Studies on Biology and Control of Alternaria Leaf Spot

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PROJECT SUMMARY

Objectives:

- Identify pathogenic species of *Alternaria* using molecular methods.
- Evaluate new and registered fungicides for their efficacy in managing Alternaria leaf spot.
- Establish baseline sensitivities and monitor for shifts in sensitivity in populations of *Alternaria* spp. to different classes of fungicides.
- Evaluate natural products and organic experimental materials as treatments against Alternaria leaf spot.
- Refine the Disease Severity Value (DSV) model with defined parameters for forecasting infection periods of the disease and timing of fungicide treatments as compared to calendar programs.

Background and Discussion:

Alternaria leaf spot (*Alternaria* spp) has become a serious disease in some almond growing areas. Under favorable conditions for disease development, trees can be completely defoliated by early to mid-summer. The disease occurs mostly in the southern and northern production regions but continues to spread into new areas throughout California.

Severe outbreaks occur in areas where dew forms, the air is stagnant, and temperatures are high during the summer months. Additionally, the disease can be severe in almond orchards that have been planted at high density, or in orchards with poor soils and inadequate drainage and where trees require frequent and extended irrigations into the summer.

This project continues the multi-year effort to better understand the development of the disease, improve the disease prediction for improved timing of control measures to assess the efficacy of new and combinations of fungicides, along with monitoring for resistance development.

There are now several effective fungicides available to almond growers with different modes of action for control of Alternaria. This allows growers to rotate materials to reduce the chances of resistance development, as has happened to the strobilurin fungicides. Without the ability to rotate materials, resistance to the strobilurins has become widespread in almond orchards.

Monitoring certain environmental factors and using them in the DSV model provided effective determinations of when to apply fungicides.

This coming year these efforts are continuing, along with testing of compounds that can be used in organic production.

Project Cooperators and Personnel: H. Förster, University of California, Davis; D. Felts and J. Enns, UC Riverside; Joe Connell, University of California Cooperative Extension - Butte County; Rick Buchner, UCCE - Tehama County; Bill Krueger, UCCE - Glenn County; Craig Kallsen, UCCE - Kern County; L. Wade, Arysta LifeScience

For More Details, Visit

- Poster location 34, Exhibit Hall, Session 3; or on the web (after January 2012) at AlmondBoard.com/AICposters
- 2010 - 2011 Annual Report CD (10-PATH3-Adaskaveg); or on the web (after January 2012) at AlmondBoard.com/ResearchReports