

THE FORAGER

Agronomics with livestock in mind!

Successful Forage Crop Establishment

(Continued from January & February 2011 editions)

TILLAGE OPTIONS

- Tillage is not practical on many fields because of rocks or the high potential for soil erosion. In these fields, no-till seeding is recommended. However, in fields that will be tilled prior to forage seeding, a few guidelines should be followed.
- **Conventional Tillage:** Tilling soil that is too wet will make establishing a forage crop difficult, because the resulting soil compaction reduces water movement through the soil and hinders root development. In addition, it is difficult to achieve a fine seedbed or good seed-to-soil contact in soil that is wet at the time of tillage.
 - A firm and fine seedbed helps regulate seeding depth and improves seed-to-soil contact. However, excessive tilling will destroy desirable soil structure, reduce soil porosity, decrease water infiltration, and increase the probability of soil crusting.
 - A level seedbed will greatly reduce equipment and operator stress during harvesting. Taking a few minutes to properly adjust the tillage implement to achieve a level seedbed or taking one extra tillage pass to level the seedbed pays dividends over the life of the forage stand. If weeds have not been controlled previously or are expected to be a problem during forage legume establishment, then the use of a pre-plant incorporated herbicide may be beneficial. For more information on weed control in forages, consult the [Penn State Agronomy Guide](#) or contact your local and state extension office for further information.
 - Response of forage seedings to starter fertilizers (small amounts of fertilizer placed near seeds at the time of seeding) has been inconsistent. Starter fertilizers are generally thought to be beneficial only when there are adverse conditions for seedling development, such as wet and cold soils, soils with low fertility, or soils with poor physical properties.
- **No-till:** No-till forage seeding is ideal for certain topography and soil types, such as rocky soils or those where erosion may be a more persistent problem. This seeding method can be very successful if a few precautions are taken.
 - Weed suppression is essential for successful no-till forage establishment. Any green plants present in the field at seeding should be controlled with Gramoxone Extra or Roundup/Ranger herbicides.
 - A no-till drill is necessary for successful no-till establishment of forages.

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No-till drills are designed and equipped to seed in soil that has not been tilled. Conventional grain drills should not be used for no-till seedings.

- Seeding must be done at the proper soil moisture level. The no-till drill opens a slit in the soil with a disc or narrow shovel. The seed is then dropped into the slit. If the ground is too wet, the slit will not close, resulting in poor seed-to-soil contact. On the other hand, when the soil is too dry it is difficult to get the no-till drill to penetrate the soil and place the seed at the proper depth.

Successful forage seedings have been made with many types of seeders. The method of seeding is not as important as achieving proper seeding depth and good seed-to-soil contact.

In the April 2011 issue, we will consider the proper management recommended for young forage stands, which is crucial to the health and ultimate yields of most forage crops. Encourage your 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)



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