

A climate model for mildew control

August 5 2021



Credit: Pixabay/CC0 Public Domain

Powdery mildew is a fungal disease that causes damage in many crops. This also applies to strawberry, a crop that is increasingly being grown in greenhouses. The Greenhouse Horticulture Business Unit of Wageningen

University & Research is investigating the best cultivation strategy to save energy and prevent the spread of powdery mildew.

The spores of powdery mildew like moist conditions. They germinate best at a relative humidity (RH) of 80%. The mycelium of powdery mildew actually thrives at a lower RH. This makes the strawberry an excellent host for the pathogen. A strawberry needs a big difference between day and night temperatures to grow. This difference makes a big difference in RH.

Best climate for fungus

In 2020, a study started into the best climate strategy for strawberries to prevent powdery mildew. The research focuses on the boundary layer between the strawberry leaves and the fruit. This is the place where an infestation with powdery mildew begins. The study examines three varieties: these varieties vary in susceptibility to the fungus.

For the research, sensors and measuring boxes were placed in the WUR greenhouse in Bleiswijk: a few meters above the crop, in the crop and at the boundary layer. In addition, the crop is scouted weekly for powdery mildew. This makes it known in which climate the fungus has the greatest chance of spreading.

New cultivation strategy

In a follow-up study, plants were infected in climate chambers with different climatic conditions obtained from greenhouse data.

Development of the fungus is followed from germination to sporulation. The ultimate goal is to develop a model for a cultivation strategy. With this model, growers can determine the best strategy to prevent powdery [mildew](#) and save energy based on the conditions in their cultivation. The

first version of this model is expected to be delivered at the end of 2021.

Provided by Wageningen University

Citation: A climate model for mildew control (2021, August 5) retrieved 27 April 2024 from <https://phys.org/news/2021-08-climate-mildew.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.