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Seedbed Preparation for Fall Seeded Alfalfa

K. L. Wells and J. K. Evans

With the increased interest developed during the past few years on production of alfalfa hay for cash sales, the acreage seeded each year has increased. And, although UK forage specialists prefer spring seeding of alfalfa to fall seeding, some growers will and should opt for fall seeding. This is particularly true on fields which have a history of legumes and/or are contaminated with Johnsongrass. Those who do so should begin planning now to have the seedbed prepared for planting by mid-August to mid-September.

Soil Sampling

Seeding without soil sampling is one of the major reasons for stand failures. Fields for fall seeding should be soil sampled in mid-July in order to determine the need for lime and fertilizer. Be sure to take enough subsamples in each field so that when you mix them together, the composite sample accurately represents the field. Large fields should be subsampled at 25 to 30 locations, taking care not to sample from small areas which are obviously different from the remainder of the field. If known problem areas within a field are large enough to be treated separately, they should be sampled separately. Samples should be taken to a depth of 6 inches or to plow depth.

Fertility Program

A productive alfalfa crop is a heavy feeder of soil nutrients with a 5 to 6 ton yield removing 70 to 120 lbs P_2O_5 and 250-400 lbs K_2O per acre per year. For successfully establishing alfalfa, the soil pH should be 6.5 to 6.8 when you seed the crop. After establishment the field should be soil tested every 2 years and topdressed with aglime as needed to keep soil pH in the 6.5 to 6.8 range. This will ensure sufficient molybdenum availability to meet the requirements by rhizobia bacteria in root nodules to fix an adequate amount of atmospheric nitrogen for high production. Phosphate and potash should be applied at the rate indicated necessary by soil test results and the desired level of alfalfa production. These should be broadcast, along with the lime, and disked in prior

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to final firming of the seedbed. The field should subsequently be topdressed annually with any needed phosphate and potash, and with 1 to 2 pounds of boron per acre.

Tillage

Fields to be fall seeded should be moldboard plowed in July or early August, as soil moisture permits. It is preferable to leave them rough-plowed until near time for seeding. This will improve moisture retention and infiltration and will provide some erosion protection, particularly if plowed along the contour of the field. For final seedbed preparation, the field should be smoothed with a disk and then firmed with a cultipacker before seeding to obtain good stands. Best results for germination will be obtained by firming the surface again, immediately after the seeds have been placed into the soil. Seedings should not be made on a dry or partially moist seedbed. Prospects for successful establishment will be greatly improved by waiting until a rain of about an inch has occurred and then seeding after the soil dries sufficiently to allow machinery use in the field. This minimizes the likelihood of seed germination in insufficient surface moisture which can result in seedling dehydration and death before the taproot can expand into the subsoil.

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