Forage Research Updates

WISCONSIN - Fungicide Use on Alfalfa: What Four Years of Research Has Taught Us

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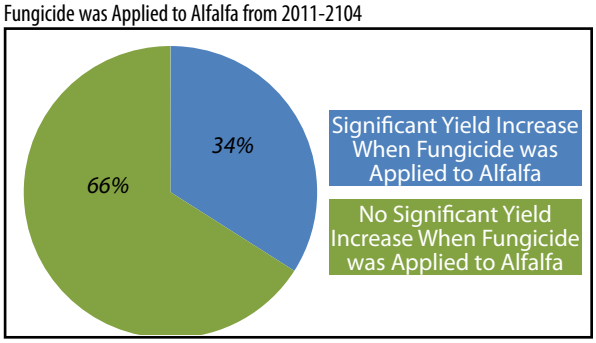
Over the past several years, interest in using foliar-applied fungicides on alfalfa for dairy production has increased. This has subsequently led to new labeling for foliar fungicide products for use on alfalfa. Research at the University of Wisconsin-Madison began in 2011 to evaluate some of the products labeled for use in alfalfa. From 2011 to 2014 replicated on-farm and research station trials were conducted to evaluate the utility of using fungicide on alfalfa for dairy production.

Figure 1. Percentage of Trials Where Yield Increased vs. No Yield Increase When Fungicide was Applied to Alfalfa from 2011-2104



Trials were located at various locations in each of the research years and included plots in Monroe County, Waupaca County, and Columbia County. Treatments in all trials were replicated four to six times. Each individual plot comprised a minimum area of 400 sq. ft. Treatments were applied using a backpack small-plot sprayer calibrated to deliver 20 gallons of water per acre. All treatments were applied at 6-8" of growth after each cutting. Applications were made for three cuttings per season. Alfalfa was harvested from each plot for each cutting using a small plot harvester. For some trials foliar disease data were collected. For all trials, quality was evaluated by the University of Wisconsin Soil and Forage Testing Laboratory located in Marshfield, Wisconsin. Yield, quality, and disease (where applicable) data were evaluated for each cutting, at each location, for each year.

In total, 35 separate trials (cutting x site x year) were conducted over the 4-year period. In the majority of the trials disease levels were low and no significant difference in foliar disease and defoliation was identified between treatments. Some detectable differences in quality were identified between treatments in some trials. However, relative forage quality was typically greater than 150 (Prime Grade) for both treated and non-treated alfalfa. Yield was significantly greater (α=0.05) in fungicide treated plots for only 12 of the 35 trials. The average dry matter yield increase over the non-treated control plots was 0.22 tons per acre in these trials. The average approximate cost to apply one fungicide application (fungicide plus custom applicator cost) is estimated to be $28.00 USD. Considering this cost, the added value per acre for the 12 trials where fungicide increased yield was estimated to be $13.80 ($0.10 per pound dry matter hay).

In some cases fungicide can increase alfalfa yield. This is estimated to occur only 34% of the time when fungicide is used. Alfalfa growers are encouraged to focus on timely alfalfa harvest rather than rely on fungicide application to obtain high-quality, high-yielding alfalfa forage.