

## FERTILIZING AND GRAZING WINTER ANNUAL STANDS

January 2010 Georgia Cattleman

Dennis Hancock, Forage Extension Specialist

The University of Georgia

In Georgia, our biggest competitive advantage in the beef cattle industry is our ability to grow and graze forage during the winter months. One of the most important parts of a winter forage program is, of course, the cool season annual grasses. However, it takes skill (and a healthy dose of common sense) to manage winter annuals so that the forage produced matches the stocking rate. Now that your winter annuals are in the ground for this season, this article presents seven keys to optimizing the production and management of your winter annual forage.

### **Avoid Grazing Too Early**

There is a big difference between “*can*” and “*should*”. Grazing of winter annuals can begin as soon as the plants are well-established and have accumulated 3-4 in. of growth. However, grazing should begin only after the plants accumulate 6-8 in. of growth. The plants will survive if they are grazed too early, but they will never fully recover. Some recent research that Dr. Gary Hill and I have been doing in Athens and Tifton suggests that starting to graze too early (i.e., at ~4 in.) reduces the total forage yield in the season by at least one third.

### **Start Light, End Heavy**

Along those same lines, it is best to begin with a light stocking rate and gradually increase it as the growing conditions improve and forage growth rate increases. A good way to do this is by restricting the animal’s time on the paddock, rotating animals between paddocks, or using strip grazing techniques. But, later in the season, the growth rate of the winter annuals will be much more rapid. If a light stocking rate is maintained, much of the forage will get rank and overly mature. Ideally, more animals would be added to increase the stocking rate. Of course, that usually is impractical. So, increase the stocking rate by reducing the number of acres grazed. In practice, this means shutting animals out of some pastures or paddocks and letting those areas grow up for hay or baleage. Be sure that you select those areas in advance, so that you don’t put N fertilizer out if you don’t need the extra forage.

### **Know Your Forage**

Our winter annual species differ a lot in their tolerance of grazing. Ryegrass and rye are generally very tolerant of repeated grazing and generally regrow rapidly. On the other end of the spectrum, barley and triticale do not regrow well after grazing. Wheat and oats are more intermediate, as they are quite a bit slower to regrow than rye or ryegrass and have poor tolerance to heavy continuous grazing.

### **Feather the Throttle**

When I was a kid, we had a tractor that had poor brakes. You had to think ahead to slow it down. Just as with that old tractor, the key to manipulating winter annual forage growth is to think ahead and throttle it back. Putting down N at planting (or soon after) is critical, as that initial 40 – 50 lbs of N per acre increases tillering (thickening of the stand) and provides earlier grazing. A second application of N per acre should be applied in mid-January to early-February to increase winter and spring forage production. If there is a great need for forage at that time and the coming weeks, 40 – 50 lbs of N per acre should be applied. If the need is less, decrease the N rate accordingly. If winter annual legumes were used and they contribute 30-40% or more of the stand, then no more than 25 lbs of N per acre will be necessary.

Because ryegrass is longer-lived, a third application of 40 – 50 lbs of N per acre may be needed in early spring when ryegrass is grown alone or used in a mix for late spring grazing, hay, or silage. (Again, if winter

annual legumes are 30-40% or more of the stand, then little if any additional N will be necessary.) The key to remember is that ryegrass is very responsive to N, and this makes the “throttle” very touchy. Further, you should keep in mind that late ryegrass production can decrease bermudagrass yields by 30-50%. So, if you don’t need the extra forage or you are worried that it will slow the bermudagrass or bahiagrass, decrease the N rate accordingly or cut it out altogether.

### **Adjust for Previous Weather Conditions**

If your soil is sandy and low in organic matter, the rainy conditions of November and December of last year have likely caused you to lose a significant portion (20-40% or more) of the N that you applied. (Aren’t you glad you didn’t put all your N on at once?) As a result, you may want to put on your N earlier in January than normal in attempts to get additional tiller formation prior to the spring flush of growth. If the soil has more clay and/or organic matter, N losses due to leaching are likely to be much less significant and adding the N early is likely unnecessary.

On the other end of the spectrum is the situation that we had in the fall of 2007 and 2008, where drought and/or cool temperatures and overcast skies dramatically slowed fall growth. In these situations, N leaching losses are likely to be minimal, but so will be plant uptake. In addition, losses from volatilization (escape as a gas) may have occurred.

In either case, you may want to use the plant to tell you if there is a deficiency by getting a plant tissue analysis done. To do this, contact your county Extension Agent for more information. If the plant tissue analysis shows that the vegetative growth has a N content lower than 3.00-3.50%, then some additional N may be needed. If this is the case, then consult with your county Extension Agent to develop a plan.

### **Adjust for Future Weather Conditions**

To continue the analogy to my old tractor, I would always be looking ahead to anticipate when I needed to start slowing down. The best way to do this in managing winter annual forage growth is to keep an eye on the medium range weather predictions. I *highly* suggest that you bookmark the National Weather Service’s Climate Prediction Center’s website (<http://www.cpc.ncep.noaa.gov/>). On this page, they provide links to the 6-10 day, 8-14 day, 1-month, and 3-month outlooks. In the summertime, the weather is too random to be predictable. However, they are fairly accurate in the fall, winter, and spring months.

### **Adjust for Low Fertility**

An abundance of N will do no good if the soil pH is so low that the plant’s roots cannot extract it from the soil. In addition, low P or K in the soil will limit the growth of the winter annuals even if plenty of N is available. In fact, high N with low P and K may make them even more susceptible to disease and insect pressures. So, if the field’s fertility is too low, then adding more than 30-40 lbs of N per acre at a time is throwing good money after bad.

If the forage growth is stunted and sporadic, it may be that the field’s fertility is too low. If you have a pasture that exhibits stunted or sporadic growth, it also makes managing the grazing more difficult. It is best to keep a high stocking rate on one of these pastures. So, this pasture should be one that is grazed instead of being allowed to grow up for late spring grazing, hay, or silage.

More information on fertilizing and managing the grazing of winter annual pastures can be found on the Georgia Forages website ([www.georgiaforages.com](http://www.georgiaforages.com)). Of course, your local University of Georgia Cooperative Extension Agent can also provide you with additional information and advice on managing your winter forages. If you have questions about how to adapt these recommendations to your operation, contact your local Extension office by dialing 1-800-ASK-UGA1.