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Update on Bahiagrass pH Target and Fertilization Recommendations

The updated recommendation and target pH for bahiagrass production is now 5.5 or higher.

Liming should be recommended if soil pH test is at 5.3 or lower, in which case a lime test should be conducted. If the lime test calls for a lime application apply it 3 to 6 months before the growing season comes into play. Soils should be tested for pH every 2-3 years.

Our website now has a video on the bahiagrass fertilization updates. Access it at the link below: http://agronomy.ifas.ufl.edu/StateProg.html

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Soybean Prices, Seed Availability and Varieties

In 2007 corn prices rose dramatically in relationship to soybean and about 9 million more acres of corn were planted in the U.S. than has been the tradition, displacing soybeans in the Midwest and cotton in the south. During the last half of 2007 soybean prices rose and are now at historic highs. The mix in soybean prices will result in more soybeans being grown and displacing some corn and some cotton.

In any case, all commodity prices have advanced and will give growers an option to rotate and still make a profit with almost any of the commodities. The dilemma for southern growers is that soybean seed for planting will be in short supply due to poor germination from seed harvested in 2007 and allocations from the seed companies will be based on past acreages. Therefore, it is very important for growers to get seed set up early for the 2008 season. Get varieties in the maturity group range 5-7. White flies were bad on late planted and late maturing soybeans in 2007 due to the dry weather.

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Soft Rush Biology and Control in Pastures

The bad thing about a drought is that it is “dry.” The good thing about a drought is that you can control weeds in areas of pastures that are often too wet to spray in a ‘normal’ year.

Soft rush (Juncus effusus), often called bull rush by many ranchers, is one of those weeds that could be controlled. Soft rush is a native plant that often colonizes wet, low-lying areas within a pasture.

It is a perennial bunch-type rush with green cylindrical stems and a white pith. Although the individual clumps become larger in time, the main mode of spread is through seed production. Information from the literature suggests that as many as 25 million soft rush seeds/acre can be produced in a highly infested pasture. Therefore, soft rush should be controlled before seed production occurs to limit the amount of new seedlings in the pasture.

Control of soft rush can be obtained with 2,4-D in the spring. Research conducted at the Range Cattle REC during 2006 and 2007 found that 4 pints/acre of 2,4-D amine applied in mid to late April provided over 90% control of soft rush 365 days after treatment. Both non-mowed and mowed soft rush were compared (2,4-D was applied the same day after mowing) however, no differences were detected. The result from the comparison imply that soft rush does not need to be mowed prior to 2,4-D application. However, the soft rush clumps will remain standing after 2,4-D application, so a mowing operation may be performed just prior to spraying for aesthetic reasons and to allow desirable forages to increase groundcover.

Brent A. Sellers, Extension Weed Scientist
Range Cattle REC, Ona

Calendar Dates

January 26-31
American Forage and Grassland Council (AFGC)
Louisville, Kentucky

January 29-30
19th Annual Florida Ruminant Nutritional Symposium
at the Best Western Gateway Grand in Gainesville, FL
http://conference.ifas.ufl.edu/ruminant

February 3-5
Southern Association of Agricultural Scientists (SAAS)
Dallas, Texas

July 13-17
Caribbean Food Crops Society Meeting
Miami, FL ~ Hosted by UF/IFAS

July 13-15
Southern Peanut Growers Conference
Edgewater Beach Resort, Panama City Beach, FL
Drift Perspective and Factors One Can and Cannot Control

The UF/IFAS Pesticide Information Office receives correspondence from FDACS regarding all misuse investigations that occur in Florida involving agricultural use of pesticides. One of the most common, if not the most common, report is alleged spray drift of crop protection chemicals causing injury to desirable plants. Florida is not alone; every state has issues with drift. (See inset photos.)

Spray droplet size should be considered when drift is a concern. The rate at which particles fall through the air and, subsequently, the distance pesticide spray particles travel is affected by their size and gravity. Droplet size refers to the size of the individual spray droplets that comprise a nozzle’s spray pattern. You measure the diameter of spray droplets in microns—a micron is 1/1,000 of a millimeter or 1/25,000 of an inch. The diameter of a human hair is between 50 and 100 microns.

Other diameter comparisons: a sewing thread is 150 microns; a toothbrush bristle is 300 microns, and a paper clip is 850 microns. To put droplet sizes in perspective with their relative drift hazard, the National Coalition on Drift Minimization made the comparisons in the table.

Evaporation and deceleration of various size droplets.*

<table>
<thead>
<tr>
<th>Droplet diameter (microns)</th>
<th>Terminal velocity (ft/sec)</th>
<th>Final drop diameter (microns)</th>
<th>Time to evaporate (sec)</th>
<th>Deceleration distance (in)</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>.04</td>
<td>7</td>
<td>.3</td>
<td>&lt;1</td>
</tr>
<tr>
<td>50</td>
<td>.25</td>
<td>17</td>
<td>1.8</td>
<td>3</td>
</tr>
<tr>
<td>100</td>
<td>.91</td>
<td>33</td>
<td>7</td>
<td>9</td>
</tr>
<tr>
<td>150</td>
<td>1.7</td>
<td>50</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>200</td>
<td>2.4</td>
<td>67</td>
<td>29</td>
<td>25</td>
</tr>
</tbody>
</table>

*Conditions assumed: 90 F, 30% R.H., 25 psi, 3.75% pesticide solution.

You may believe that small droplets coupled with high pressure will provide the best coverage. In reality, it is almost impossible to force a small droplet to move more than a few inches. This table shows the terminal velocity, the final drop diameter, time of evaporation, and the deceleration distance (in inches) for spray droplets of various sizes. For instance, the fastest a 20 micron droplet will fall is 4/100 of a foot per second. Due to evaporation the final droplet diameter will be approximately 7 microns in diameter and it will fall (deceleration distance) less than one inch. Therefore this droplet size is very susceptible to drift. In contrast, a 200 micron droplet falls at 2.4 feet per second, has a much larger final droplet size because it evaporates more slowly, and will fall at least 25 inches.

A claims survey was conducted by Farmland Insurance during the 1990’s to investigate drift causes. The survey showed that 38% of the cases were caused by poor decision-making by the applicator; 26% were due to incorrect or faulty nozzles; 23% were due to weather conditions, and 13% occurred for unknown reasons.
Factors the applicator can’t control:

⇒ Weather
⇒ Wind (speed and direction)
⇒ Temperature
⇒ Humidity
⇒ Susceptible crops or other nearby sensitive areas on someone else’s property

Factors that an applicator can control include:

⇒ Selection of the applicator/operator
⇒ Equipment selection and setup (particularly nozzles and boom height)
⇒ The choice of product

The only New Year’s resolution that I’ve made in the previous 25 years was to go fishing more often, but that was broken 25 years ago as well. This year, as I’ll see the FDACS investigative reports come in, I can only hope that the number of drift incidents will decrease. Do your part to control those factors and keep crop protection chemicals where they belong – minimizing spray drift is in the best interests of everyone.

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Weed Control: Early Burndown for Cotton

Although planting season is still several weeks away, it is time to start planning the spring burndown program. Wild radish and cutleaf evening primrose are two species that commonly escape control from glyphosate applications. If not controlled, these weeds will compete with the crop well into the summer and result in greater than expected yield loss.

Since these weeds are not controlled by glyphosate alone, other herbicides should be added to the weed management program. The most effective way to control these weeds is to spray 2,4-D (16 or 32 fl oz/A) or Clarity (8-16 fl oz/A) in early March, then follow up with a glyphosate or Gramoxone application near planting. This will allow plenty of time for these herbicides to dissipate from the soil before cotton is planted. However, these herbicides can be tank-mixed with glyphosate or Gramoxone. Table 1 details the effectiveness of different herbicide combinations on control of radish and primrose. These data show that both weed species are highly sensitive to 2,4-D and Clarity, regardless if they are mixed with glyphosate or Gramoxone.
The addition of Valor was less effective on both species. Regardless of which herbicide is used, planning a few weeks ahead will dramatically improve early-season weed control for only a few extra dollars per acre.

It must be noted that cotton planting should be delayed for approximately 30 days after 2,4-D application, and 21 days for Clarity. The planting restriction for Valor is 14 to 30 days, depending on herbicide rate and tillage type.

Table 1. Control of wild radish and cutleaf evening primrose with burndown applicationsa.

<table>
<thead>
<tr>
<th>Herbicide</th>
<th>Wild Radish</th>
<th>Cutleaf evening primrose</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% control at 4 WATb</td>
<td></td>
</tr>
<tr>
<td>Roundup Wmax 22 oz</td>
<td>80</td>
<td>60</td>
</tr>
<tr>
<td>2,4-D 16 oz +</td>
<td>97</td>
<td>97</td>
</tr>
<tr>
<td>Roundup Wmax 22oz</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clarity 8 oz +</td>
<td>94</td>
<td>94</td>
</tr>
<tr>
<td>Roundup Wmax 22oz</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2,4-D 16 oz +</td>
<td>96</td>
<td>97</td>
</tr>
<tr>
<td>Gramoxone Max 32 oz</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clarity 8 oz +</td>
<td>96</td>
<td>83</td>
</tr>
<tr>
<td>Gramoxone Max 32 oz</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Valor 2 oz +</td>
<td>85</td>
<td>83</td>
</tr>
<tr>
<td>Roundup Wmax 22 oz</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Valor 2 oz +</td>
<td>76</td>
<td>70</td>
</tr>
<tr>
<td>Gramoxone Max 32 oz</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

b Weeks after treatment.

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Roundup Original Max replaced by Roundup PowerMax

Effective for the 2008 season, Roundup Original Max has been discontinued. It is being replaced by Roundup PowerMax. PowerMax is a 5.5 lb gallon and is very similar to Original Max, but contains a different surfactant combination. It is my understanding that PowerMax is less likely to foam in the tank and will provide more consistent performance relative to Original Max. The price of PowerMax will be competitive with other standards in the market.

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Topdressing Wheat with Nitrogen

Wheat should be topdressed with nitrogen (N) in late January or early February. This will help spur tillering and vegetative growth. A total of 90-120 lbs/A of total N is usually adequate for top yields. Include about 15 lbs sulfur/A with the N to prevent sulfur deficiencies. Weed control measures should be done when weeds are small and some materials can be mixed with liquid N to save a trip and application costs. It will be very important to scout for disease and insects and control measures may be profitable with wheat prices at an all time high. Most fungicide applications should go out from the flag leaf to early head emergence stage.

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Wheat Plant Population and Tillering

Wheat can be planted at about 100 lbs of seed/A for high yields but will vary with seed size. Best yields are obtained when about 18-24 seed per foot of row is planted. If wheat is planted in 7.5 inch rows that means that there are about 35-45 plants per square foot that will emerge and that each of these plants will have 2-3 tillers to make top yields. In some cases there are many less plants, and 5 tillers per plant are needed for best yields if nitrogen is applied early and other nutrients are not limiting.

Higher plant populations from high seeding rates cost more and do not make higher yields. Lodging and disease problems can also be more serious with high plant populations.

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