6-1-2002

Alfalfa Disease Management

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COOPERATIVE EXTENSION SERVICE
SDSU

Extension Extra

ExEx 8101
Updated June 2002
Plant Science

COLLEGE OF AGRICULTURE & BIOLOGICAL SCIENCES / SOUTH DAKOTA STATE UNIVERSITY / USDA

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Diseases represent one important constraint to efficient and profitable alfalfa production. Stand establishment, annual yield, forage quality, and stand longevity can all be seriously affected by diseases. Management of diseases is, therefore, a necessary part of an integrated system for maximum production of high quality alfalfa.

Selecting Varieties

Advances in alfalfa breeding have resulted in the release of numerous cultivated varieties with resistance to one or more important diseases. Such varieties are available from both public breeding programs and private companies.

For some diseases, such as bacterial wilt, Phytophthora root rot, and Verticillium wilt, resistant varieties represent the primary control strategy. In the case of diseases where resistant varieties are not available, using varieties resistant to other diseases and pests removes stresses which may limit a plant's ability to respond to those diseases. Therefore, where possible, consider planting disease resistant varieties, not only to reduce direct losses from diseases but also as a way to improve overall plant vigor.

Establishing a Stand

Use well-drained sites for alfalfa. This minimizes disease pressure during establishment as well as over the life of the stand.

Select high-quality seed of a well-adapted cultivar. Alfalfa seed is small and requires a firm, moist seedbed for proper germination and establishment. Inoculating alfalfa seeds with the proper rhizobia is also critical.

Alfalfa seeds and seedlings are subject to attack by a variety of organisms, primarily fungi, which can affect seed germination and seedling emergence and vigor.

Several fungicides are available for treating seed prior to planting. In particular, treatments containing metalaxyl (ex. Apron) can be effective in minimizing Pythium damping-off and seedling Phytophthora root rot.

Some fungicides can be applied directly by the producer, while others must be applied commercially. Some commercial alfalfa seed can be obtained with a fungicide already applied.

Minimizing Root and Crown Rots

Managing alfalfa for maximum vigor is important in minimizing damage from root and crown rots. In any given area, select a cultivar with sufficient winter hardiness. Lack of winter hardiness and associated winter damage often lead to root and crown rot problems.

Good soil drainage and balanced soil fertility are important. If irrigating, do not keep the soil saturated for long periods.

Do not cultivate established alfalfa stands—this may increase the potential for root and crown rot problems.

Harvest stands in early bloom and only when the soil is firm to minimize crown damage.

Minimizing Leaf and Stem Diseases

Numerous leaf and stem diseases can significantly affect alfalfa yield and quality. Field location, site characteristics, cultivar resistance, and yearly weather patterns are some of the factors contributing to these foliar diseases.

Few options are available to aid in managing leaf and stem diseases. Early harvest is one way to minimize leaf loss and, there-

fore, preserve both yield and quality. Damage from leaf and stem diseases often increases rapidly after early bloom. In irrigated fields, apply water soon after a harvest to maintain adequate soil moisture. If possible, avoid overhead irrigation after regrowth has developed a canopy.

Avoiding Other Diseases

Other diseases occasionally may become serious enough to warrant control. Use of adapted, disease-resistant cultivars in combination with good rotations and production practices often are sufficient management for some of these problems.

Contact your county Extension office for further assistance with alfalfa disease management.

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ExEx 8101- pdf by CES. March 1994; updated April 2002.