

Management of *Alternaria* Late Blight of Pistachio

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INTRODUCTION

Alternaria late blight caused by *Alternaria alternata*, *A. tenuissima*, and *A. arborescens*, continues to be a major disease in California-grown pistachios. Favored by high relative humidity and dew, the disease is worse in late summer because periods with dew and relative humidity above 95 percent are usually longer during August and September. The disease can cause severe premature defoliation and staining of nutshells, resulting in reduced fruit quality.

The objective of the 2017 spray trial was to determine fungicide efficacy against *Alternaria* late blight.

RESULTS

Fungicide efficacy trial: In a pistachio orchard at the Kearney Agricultural Research and Extension Center (Kearney), we tested spray programs in addition to evaluating single fungicide compounds. Treatments consisted of three sprays approximately four weeks apart—May 31, July 2 (critical time for spray), and August 2. The trade names, active ingredients, and class of the fungicides used in these trials are listed in Table 1 of the full report. All the fungicides were applied at recommended label rates or at rates recommended by the manufacturer. Each treatment consisted of five single-tree replications. Sprays were applied with a handgun sprayer using 400 gallons of water per acre. The orchard was irrigated using fanjet microsprinklers. Symptoms of disease in this orchard developed only very late in the season. In fact they did not develop until after the normal harvest date. Although the crop was considered mature on about September 12, we did not evaluate the plot until October 9, 2017. On this day, the fungicide efficacy was rated using the whole-tree evaluation method (“efficacy score” with 1 = the least control, 5 = the best control, and 2, 3, and 4, intermediate levels of increasing levels of control). Two people rated the trees, and their scores were averaged to arrive at the final value.

Fungicide Trial – whole-tree evaluation at Kearney: As previously mentioned, disease symptoms developed late in the season for the efficacy trial at the Kearney Agric Res. & Ext. Center, forcing us to delay the evaluation until October 9, 2017. A mix of Luna[®] Experience and Baythroid[®] (Trt 13) had the highest score, 3.95 (Table 2). Indar[®] (Trt 11) was next highest at 3.85. The highest sixteen treatments were not statistically different from each other, ranging from 3.95 down to 3.25. All treatments were shown to be better than the untreated control, which had a value of 1.95. (refer to the full report for the numbered treatments).

CONCLUSION AND PRACTICAL APPLICATIONS

Though the disease was late in appearing and not as severe as in some past years, there was evidence that spray treatments significantly reduced visible disease symptoms in the orchard.