

Bayesian networks applied to climate conditions inside a naturally ventilated greenhouse

Autores

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Abstract

The prediction of gradients in a naturally ventilated greenhouse is difficult to achieve, due to the inherently stochastic nature of the airflow. Bayesian networks are numerical uncertainty techniques that can be used to study this problem. A set of experimental data was obtained: air temperature, air humidity, wind speed, and CO₂ concentration at one and three meters above the ground in the growing space. The data set was discretized and used to develop a Bayesian Network model that describes the relationships between the studied variables. The model shows the differences that allow to identify the degree of dependence of the variables, as well as to quantify their inference.