

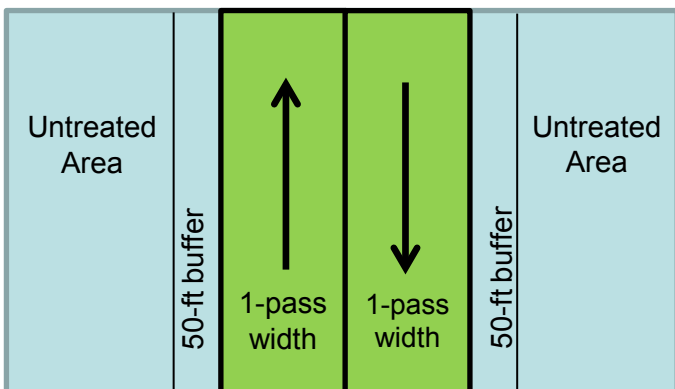
### On-Farm Alfalfa Fungicide Tests

- With its recent registration, foliar fungicides for alfalfa are being promoted for disease management and yield enhancement.
- Sales reps and forage customers want to test the effectiveness of foliar fungicides for increasing alfalfa yield and quality.
- This *Crop Focus* describes best practices for evaluating foliar fungicides on alfalfa for yield, quality and economic impacts.



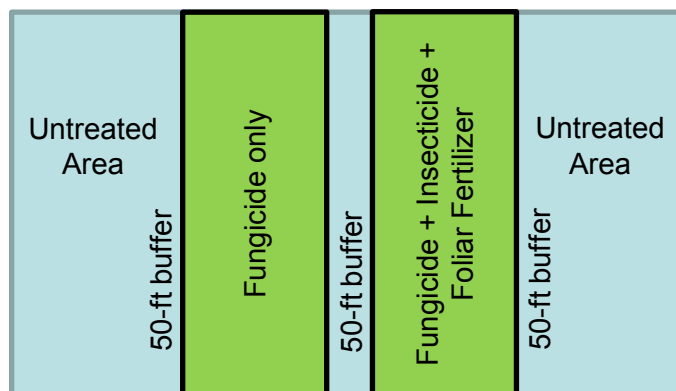
### Setting Up the Test

- Choose a uniform alfalfa field. Avoid highly variable sites or weedy fields with thin alfalfa stands.
- Individual test strips should be as close as possible to each other and at least 500 feet long. It is necessary to include a buffer strip to protect the untreated check strip from spray drift. For ground applications use a 50-foot buffer strip between treatment strips.



### Applying the Fungicide

- Make fungicide applications according to the manufacturer's label instructions. This is typically when alfalfa is between 4 to 8 inches tall.
- If tank mixes with insecticides and/or foliar fertilizers are used in the fungicide-treated strip, use these same treatments minus the fungicide in the check strips. Alternatively, you can include a 3<sup>rd</sup> strip that has the same fungicide treatment plus insecticide and/or foliar fertilizer tank mixed together (see diagram below).
- Permanently identify every treated and untreated strip using GPS or physical markers such as flags or stakes. This will help the haybine operator note the exact location of all strips during harvest.
- Note spray conditions at time of application along with alfalfa plant height.



## Cutting the Test Strips

- When cutting the alfalfa, make 2 to 3 passes around the field borders. These swaths serve to eliminate field ends and edge effects. They will not be weighed as part of the test.
- When cutting the treated and check strips, make sure to take a full swath from the middle of the treatment area. Use a physical marker or GPS coordinate to identify these swaths for chopping and weighing.
- Harvest the same width and length for each treatment strip. Measure and record the total harvest length and width for each strip.



Photo courtesy of John Deere

## Chopping, Weighing and Sampling

- Use a well-calibrated scale system to measure the weight of the harvested forage. This may include portable pad scales, TMR mixer wagons, or drive-over truck scales.
- Avoid merging windrows to prevent leaf loss and to ensure accurate measurement of harvested area.
- When chopping, only put the forage from one test strip into a wagon or truck for weighing and sampling accuracy.
- Collect a 2- to 3-lb sample of the chopped alfalfa silage immediately after chopping. This is best accomplished where the forage is discharged from a wagon or truck at the silo/bunker location. Make sure the operator keeps a clear record of what strip is in each wagon or truck.
- Test forage samples for moisture and adjust weights for moisture content to a DM basis.



## Data to Record and Forage Analysis

- Alfalfa is a perennial crop harvested multiple times each year. The test you conduct may be influenced by multiple factors. It is important to record field history and harvest information for better understanding of your results.
- Record the following information at harvest time:
  - Year of establishment or age of stand
  - Harvest dates (cut date and chopping date)
  - Cut number for season (1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> etc.)
  - Plant height and stage of maturity at harvest
  - Stubble height after cutting
  - Number of fungicide applications during season in the test strip area
  - Notes about leaf disease or insect damage
- It is important to submit samples for forage quality analysis as quickly as possible after harvest. Put samples in a refrigerator to remain cool prior to delivery. Samples do not need to be frozen. Submit samples to a reputable forage testing laboratory of your choice.
- Forage quality analysis should include the following parameters as a minimum: DM, CP, ADF, NDF, NDFd, Lignin, Sugars, Starch, and RFQ.

## Safety First

- Follow all label directions for pesticides provided by the manufacturer. Use product at recommended rates only.
- Field application should be conducted by professionals with adequate training and safe, well-maintained equipment including personal protective clothing.
- When cutting or chopping, always know where other people are located in the test field.
- When sampling forages, always stay clear of running equipment *and make certain that others know where you are at all times.*



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