

## **Product:**

Regulaid®

## **Researchers:**

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## **Objective of Study:**

Evaluation of a Disease Warning System for Phomopsis Cane and Leaf Spot of Grapes: A Field Study

## **Summary:**

A field evaluation of a warning system for Phomopsis cane and leaf spot of grape (*Vitis* spp.), caused by *Phomopsis viticola*, was conducted in Ohio over 3 years (2002-2004) by applying fungicides and fungicide-adjuvant combinations based on predicted infection events. Three different criteria for risk---light, moderate, and high----were evaluated with the warning system. The warning system is based on measured weather conditions (temperature and wetness duration following rain) and a model for risk of leaf and internode infection. Vines were sprayed with fungicides based on either the warning system or a calendar based 7-day protectant program. Fungicides were tested with or without an adjuvant (**Regulaid** or JMS Stylet-Oil). In the controls, the mean percentage of leaves and internodes with infections ranged from 36%-100%, the number of lesions ranged from 1%-28%, and the percentage of internodes covered by lesions ranged from 1 to 12%.

## **Results:**

Both the calendar-based protectant treatment (based on use of mancozeb) and the warning system treatment based on spraying in response to light or moderate predicted infection events (especially with mancozeb + **Regulaid**) **resulted in significantly less disease incidence and severity compared to the controls**. The mean percent control (relative difference in disease between a treatment and the control) was higher for the protectant schedule (~55% and ~80% for incidence and severity, respectively, based application of mancozeb) than for the warning system (~36% and ~60% for incidence and severity, respectively, based on applications of mancozeb + **Regulaid**), but there were two to three times more fungicide applications with the protectant schedule than with the warning system.

## **Percent Control:**

Based on three thresholds for spraying based on the warning system (low, moderate, and high), use of the predicted moderate infection consistently resulted in the most acceptable control with fewest number of fungicide applications. **Moreover, use of fungicide with Regulaid was superior to use without Regulaid, since mancozeb mixed with Regulaid resulted in better control than mancozeb alone.**

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