GUEST COLUMN

Plant Health Paves Path to Success for Alfalfa

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For alfalfa, structural integrity is key for the multiple cuttings taking place each season. Growing and maintaining a high-quality alfalfa crop is no easy feat, but prioritizing the health of your plants can put you on the path to success in 2019. Promoting the health of your plants means managing biotic stressors like disease as well as abiotic, or environmental, stressors. Doing so optimizes the growth efficiency and production of your plants, helping you see stronger yields at cutting.

Biotic Stressors

For many farmers, the first thing that comes to mind when they hear Plant Health is biotic stress, also known as disease pressure. 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 between cuttings can help you identify areas where an application of a fungicide like Priaxor® Xemium® brand fungicide from BASF could help manage disease pressure for a stronger, more consistent performance throughout the growing season.

Spring black stem is found early in the season[1] as a result of fungus surviving on crop residue, stems, and crowns through the winter. While this fungus is rarely a significant problem in new seedlings, in the second or third year of growth it can reduce first-cutting yields from 40% to 60% in moderate to severely infected fields. This yield loss occurs as a result of stunted growth in infected plants. Symptoms of spring black stem include the dropping and yellowing of leaves. When these symptoms are present, 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.

In addition to looking for spring black stem in your crop, scouting for common leaf spot early in the season can help you detect other diseases impacting your forages. Symptoms of common leaf spot diseases include small, circular black spots on the upper surface of leaves. These spots can range from brown to black in color.[2] In cool, moist weather, the fungus produces circular, raised, brown fruiting bodies within the spots and forcibly discharges spores into the air. As the disease progresses, infected leaves turn yellow and drop. The fungus typically survives in undecomposed leaves and debris on the soil surface.

To avoid early cutting, consider proactive fungicide applications to help manage disease pressure. In the event you are unable to make a timely fungicide application, infected alfalfa should be cut sooner because the severity of the disease increases as the plant continues to grow. Although the disease does not kill plants, it can lead to defoliation, causing a reduction in the plant's health, quality, and yield. Farmers who irrigate their fields should also note diseases like spring black stem and common leaf spot can cause more leaf loss during curing, raking, and baling than before cutting.

Abiotic Stressors

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 farmers have improved their stands is through an application of Priaxor Xemium brand fungicide, which provides BASF Plant Health benefits by controlling abiotic stressors to help ensure nitrogen uptake is used effectively.

To proactively scout the stress of your stand,[3] 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.

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 Priaxor Xemium brand fungicide 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.

Making Hay in 2019

Producing high-quality alfalfa to meet 2019 market demands requires farmers willing to push the limit of their crop. By staying on top of field conditions through scouting for disease and plant quality, farmers 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.com.

[1] canr.msu.edu/news/spring_black_stem_found_in_many_michigan_alfalfa_fields
[2] alfalfa.ucdavis.edu/IrrigatedAlfalfa/pdfs/UCAlfalfa8296Disease_free.pdf
[3] fyi.extension.wisc.edu/forage/alfalfa-stand-assessment-is-this-stand-good-enough-to-keep/