

Reseeding Natives in South Texas: Planting Techniques and Equipment

Planting techniques for native seeds differ from those used for conventional agricultural crops. Native seeds are much smaller and must be planted shallower—no more than $\frac{1}{4}$ inch below the soil surface—to produce a good stand. And if you plant a mix of species, the different seeds' textures and sizes will not be as uniform as those of a single agricultural crop such as corn or wheat.

Your reseeding project will be much more likely to succeed if you use the appropriate planting rate, reseed under favorable conditions, and use the proper equipment and planting methods for native plants.

Planting rate

Buy and calculate planting rates for native seed according to the percent of pure live seed (PLS) in the mix. The recommended planting rate for native seeds is 20 PLS per square foot, which will be given in terms of pounds PLS per acre in most seed company literature. Beware of planting rates given in terms of bulk pounds of seed per acre, because in many cases, bulk planting rates can result in planting the wrong amount of seed.

If you plant below the recommended seeding rate, the plants will be less likely to establish at the density needed to provide a good stand, and weeds may invade or poor productivity may result. Planting at a higher rate than recommended wastes money because it usually does not improve stands. Seedlings compete with each other and naturally thin themselves if established too close to one another.

Planting conditions

To germinate, most warm-season native plant seeds used in South Texas must be planted in warm, moist soil. The

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moisture helps provide good seed-to-soil contact and allows the seed to take in the water needed to stimulate germination.

The best weather conditions for native seed germination occur in early to mid-spring (late February to April) and late summer to early fall (late August to October). Fewer seeds germinate in summer or winter, when the weather in South Texas is dry and too hot or cold, and the chances of good precipitation are poor.

If you must plant out of season, add a cover crop to the native seed mix. The crop will help prevent erosion and protect the newly budded plants or un-germinated seeds from being eaten by animals or insects when little other green vegetation is available. Cover crops also help prevent erosion if the native seeds fail to emerge quickly.



Figure 1. A well-prepared planting site for seeds of native plants.

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Figure 2. A planting site where the establishment of native seeds will be poor because of existing weed competition.

The cover crop you choose depends on the time of year that you plant. In summer, add browntop millet to the native seed mix; in winter, plant wheat or oats.

Typically, a cover crop at 25 percent of the recommended pure stand seeding rate of the plant will be enough to hold the soil in place until the native seed germinates. Always plant the full recommended native seed mix rate, even when adding a cover crop.

More seeds of native plants will germinate if the seedbed is level, firm, uniform, and free of debris and dirt clods (Figs. 1 and 2). For information on seedbed preparation, see *Reseeding Natives in South Texas: Seeding Site Preparation*, which is available from the Texas AgriLife Extension Bookstore at <http://www.agrilifebookstore.org/>.

Planting methods

The best planting methods for native plants are drilling, broadcast, and hydroseeding.



Figure 3. A seed drill specifically designed to handle native seeds.

Drilling

The preferred method of planting is with a seed drill specifically designed to handle native seeds (Fig. 3). Standard grain drills plant too deep, and many of the seeds will not flow through the drill.

The major advantage of a native seed drill is that it can handle the various shapes and sizes of a native seed mix. For example, it can plant multiple species simultaneously from different seed boxes. Good native drills offer at least two seed boxes: one for the slick, hard seeds in the mix, the other for the fluffy seeds.

Another advantage of native seed drills is that you can use the depth bands on the disk openers to make sure that the seed is planted at the proper depth. These drills can also be outfitted with a no-till package to minimize or eliminate soil disturbance and reduce erosion in specialized applications where intensive soil tillage is undesirable.



Figure 4. Broadcast seeding.

Broadcast seeding

A slinger-type planter can be used to broadcast seed if afterward you use a drag, roller, or cultipacker to firm the soil and prevent seed loss (Fig. 4). Broadcast seeding may work better than a seed drill on very coarse sands that will not become firm and are otherwise difficult to plant with a drill.

Broadcast seeding may be the only viable planting option for rough terrain or very rocky soils. However, broadcast seeders are difficult to calibrate accurately when planting a mix.

Hydroseeding

Hydroseeders mix the seeds with water and mulch and then spray the slurry onto the site (Fig. 5). These machines can produce excellent results and often speed up plant establishment. Some disadvantages of this technique are that it is usually very expensive, and it is impractical to use on large planting areas.



Figure 5. Hydroseeding.

Hydroseeding is the best option for highly erodible or difficult areas to plant, such as steep slopes.

Equipment calibration

Regardless of the planting method, the equipment must be calibrated accurately to put the right amount of pure live seed on the site. Taking time to calibrate the planting equipment will make the planting project more efficient and effective.

While the planting rate for a site is determined by pounds of PLS, equipment must be calibrated using the corresponding amount of bulk pounds of seed that will be distributed across the site. Seek specific guidance for converting these

PLS pounds to bulk pounds if you are unsure. Remember: Variances in the planting rate of +/- 10 percent because of equipment limitations are generally acceptable in native seedings.

For more information

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

- *Site Preparation*
- *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/KmSv9kCD7uU>)
- *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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