K-STATE Kansas State University Research and Extension

FORAGE FACTS

Publication Series

ESTABLISHING ALFALFA INTO COOL-SEASON GRASS PASTURES

INTRODUCTION

Successfully establishing alfalfa into existing cool-season grass pastures requires intensive management practices by producers. The three most important practices are: (1) soil testing the existing pasture; (2) reducing the competition of the existing grass; and (3) controlling the weed competition during establishment. Other important considerations include date of seeding, insect control, planting method, and management after alfalfa establishment. Increased performance is the result of grazing livestock on legume and cool-season grass mixtures, but it will require more management in the areas of fertilizer application and grazing strategies.

ESTABLISHING ALFALFA INTO COOL-SEASON GRASS PASTURES

Step 1. Alfalfa can be successfully planted in Kansas in the spring (March to April) or fall (August to September). Generally, local recommendations should be followed, but a dry May / June or September can greatly reduce the success rates.

Step 2. Soil testing should be done at least six months prior to the intended seeding date. Legumes require a much higher soil pH and fertility level than most grasses, and most existing grass pastures have low pH and phosphorus levels. Lime should be applied a minimum of six months prior to seeding and rates should be based on local recommendations. Generally, in Kansas, 2 tons per acre of agricultural lime is enough to establish legumes.

Phosphorus and potassium fertilizer applications should occur at or just ahead of planting. Phosphorus can be placed in direct contact with the seed, whereas potassium and nitrogen should not be in direct contact with the seed. Nitrogen application at planting should be limited to 20 pounds or less.

Step 3. The existing grass must be reduced by 50 to 75 percent by heavy grazing, tillage or chemical applications to allow the alfalfa to establish. Tillage with a disc and field cultivator on the grass prior to alfalfa seeding provides adequate reduction of the grass stand. Chemical application of Gramoxone or Roundup can also result in adequate grass reduction. Producers should consult the local extension agent on proper chemical rates and timing of application. Most interseeding failures occur because the existing grass stand was not reduced enough for the alfalfa to establish.

Step 4. After the ground has been fertilized and the existing grass has been reduced, planting can occur. A seeding rate of 12 to 15 pounds of red clover or alfalfa is suggested , and seed should be inoculated with alfalfa rhizobia (at recommended rate). Producers may consider applying fresh inoculant to pre-inoculated seed. A sticking agent that ensures the inoculant sticks to the seed may also be used. Seeds should be planted ¼ to ¾ inches deep.

Step 5. Many attempts at establishing alfalfa have failed because grass and weeds were allowed to grow and reduce the light and water available to the young alfalfa plants. Mowing or grazing can reduce the competition. Generally, about four to six weeks are needed to establish alfalfa.

Step 6. Annual fertility programs should be followed based on soil test recommendations.

Step 7. Intensive management practices must be followed to favor the growth of the alfalfa once it has been established. Some practices to follow include mowing pastures to remove seed heads, controlling weeds and woody vegetation, and harvesting hay or managing grazing to favor the legume. Rotational grazing favors alfalfa growth and should begin at or just prior to the bud stage. Pastures should be grazed "quickly" to 3 to 4 inches in three to four days, then the pasture should be rested for 20 to 30 days before repeating the cycle. Actual systems should depend on pasture productivity and local recommendations.

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