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## Integrated Management of Alfalfa Diseases

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Alfalfa diseases can reduce forage quality and the longevity of alfalfa stands. Integrated management of diseases can minimize disease impact and improve forage stand and quality. There are several important pathogens that cause disease on alfalfa, and the occurrence of these diseases, as well as the severity of damage, depend on several factors, including the type of pathogen, the environment, and the level of resistance of the host to a particular disease. In addition, disease presence and severity are also influenced by agronomic practices, particularly sowing dates, cutting dates and frequency, and fertility programs.

In general, most alfalfa diseases are managed by integrating management practices such as using resistant varieties and altering agronomic practices to make conditions less favorable for disease. There are a few fungicides available as seed and foliar treatments for specific diseases, although these products vary in efficacy and economic return on investment. Using sound agronomic practices recommended for alfalfa establishment and maintenance will help minimize the impact of disease severity.

When managing alfalfa diseases, it is important to remember several critical factors:

1. **Get an accurate diagnosis of any suspected disease problems.** Several diseases and disorders of alfalfa can cause similar symptoms and are difficult to correctly identify in a field setting. Additionally, some seedling diseases can be indistinguishable in the field,

and proper management relies on an accurate diagnosis of the causal disease or disorder. If an alfalfa stand is experiencing problems, and disease is suspected, submit a sample to the University of Kentucky Plant and Pest Diagnostic Laboratory.

2. **Maintain a thorough field history.** Knowing what diseases have been problematic in previous years can help with management. Many of the organisms that cause alfalfa diseases survive from year to year in the soil or infested plant material. Knowing what diseases have been in a given field in a previous year can help with annual disease management and also should be considered when selecting varieties for reseeding or new stand establishment.
3. **Select varieties resistant to the disease(s) of importance in a given field.** The cornerstone of successful disease management begins with variety selection. Although varieties vary in their resistance to diseases, and no variety is resistant to all diseases, using the field history and considering environmental factors, such as drainage and soil type, can help you select varieties that will be resistant to diseases that have been problematic in the past, or are more likely to be present based on the environment.
4. **Maintain adequate fertility and manage alfalfa stands to prevent plant stress.** Plants that are less vigorous or grown in less than ideal conditions can be more susceptible to certain diseases. Timely cutting can prevent disease from becoming severe and avoids weakening plants. If diseases are severe, or occur frequently, it may be necessary to rotate away from alfalfa for at least two years.
5. **Carefully consider the benefits and risks of using fungicides.** Seed and foliar fungicides are labeled for use in Kentucky, although they may not be necessary in all situations. Use field history and planting/soil conditions to determine if seed treatments are necessary. Foliar fungicides are available, but may not control all diseases, and may not provide an economic return on application. Read all labels prior to use to determine application instructions, pre-harvest intervals, restrictions for grazing or cutting, and the number of applications allowed in a cutting period.

There are several resources available to alfalfa growers to help with disease management. Please see the following publications for more information:

Kentucky Plant Disease Management Guide for Forage Legumes. PPA-AG-F-08.  
<http://plantpathology.ca.uky.edu/files/ppfs-ag-f-08.pdf>

Managing Diseases of Alfalfa. PPFS-AG-F-09.  
<http://plantpathology.ca.uky.edu/files/ppfs-ag-f-09.pdf>

Kentucky Integrated Crop Management Manual for Field Crops, Alfalfa. IPM-1.  
<http://ipm.ca.uky.edu/files/ipm1alf.pdf>