

Development of a Disease Forecasting System for Strawberries as a Tool on *AgClimate*

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Strawberries are one of the most valuable crops in Florida. The state produces around 16 million flats of strawberries every year, which represents 15% of nation's berries and virtually all the berries grown during the winter. Anthracnose fruit rot, caused by the fungus *Colletotrichum acutatum*, and Botrytis fruit rot, caused by the fungus *Botrytis cinerea*, are the most important diseases for production of strawberries in central Florida. Currently, fungicides are applied weekly throughout the season from December through March for control of these diseases. Predictive models using the variables leaf wetness duration, relative humidity, temperature, and the presence or absence of disease symptoms were compared to a standard fungicide program in replicated field trials for each disease over two seasons in Florida. High and low thresholds of the predictive models were selected to time applications of a preventive fungicide or a systemic fungicide. Treatments for anthracnose control were applied to Camarosa, a highly susceptible cultivar, and to Strawberry Festival, a less susceptible cultivar. Treatments for Botrytis control were applied to the highly susceptible cultivar Sweet Charlie and to the less susceptible cultivar Strawberry Festival. In general, all the model-based treatments received fewer fungicide applications than the standard fungicide program. Some model based programs provided comparable control to the standard fungicide program. The results from these trials are currently being used to develop an advisory system that will enable growers to easily access the information needed for decisions on fungicide applications. The benefits of such a tool is that growers will apply fungicides only when conditions are favorable for disease development, thus reducing the number of applications and production costs without compromising disease control. The advisory system will be made available for growers to use through the web-based risk management system *AgClimate* at <http://www.agclimate.org>.

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