

### TAKING A STAND AGAINST DISEASE HELPS DRIVE ALFALFA GROWTH

For alfalfa, structural integrity is key for the multiple cuttings that take place each season. It is not always easy to grow, maintain, and manage high-quality alfalfa crops, but if you are able to stay on top of the three main drivers of alfalfa quality, you will be on the path to success.

#### Growth Efficiency

Getting the plant off to a strong start is critical for a strong harvest. Alfalfa uses carbohydrate reserves for regrowth in the spring and after each cutting. When a plant is approximately 6-8" tall, it begins replacing carbohydrates in the taproot. Applying a fungicide such as BASF's Priaxor not only helps manage disease, it also increases photosynthesis to produce a higher amount of carbohydrates available for taproot replenishment. This improves structural integrity, leaf retention and forage quality. Therefore, the crop can withstand multiple cuttings while achieving maximum yield potential.

#### Disease Control

With the potential for higher yield also comes the higher potential for disease. Disease threats, such as spring black stem and common leaf spot, occur when moisture and humidity get trapped in the crop canopy. Scouting for these diseases in between cuttings can help direct fungicide applications to manage disease pressure for consistent performance throughout the growing season.

Spring black stem is found early in the season<sup>1</sup> from fungus that survives on crop residue, stems, and crowns through the winter. This fungus is rarely a significant problem in new seedlings. In the second and third year of growth it can reduce first-cutting yields 40-60% in moderate to severely infected fields. The yield loss that occurs is due to stunted growth of infected plants. Heavily infected leaves turn yellow and drop. It is recommended to harvest early to prevent both yield and quality loss from leaf drop. After the first cutting, the disease is rarely as significant, although the crown rot phase of the disease may continue to develop.

Scouting for common leaf spot early in the season can also help you detect additional diseases that may be impacting your forages. Symptoms include small, circular, brown to black spots on the upper surface of leaves.<sup>2</sup> As the disease progresses, infected leaves turn yellow and drop. In cool, moist weather, the fungus produces circular, raised, brown fruiting bodies within the spots and forcibly discharges spores into the air. Typically, the fungus survives in undecomposed leaves and leaf debris on the soil surface.

Infected alfalfa should be cut in a timely manner because the severity of the disease increases as the plant continues to grow. Although the disease does not kill plants, defoliation reduces plant health, quality, and yield. When growers irrigate their fields, this disease can cause more leaf loss during curing, raking, and baling than before cutting.

#### Stress Tolerance & Quality

Even without the presence of yield-robbing diseases, the structural integrity of alfalfa is continually stressed due to multiple cuttings throughout a season. This threatens yield and quality at cutting time. One way alfalfa growers have improved their stands is through the application of fungicide, which provides disease control and plant health to ensure nitrogen uptake is used effectively.

To proactively [scout the stress of your stand](#),<sup>3</sup> it is best to evaluate the entire structure of the plant by digging from three or four locations in the field. Be sure to include the top 6" of the root. As you cut the root lengthwise and check for rot or discoloration, examine the crowns for size, symmetry, and the number of shoots present to determine the plant health quality of your stand.

#### Making Hay in 2018

Producing high-quality alfalfa that meets the upcoming demands for 2018 markets will require growers who are willing to push the limits of their crops. By staying on top of field conditions by scouting for disease and plant quality, growers will be able to take the necessary measures to achieve success. For more information on how BASF can help create a plan tailored for your operation, visit [agproducts.basf.us](http://agproducts.basf.us).



The healthier alfalfa plant to the right was treated with fungicide.

<sup>1</sup> [Spring black stem found in many Michigan alfalfa fields](#); <sup>2</sup> [Alfalfa Diseases and Management](#); <sup>3</sup> [Alfalfa Stand Assessment](#)