

No-Till Seedings

Ed Rayburn, Extension Specialist
March 2011¹

No-till seeding is a relatively low-cost method of establishing perennial grasses and legumes or annual forages on land that has not been tilled. The management principles for no-till are the same as for seedings sown on tilled land; only some of the machinery is different. The following practices should be implemented to ensure that the seeding is most likely to be successful.

Correct Soil Fertility and pH

Soil test and apply the proper rates of phosphorus, potassium, and lime needed to meet the needs of the new seeding. For spring seedings, fertilizer and lime should be applied the previous year since it is difficult to get equipment out on wet fields in the spring.

Select the Forage Species for the Soil and Management to be Used

Select the mixture of species that are best adapted to the soil drainage and harvest management to be used in the field (hay or pasture). Improperly matching the plants to the soil and management will result in the untimely death of the seeding. If a different forage mixture is desired on a field the management of that field will have to be changed to meet the requirements of the species in the new seeding. Use “blue-label” certified seed of proven varieties to ensure clean seed with known performance and disease resistance.

Control Plant Competition

There are two types of competition to a no-till seeding, **perennial weeds** and **desirable forage grasses**. For a no-till seeding, perennial weeds should be identified and killed with the appropriate herbicides well enough before the new seeding to meet label restrictions of the herbicide being used. Always read and follow the label directions on any herbicide used. Desirable forage grasses can be saved by using a burn-down herbicide, which will reduce their

Programs and activities offered by the West Virginia University Extension Service are available to all persons without regard to race, color, sex, disability, religion, age, veteran status, political beliefs, sexual orientation, national origin, and marital or family status. Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture. Director, Cooperative Extension Service, West Virginia University.

competition but not kill them. Undesirable forage grasses can be killed with an approved systemic herbicide. When using a systemic herbicide, improved varieties of the desirable forage species can be reestablished on the field.

Seed at Proper Rate and Depth, Establish Good Seed-Soil Contact

Seed the seeding mix at the proper rate and depth. **It is critical that the no-till seeder be adjusted properly.** Adjust the disk openers so that cool-season grasses and legumes are seeded ¼ to ½ inch deep. Having some seed on the soil surface is an indication that the seed is not being seeded too deep. Adjust the press wheel for adequate pressure to ensure proper firming of the soil to get good seed-soil contact. Increasing the seeding rate does not compensate for improper drill adjustment.

Manage Grazing and Mechanical Harvest to Maintain the Desired Plant Species

The main reason no-till seedings are lost is that they are not grazed or harvested properly after establishment. Graze or harvest the field at the appropriate timing and intensity for the forage species in the stand. Remember that before renovation, a pasture is in balance with the grazing and soil fertility management being used. Without changing the grazing or fertility management, a new seeding will only revert back to what was there in the first place.

Manage Soil Fertility to Maintain Forage Production

To maintain forage production, fertilizers should be applied to replace the phosphorus and potassium removed in the harvested forage. These fertilizers can be home-grown manure or purchased fertilizers and lime.

When properly managed, no-till seeding is a practice that is energy- and time-efficient. When used with proper variety selection, quality certified seed, and post-establishment harvest and fertility management, the new perennial seeding can provide a high-quality and high-yielding forage for pasture or hay for years to come.