Strategies for Weed Control

By Steve Morgan
Harris County CEC

Weeds can reduce the quantity and the stand life of desirable forage plants in pastures and hayfields. First of all, a weed is defined as any plant growing where you don’t want it. So we aren’t just talking about what we commonly think of as weeds. A weed can also be bahiagrass growing in a bermudagrass field. These unwanted plants are often more aggressive than existing or desired forage species and compete for light, water, and nutrients. Weeds can also diminish the quality and palatability of the forage available for livestock grazing, and certain weed species are potentially poisonous to grazing animals. The aesthetic value of a pasture is also impacted by weeds. Therefore, it may be desirable to initiate weed management strategies that reduce the impact of weeds on forage production. However, not all weedy plants are detrimental to pastures or hayfields. In fact, some weedy plants provide nutritional value to grazing animals; thus, prudent management decisions are often required to determine when or if weed control should be initiated in a pasture or hayfield.

Mowing is especially effective in reducing the amount of weed seed produced by established broadleaf weeds. The mower should cut as close to the ground as possible. Mowing may not completely eliminate weed seed production, since some seed could be produced by plants that regrow from tillers present on grasses below the height of cutting. Also, perennial weeds that spread by underground rootstocks, like Canada thistle, are not effectively controlled by a single mowing.

Similarly, various herbicides are available that can provide broad-spectrum weed control. When making your selection try to choose a product that will control as many weeds as possible. This minimizes cost by reducing the number of passes through the field. When applying multiple products choose products that can be mixed in the same tank and applied in one pass.
Strategies for Weeds (cont.)

During February and early March, pre-emergent herbicides can be used effectively to control warm season broadleaf weeds and grasses. Pre-emergent herbicides are chemicals that prevent germinating weeds in pastures and hayfields from surviving. These herbicides must be on the ground before the seeds germinate to be effective. Prowl H2O is a pre-emergent herbicide that, if used in February and early March, offers effective control on crabgrass and johnsongrass. Other options for weed control are post emerge herbicides. These products provide control on weeds after they have germinated. 2,4-D is a well-known post emerge herbicide. It is effective at controlling bitter sneeze weed, plantains, buttercup, and ragweed but relatively poor control of horseradish and most woody weeds. Cimarron is another popular post emerge herbicide. This product works on bahiagrass, curly dock, buttercup, bitter sneezeweed, chickweed, dog fennel, henbit, pigweed, sicklepod, wild garlic, and spiny amaranth. However, it has poor control on horseradish and ryegrass. Weedmaster provides control of a wide variety of broadleaf weeds and is a preferred product in many hay operations. Some products, like Weedmaster, can be mixed with liquid fertilizer as the carrier. Using this method, a producer could perform two functions with one pass.

Controlling grassy weeds in pastures and hay fields can be challenging. Most products on the market give minimal control on grasses. Cimarron, which was discussed earlier, will control bahiagrass along with certain broadleaf weeds. Roundup PowerMax can be used to control crabgrass if used immediately after the first cutting. Do not make this application if glyphosate was used during the winter months. Gramoxone Inteon can be used to kill winter annuals in dormant bermudagrass. For control during the summer growing season, the best option is Pastora. Pastora is being widely used. Pastora is labeled for bermudagrass pastures and hay fields and has no grazing or haying restrictions. Moreover, it will not cause severe stunting of bermudagrass like many of the other products except when liquid nitrogen is used as the carrier. In field trials, it has been excellent in controlling crabgrass, vaserygrass, and johnsongrass. It will also control sand spurs. Outrider is also a great and economical option if johnsongrass and nutseed control is sought.

When using any herbicide, it is important to be aware of the surrounding crops. Drift from many of these herbicides are lethal to other crops like cotton, tobacco, and soybeans. Pesticide spray drift is the movement of pesticide dust or droplets through the air at the time of application or soon after, to any site other than the area intended. They should choose a product that won’t harm surrounding crops if drift occurs. Drift will vary with boom height, nozzle type, pressure, and wind. Remedy, Crossbow, and Redeem are all labeled for hay and pasture but are harmful to other crops if drift occurs. Grazon P&D is one of the most effective herbicides at controlling broadleaf weeds. However from the standpoint of drift it is considered one of the most dangerous.

Most herbicides have grazing and feeding restrictions stated on the label that limit the use of the crop for livestock feed. Producers should know and adhere to any grazing or haying restrictions. These restrictions can be anywhere from seven days to one year. Different products vary in their restriction guidelines. Many products that have no grazing restrictions for beef cattle will have grazing restrictions for dairy cattle. Most will also have a withdrawal period before slaughter.

Herbicides can be a useful tool for weed management in pastures and hayfields. They should be used where appropriate and when cost effective. A program that integrates several different control strategies is generally more successful than relying on only one method. Weeds present at the time of herbicide application may be controlled, but if the forage stand is not vigorous and actively growing, new weed seedlings will soon emerge and occupy the bare areas that remain. Thus, without proper use of mechanical control methods and good cultural practices, herbicide use will not be beneficial.
Unlike most other ag crops, the selection of a bermudagrass cultivar is a long-term commitment. Bermudagrass is a warm-season perennial grass that when properly established and managed can persist and withstand the rigors of grazing and hay production for decades. It is important to understand the characteristics of the different cultivars. Hybrid bermudagrasses that are recommended for Georgia will consistently provide higher yields and superior quality relative to other varieties. Under hay production, hybrid bermudagrasses produce over four to six tons of hay per acre (when moisture is not limiting) and can be cut four to five times per year. When used for grazing, these grasses provide high yields of good quality forage when the stocking rate is managed to keep the grass closely grazed (two to six inches) to maintain good forage quality. Let’s explore some of the hybrid bermudagrass cultivars that are strongly recommended for use in Georgia.

**Tifton 85** is a hybrid from a cross between cold-susceptible but higher digestible Tifton 68 and an introduction from South Africa with greater cold tolerance. Tifton 85 can be established from sprigs or from clippings (tops). It is one of the few varieties that is easily distinguishable from other bermudagrass varieties, since it has larger stems, broader leaves, a darker green color, and is taller than most bermudagrass hybrids. It consistently provides the highest yields in variety trials across Georgia. Tifton 85 is the most digestible of the recommended bermudagrass varieties. It does, however, have some shortfalls. Because of its higher yields and thicker stems, hay curing can take longer. In addition Tift 85 is not very winter hardy and stands can thin in the North Georgia Mountain region.

**Russell** is likely a hybrid mutation of Callie bermudagrass. Russell can be established from sprigs or clippings (tops) and often is quicker to establish than Tifton 85. When moisture is not limited, Russell may out-yield all bermudagrasses in the first harvest and match the high seasonal yield totals of Tifton 85. Russell is typically a shorter, denser forage. Russell is substantially less digestible than Tifton 85 and slightly less than or equal to Coastal. Russell produces both rhizomes and stolons, develops one of the best root systems of all the hybrids, and forms a dense sod that holds up well under grazing. Russell is a solid variety that is recommended throughout Georgia.

**Tifton 44** is a cross between Coastal and a winter-hardy bermudagrass. Its winter-hardiness allows successful growth as far north as Kentucky and Virginia, more than 100 miles north of the recommended range of Coastal bermudagrass. This hybrid produces more rhizomes, has finer stems, is darker green, and forms a denser sod than Coastal. Though it can perform well in the Coastal Plain, Tifton 44 will likely yield less in this area than the other recommended hybrids. It is slower to establish than many other varieties and may not establish well if propagated from clippings (tops). As a result of this slow establishment, it usually will not provide any significant grazing/haying during the establishment year. Tifton 44 bermudagrass produces a higher-quality forage than Coastal or Alicia.

**Coastal** is an F1 hybrid between an introduction from South Africa and a prolific bermudagrass found in a south Georgia cotton patch. Named for the experiment station where it was bred, Coastal is among the most successful forage variety releases in the past century as it makes up some 15 million acres of the hay and pasture land in the southern United States. Coastal establishes well from both sprigs and clippings (tops). It is the standard against which other varieties are measured. Coastal is a tall-growing, intermediate, coarse-stemmed type, has both rhizomes and stolons, produces few viable seed, and has excellent drought tolerance. In Georgia, Coastal is best adapted to the Coastal Plain and lower Piedmont areas. It is not as cold tolerant as Tifton 44 or Russell and could winter-kill in the mountains. Coastal produces twice as much forage as common bermudagrass, and its forage quality is superior to common Alicia and a few other varieties when properly managed.

There are numerous other hybrid bermudagrass varieties but they are not highly recommended for use in Georgia. For more information on bermudagrass varieties refer to UGA Extension Publication C919: Selecting a Forage Bermudagrass Variety or contact your local extension agent.
Fertilization Tips for Summer Grasses

By Will Lovett
Bacon/Brantley Counties CEA

Spring is here! It is time to say goodbye to the cold, wet winter and to our dependency on feeding hay and other stored forages. It is time to develop fertilization plans for summer grass production, if you have not already done so.

The first step in your planning process should be soil testing. The test does not have to be from this year; however, University of Georgia Extension recommends sampling pastures at least once every three years. Hayfields should be samples every year. Sampling more often may be necessary if you are trying to improve soil fertility levels or if you are troubleshooting issues.

In addition to your soil test results you should review how your hay fields or pastures performed last year. Pertinent questions could include:
1. What was the yield last year – take into consideration weather conditions.
2. Was the stand thinning?
3. Did it have more weeds?
4. If bermudagrass, was there a prevalence of rust.
5. Was there cold damage?
6. How thick is the stand this spring?

The answers to these questions as well as your soil test results can be very helpful in evaluating/developing your fertility program. Below is a discussion of the key nutrients for forage production and some of the most common issues related to them.

When planning your fertility program soil pH level and lime recommendations should be addressed first. Soil pH levels outside of the optimum range will reduce the effectiveness of Nitrogen (N), Phosphorus (P), and Potassium (K), thus effecting seasonal forage yields. Work done at the Texas AgriLife Research Center at Overton Texas demonstrated that a 0.5 increase in soil pH (from 5.5 to 6) resulted in a seven percent increase in forage yield, which was worth $39 per acre. Maintaining a soil pH at 6 or above maximizes the availability of plant nutrients and maximizes forages rooting depth. These factors reduce plants stresses and encourage efficient forage growth.

Nitrogen is a key nutrient in grass forage production. It is one of our greatest expenditures for warm season grass production and also carries the greatest risk of being lost or wasted before being used by the plant. The timing of N applications and the N source used should be considered when developing your fertilization plan. Nitrogen needs to be applied close to the time it is being used to minimize loss and maximize yield response. Applying N in multiple applications throughout the growing season will help ensure efficient crop use. This type of application prevents the crop from taking up more N than it needs for growth, which can result in high forage nitrate levels that can be toxic to animals. Timely applications will also limit the risk of N losses through leaching and denitrification.

Your N source can also have a significant effect on forage yields. The gold standard of N fertilizers is Ammonium Nitrate, but it is not readily available in many cases. Common alternative sources include liquid UAN Solutions (usually 28%, 30, or, commonly 32%) or 28%, Ammonium Sulfate, Urea and Urea with an Enhanced Efficiency product. Research trials have shown that some rates of Ammonium Sulfate and some Enhanced Efficiency products may preform nearly equal to Ammonium Nitrate. Untreated Urea and UAN Solution may only provide 80-90% of Ammonium Nitrate yields.

Potassium deficiency is very common in the hay/pasture soil sample results that I see. Though not the sole contributor to bermudagrass decline, it is one of the primary causes of failed or declining stands. It’s no wonder, since every ton of Bermuda bermudagrass hay contains 30-40 pounds of potassium fertilizer compared to 50-60 lbs of N fertilizer. Unfortunately, potash applications are too often an afterthought when compared to N applications. Potassium is the key for stand persistence. It is very important for reducing leaf spot diseases, maximizing winter hardiness, and improving stress tolerance. Be sure to spilt K into at least two applications. If you are applying without a soil test, be sure to apply 1 pound of potash for every 1.0 to 1.5 lbs of N.

Phosphorus is another of the primary macronutrients. It plays a major role in key plant processes such as root development, reproduction and energy transfer. Low soil levels can cause difficulties in establishing new pastures. Phosphorus is relatively stable in most soils and can typically be applied in one application per year. Even though phosphorus levels are naturally low in Georgia, deficiencies are not frequently an issue with most of our forages. The common use of animal fertilizers and the historically common practice of prophylactic phosphorus applications have left many of our forage fields with adequate phosphorus levels. Phosphorus deficiencies can cause poor stand establishment and stunting. Some indications in grasses include dark green foliage with purple colored tiller bases.

Be sure to follow these recommendations to maximize fertilization efficiencies and pasture health. Please reference Soil and Fertilizer Management Considerations for Forage Systems in Georgia for more information: http://extension.uga.edu/publications/detail.cfm?number=B1346. Contact your local extension office for more assistance.
Enter for a chance at a WINNING combination

Southeastern Hay Contest

Presented by

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Entry Deadline is September 28, 2015
For Rules, Contest Entry Form, and More Information, See: bit.ly/SEHayContest
Hay/Baleage Evaluation

Hay and baleage samples will be evaluated in the following categories:

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<thead>
<tr>
<th>CATE.</th>
<th>DESCRIPTION</th>
<th>SPONSOR</th>
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<tbody>
<tr>
<td>1</td>
<td>Warm Season Perennial Grass Hay (e.g., bermudagrass, bahiagrass, etc.)</td>
<td><img src="#" alt="Georgia Twine" /></td>
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<tr>
<td>2</td>
<td>Alfalfa Hay</td>
<td><img src="#" alt="AMERICA’S ALFALFA" /></td>
</tr>
<tr>
<td>3</td>
<td>Perennial Peanut Hay</td>
<td><img src="#" alt="AGRI-KING TARP &amp; LINER" /></td>
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<tr>
<td>4</td>
<td>Cool Season Perennial Grass Hay (e.g., tall fescue, orchardgrass, etc.)</td>
<td><img src="#" alt="Inland Tarp &amp; Liner" /></td>
</tr>
<tr>
<td>5</td>
<td>Mixed, Annual Grass, or Other Hay (e.g., clover/fescue, clover/ryegrass, millet, ryegrass, etc.)</td>
<td><img src="#" alt="Athens Seed Co." /></td>
</tr>
<tr>
<td>6</td>
<td>Grass Baleage (high moisture grass forage ensiled in wrapped bales)</td>
<td><img src="#" alt="TUBE-LINE MANUFACTURING LTD" /></td>
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<tr>
<td>7</td>
<td>Legume Baleage (high moisture legume or grass/legume ensiled in wrapped bales)</td>
<td><img src="#" alt="TUBE-LINE MANUFACTURING LTD" /></td>
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Hay entries will be judged using NIR testing procedures by the University of Georgia Feed and Environmental Water (UGA-FEW) Lab. The entries will be ranked using the Relative Forage Quality (RFQ) evaluation system, which accounts for protein, energy and fiber digestibility. If necessary, ties in RFQ scores will be broken based on visual evaluation by the Forage Specialists from Alabama, Florida, Georgia, and South Carolina.

Several prizes will be awarded to the winning entries under all of the above six categories of the contest as described below:

- **GRAND PRIZE (Overall Highest RFQ):** The use of a new Massey Ferguson DM RK Series rotary rake for the 2016 hay production season AND $1000 cash!
- 1st Prize in the Warm Season Perennial Grass Hay category will receive the use of a new Massey Ferguson DM Series Professional disc mower for the 2016 hay production season!
  - 1st Prize in all other categories: $125
  - 2nd Prize in Each Category: $75
  - 3rd Prize in Each Category: $50

To qualify for entry to the SE Hay Contest, the producer and submitting Extension Agent must complete the Contest Entry Form. This form, along with a $17 check ($15 for the testing fee plus $2 for Hay Contest entry fee) made payable to UGA FEW Lab, MUST BE SUBMITTED SIMULTANEOUSLY to:

**Southeastern Hay Contest**
Feed and Environmental Water Lab (FEW)
2300 College Station Road
Athens, Georgia 30602-4356

**All Entries Must Be Received by the FEW Lab by:**
5 p.m. on Monday, September 28, 2015.