

GEARING UP FOR WINTER GRAZING

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Dennis Hancock, Forage Extension Specialist
The University of Georgia

It is that time of year again! Yes, it is once again time to gear up and get ready to plant your winter grazing. As you grease up your no-till drill or pick up the one you're renting, here are some key considerations to help ensure your plantings are successful and cost-effective.

Clear Out and Clean Up

One should never take anything for granted. This is especially true for assumptions about no-till drills. For example, one is likely to find that at least one of the drop tubes or feed cups will be clogged or has a spider web in it that will obstruct normal flow (Figures 1 and 2). Spiders seem to have an affinity for seed tubes. Use compressed air or something similar to blow out the tubes. After blowing them out, use little wads of paper to pass through the drop tube to test to make sure it is clear of obstruction. If it doesn't drop through easily, take off the tube and treat it with more vigor.

One might also find that the last person to use the drill left a surprise in the hopper. Several years ago, I picked up a no-till drill that I had rented. Apparently, when the last person finished with it, they failed to empty out the seed. Since this drill was stored outside and the lid wasn't watertight, I found a cake of half-rotten tall fescue seed in the bottom of the hopper and a bunch of seedlings growing like a Chia pet on top. Surprise!

Set Up for Proper Drop

Larger seeded species, including any that are larger than tall fescue or annual ryegrass seeds, can usually be planted using the large seed box without any problem. This is handy because the large seed box usually holds much more volume than the small seed box. Many of our forage seeds are small and require a shallow seeding depth. Any seed that is the size of tall fescue, annual ryegrass, or smaller should be able to be sown using the small seed box. Seeds that are approximately the size of tall fescue or annual ryegrass can be sown using either seed box.

Check to make sure that the feed cups are appropriately set up according to the manufacturer's instructions. Ensure these are properly set BEFORE pouring seed into the box, otherwise your seed will flow right through and form neat little piles under each opener.



Figure 1. This feed cup (under each seed box) is full of seed from the previous use.



Figure 2. Parts of a no-till drill.

Check for Unusual Wear

Running a no-till drill across some of our rough (and sometimes rocky) terrain is hard on it. Check to make sure that the coulters on the front, the openers in the middle (where the furrow is opened), and the press wheels in the back are not chipped, bent, or wobbling and that they run true with one another. Ensure that each moving part turns freely and that all bearings are sound and greased. Also, ensure that the openers are allowing sufficient gap for the seed to fall into place. These considerations are especially important when dealing with rented drills. No one who reads these articles would do this, but there are some people in this world who fail to pick up the drill when turning around. Such is commonly the case for rented drills and this will cause extreme wear and stress on the moving parts and result in failure.

Ensure Proper Planting Depth

Most of our most common forage species (e.g., annual ryegrass, bahiagrass, tall fescue, etc.) should be planted at a depth of $\frac{1}{4}$ to $\frac{1}{2}$ inch. Some can be planted as deep as 1 inch without hampering emergence (e.g., rye, wheat, triticale, pearl millet, sorghum x sudangrass, etc.). In fact, when soil moisture is limited, it would be wise to plant those species at that depth. In contrast, most of the legumes (e.g., the clovers, lespedeza, alfalfa, etc.) should be planted no deeper than $\frac{1}{4}$ inch deep.

There are three major adjustments that can be made to adjust the planting depth. The first of these adjustments is the cutting depth of the rolling coulters in the front of the drill. As a rule of thumb, the coulters should be cutting twice as deep as the planned seeding depth. So, if the desired planting depth is $\frac{1}{2}$ inch, then the coulters should make a 1-inch slice into the sod. This is usually adjusted by a “depth control” knob or hydraulic setup. Those who are unfamiliar with using a no-till drill may assume that turning the “depth control” knob is the only adjustment that is needed. Unfortunately, they may not realize that this only sets the coulters depth. There are two other adjustments that are necessary.

Second, ensure that the springs above the opener are providing sufficient down pressure (Figure 3). Typically, there are one or two springs for each row unit that pushes the opener down. These may be placed on their lowest down pressure setting when shipped from the manufacturer. This may be sufficient down pressure, at least at the start. However, in dense sod (e.g., when planting into thick bermudagrass or bahiagrass) or after a few seasons of use, these springs may not provide enough down pressure. To create more down pressure, shorten the length of the spring’s travel according to the manufacturer’s instructions (usually by removing the “W” clip at the bottom of the spring and moving it to a higher hole in the rod that runs through the spring).

The final step, adjusting the press wheels correctly, is equally crucial to no-till planting success. Most press wheels have a T-handle that can be adjusted forward (toward the tractor) allowing the depth to be shallower or backward (toward the press wheel) to enable a deeper placement. The press wheels are designed to ensure that the openers aren’t pushed too deeply by the springs. The press wheels work in tandem with the springs to create what is called “reserve power.” In other words, as the properly adjusted press wheel traverses the rough terrain of pastures and hayfields, there is enough travel in the spring that the openers are always positioned at the right depth. The springs and press wheels work together in the same way as the suspension system and the tires on your truck or car work to ensure that the wheel doesn’t bounce off of the surface.

Remember that conditions often vary within the field and will change throughout the day. Regularly check seeding depth and adjust the press wheels accordingly.



Figure 3. Parts important to ensuring proper opener/seeding depth.

For the shallow-planted ($\leq \frac{1}{4}$ inch) species, establishment success is often greatest when the seed is dropped directly in front of the press wheel. The press wheels can provide enough soil coverage to ensure adequate seed:soil contact. Some no-till drills are designed this way (such as the drill pictured herein). If working with a drill that is not designed in this fashion, the small seed box drop tube can be removed from where it is dropping seed into the opener, and it can be cable-tied or wired in place so that it drops the seed in front of the press wheel.

When checking depth, carefully scrape away the soil from the middle of the furrow outwards. Measure the depth relative to soil surface. Note that the layer of thatch or residue is not included in the planting depth. Checking planting depth can sometimes be difficult because the seed are hard to find. When adjusting the seeding depth, use a quart-sized bag full of seed that has been lightly sprayed with orange turf paint so that one can easily see the seed when measuring seeding depth.

Calibrate the Drill

The final step in preparing for planting is to ensure that the proper seeding rate is being sown. It is likely that your drill's manufacturer provides settings for most forage crops that you plan on seeding. However, these settings are not always perfect, nor do they account for normal wear with the moving parts. The manufacturer's recommended settings are a great place to start, but they may not be sufficiently accurate. With seed prices where they are currently, it has never been more important to calibrate your drill. Your drill's manufacturer likely has provided a step-by-step guide to calibrating your drill in the manual. Other methods for calibrating a drill are also provided on www.georgiaforages.com and in an Extension article from our colleagues at the University of Arkansas entitled "Calibrating Drills and Broadcast Planters for Small-Seeded Forages," which is directly linked here: <http://bit.ly/15QUPG8>.

More Information

Additional information about setting up and calibrating your no-till drill can be found by visiting our website at www.georgiaforages.com. If you have additional forage management questions, visit our website or contact your local University of Georgia Cooperative Extension office by dialing 1-800-ASK-UGA1.

got questions?

Have a question or topic that you want Dr. Hancock to address? Email him at: questions@georgiaforages.com.