 'Risk status' chart indicates the daily risk for the infection of the potato crop. In this example there is no risk of infection, at this very early stage in the growing season.

Where can DSS be used

The DSS is based on the dew sub model of FAST (Madden et al., 1978), originally targeted at predicting *Alternaria* in tomatoes. The DSS is tested and adapted to be used against early blight (*Alternaria solani*) in potato in Denmark and Norway. For other countries it is important to first test in practice before using the DSS for decision support in the control of potato early blight.

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