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Reseeding Natives in South Texas: Site Preparation

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Preparing a planting site for native plants is as vital as laying the foundation for a house. Few people who see the completed house think about the effort, materials, and time that went into creating a solid, long-lasting foundation. But any homeowner with a cracked foundation understands the importance of that first step.

Native species often require specific conditions for optimum growth and development. Preparing a good seedbed is a key to establishing any plant by intentional seedings. In most agricultural planting operations, seedbed preparation is the most important step in the process.

For native plantings, the seedbed needs to be level, firm, uniform, and free of debris and dirt clods (Fig. 1). To prepare your land for reseeding, follow the steps below.

2 to 3 years before planting

The process for preparing the site depends on the initial condition of the area. Inspect the property to determine what kind of soils and plants are present. These factors will greatly influence the cost of reseeding and the likelihood of success.

For example, if aggressive exotic grasses are growing across the site, you will need to spend much effort to eliminate these plants and their seedbanks before planting natives. Another example is a site covered in brush that would have to be controlled before you could access the site to seed it.

Other factors that will influence the methods, costs, and likelihood of success include rocky or steep terrain, or soils that are very sandy or prone to erosion.

Carefully evaluate all potential restoration sites long before reseeding natives.

1 to 2 years before planting

Removing undesirable brush, exotic grasses, and weeds will make planting easier and reduce competition after planting. Decide whether to remove all of the invasive, introduced, or undesirable plants from the site or to just add plants to diversify the existing plant community. Base your decision on the current situation and the goals for your land.

For example, brush cover is an important habitat component for some wildlife species such as bobwhite quail and white-tailed deer, and it would be desirable to leave it on some portions of the site. Also, if you plan to provide livestock forage as well as wildlife habitat, you may not want to remove all introduced forages, although leaving a few could allow them to outcompete many native plants in the near future.

Your decision on the amount of existing vegetation to remove will dictate the intensity of site preparation, planting technique, and follow-up management practices needed. For example, if your goal is to diversity the existing vegetation, you may need to prepare strips or patches for seeding instead of cultivating the area completely.

If you decide to remove all the existing vegetation from the site, the best approach may be to treat the green, growing plants with glyphosate, a broad-spectrum herbicide, and then cultivate (plow) them under. In some cases, glyphosate alone can be used to prepare the seedbed, especially on erosion-prone soils or where no-till seed drills can be used.

Because many brush species resprout after the tops are removed, you may need to apply a brush herbicide that is

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specific to that plant species. To remove exotic grass, you may need to make repeated herbicide applications or cultivations to eliminate the existing plants and seeds from the soil.

If you need to remove a few woody plants mechanically, take extra care to smooth the soil afterward to eliminate any holes.

6 months before planting

Prepare the seedbed. The best method is to use an offset disk to break up dirt clods and then use a field cultivator to smooth the surface. You may use other implements and resources as long as the result is a smooth, level seedbed.

For heavily compacted sites or retired croplands, ripping or deep plowing may be needed to break a plow pan or compaction layer. Consult with NRCS soils personnel for more advice on these situations.

Before seeding, the soil in a native seedbed should be firm and not cloddy or powdery (Fig. 2). A firm seedbed improves seed-to-soil contact—which increases germination rates by allowing the seed to take up water in the soil. Firm seedbeds also prevent the small native seeds from being planted too deep. In general, you should be able to walk across the seedbed barefoot and not get dirt between your toes.

Seedbed firmness is best achieved with rainfall. The moisture that has accumulated in the soil before planting will also help the seeds germinate with less post-planting rainfall.

No rainfall? Waiting for a few days or weeks after the final cultivation before planting may enable the disked soil to settle enough. Failing that, use a cultipacker to

Figure 1. Examples of well-prepared seedbeds.

Figure 2. Examples of poorly prepared seedbeds.

firm it. However, do not compact the soil with heavy machinery.

Creating an ideal seedbed is a crucial part of your seeding success. It can also reduce the amount of time and money needed after planting to control invasive plants. It is better to delay planting than to plant on a second-rate seedbed.

For more information

The Reseeding Natives in South Texas series also offers these publications:

- *Planting Techniques and Equipment*
- *Selecting the Seed Mix*
- *Post-Planting Management*
- *Targeting Noxious Plants*
- *Top 10 Mistakes to Avoid*

They are available from the Texas AgriLife Extension Bookstore at http://www.agrilifebookstore.org/.

How-to videos are also available on the Web:

- *The Benefits of Reseeding with Natives* (http://youtu.be/KmS-v9kCD7uU)
- *Seedbed Preparation* (http://youtu.be/8HXjTXNqYYs)
- *Reading Tags, Storage, and Handling of Seed* (http://youtu.be/aLKu3lExXIw)
- *Selecting Native Seed Mix* (http://youtu.be/bhZwroeq2dI)
- *The Parts of a Seed Drill and Calibration* (http://youtu.be/VhMlfapT1vQ)
- *Timing and Planting Expectations* (http://youtu.be/jGGq8TrQtC4)
- *Maintenance with Brush Management* (http://youtu.be/00TjO-t4Ze0)

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