February 2011 – RENAISSANCE NUTRITION

THE FORAGER

Agronomics with livestock in mind!

Successful Forage Crop Establishment

(Continued from January 2011 edition)

- **SUCCESSFUL TILLAGE AND SEEDING PRACTICES**

Seeding Date

Late summer: Late-summer seedings of forages generally are most successful in certain geographic areas of the country. An early maturing grain crop can be grown and harvested, the seedbed prepared, and the forage crop seeded before late August. Fall rains and cool temperatures provide an ideal environment for forage seedling establishment and growth.

Spring: Spring forage seedings are common throughout most of the country and can be as successful as late-summer seedings. However, wet soil conditions that make preparing a good seedbed difficult, increased weed competition, and the possibility of summer droughts all increase the risks of spring forage seedings.

Winter: Winter seedings or frost seedings generally are not as successful as late-summer or spring seedings, but they also are not as costly. Winter seeding involves spinning forage seeds onto the frozen ground (generally to thicken an existing forage stand or to establish a forage crop into a fall-seeded small grain). This method is more successful if completed when the soil is not snow covered and is freezing at night and thawing during the day. Traditionally, clovers are the easiest and grasses are the most difficult forages to establish with this seeding method.

- **Basic Seeding Principle**

Regardless of the seeding date or method, there are several important agronomic principles that should be kept in mind when attempting to establish forage crops.

  - Seeding depth and seed-to-soil contact are critical. A general rule of thumb is that seeds should not be placed deeper than five times their diameter. For most forage crops, seeding depth should not exceed 3/ 8 inch. Deeper seedings will drastically reduce the number of seedlings that will establish.
  - After planting, seeds must absorb water from the soil before they germinate. Poor seed-to-soil contact will delay water absorption, allow seeds to dry after absorbing water, and in general cause poor germination and forage establishment.
  - Recommended seeding rates are designed to compensate for normal forage seed and seedling losses during establishment. Seeding at lower rates than recommended can jeopardize the success of the seeding. Consult the Renaissance Agronomy office for forage seeding-rate recommendations.
  - Legumes have the ability to convert atmospheric nitrogen into plant nitrogen through a symbiotic relation-ship with rhizobia bacteria. In many soils, sufficient numbers of rhizobia bacteria are already

(Continued in next column)

(Continued from previous column)

present to adequately inoculate legume roots, particularly if the same legume species has been grown in the field within the past few years. Inoculation (adding rhizobia bacteria to the seed prior to planting) is recommended when the legume being planted has not been grown in the field for the past three years. Inoculation is inexpensive insurance that sufficient bacteria will be in the soil for proper nitrogen nutrition of the legume plant.

  - Use of a nurse crop with spring forage seedings is a common practice. Nurse crops can reduce the potential for soil erosion and weed infestations, but they also can compete with the forage seedlings for light, moisture, and soil nutrients. In addition, there are very few herbicides available for weed control in a small grain/ forage seedling mixture. Producers who decide to use a nurse crop should remember to (1) seed the nurse crop at a reduced rate (e. g., one bushel of oats/acre); (2) avoid nitrogen application, because it will increase nurse crop growth and competition with forage seedlings; and (3) mow the nurse crop off when it is in the vegetative stage or harvest it early (during the milk or early dough stage) to minimize competition with forage seedlings.

In the next issue, we will consider other tillage options and successful management for young forage seedlings. This is an excellent time for producers to think and plan ahead – and make the most of their entire forage program.

(Edited from an article by Dr. Marvin Hall, Pennsylvania State University)