Notice: Continuing Education Credit Opportunities for Pesticide Applicators Permits

Pesticide applicators needing “X” credits to fulfill their recertification requirements can receive one credit for attending each of the two events listed in this issue. To receive credit, be sure to bring your cards with you to the Field Days so all the appropriate information needed can be ascertained.

Haywood County Hay Field Day—July 19th

This year’s annual Hay Field Day at the Mountain Research Station will be held on July 19th, 2007. The field day is a cooperative program of North Carolina State University, North Carolina Department of Agriculture and Haywood County Soil and Water. This year’s program includes educational programs on the effects of split fertilizer application and timing of application on forage yield, the effects of storage on hay quality and reading a forage analysis and weed identification and pesticide safety. Demonstrations of mowing, tedding, raking and baling from several equipment manufacturers are also planned. It is anticipated that 1 hour of credit for pesticide applicators license will be obtained from the field day. Producers needing the credit will need to bring their cards to the Field Day. Additionally a small trade show of other vendors associated with hay production will be on hand. Lunch will be sponsored by Carolina Farm Credit.

Agenda

9:00 - 9:30 Registration
9:30-10:30 Mowing and tedding demonstrations
10:30 – 11:30 Demonstration and educational exhibits

Effects of split fertilizer application and timing of application on forage yield - Bill Yarbrough, Area Agronomist, North Carolina Department of Agriculture, and Dr. Jim Turner, Department of Animal Science, North Carolina State University

Effects of storage on hay quality and reading a Forage Analysis, Dr. Jim Turner

Weed identification and pesticide safety – Tony McGaha, Extension Agent – Agriculture, Haywood County Cooperative Extension

11:30-12:00 Trade show
12:00-12:30 Lunch sponsored by Carolina Farm Credit
12:30 – 1:00 Welcome and introductions Dr. Jim Turner and Bill Teague, Superintendent Mountain Research Station, North Carolina Department of Agriculture
David Monks – North Carolina State University Agriculture Research Service
Dr. Richard Reich, Assistant Commissioner NCDA

1:00-2:00 Introduction of non-demonstration vendors, Will Morrow, Mountain Research Station, North Carolina Department of Agriculture

2:00 - 4:00 Raking and baling demonstrations
McDowell Cattlemen’s Association Field Day

The McDowell Cattlemen’s Association will hold its annual summer Field Day, Tuesday, July 24th at 5:30 pm, at the McDowell Agricultural Center on Highway 226, approximately ½ mile south of Interstate 40. This year’s program will be on small and large farm equipment innovations and safety and farm sprayer calibration including boomless sprayers. Speakers will include representatives from Stihl and Kubota. Dan Smith, Pesticide Coordinator for the McDowell County Center of the NC Cooperative Extension Service will present the sprayer maintenance and calibration workshop and will also discuss farm pesticide handling safety. Producers needing “X” credits for their pesticide recertification requirements will receive one hour credit for attending.

A sponsored supper will be provided so we need all producers planning to attend to RSVP to the Extension office by Friday, July 20th.

July-August Management Calendar

- Soil sample, lime and fertilize fields that will be planted or renovated in the Fall
- Apply herbicides to fields to be reseeded in fall
- Control summer weeds
- Plan winter annual plantings, Small grains (rye, oats, ryegrass, etc)
- Graze pastures close that will be no-till sod seeded
- Determine which pastures will be stockpiled and manage accordingly
- Clip seed heads out of existing stand to put them back into the vegetative growth stage
- Fertilize pastures and hayfields in August for fall season growth

September-October Management Calendar

- Fertilize and lime cool season grasses.
- Keep the grazing pressure on the summer grasses and completely use them before grazing cool season forages.
- Watch for fall insects (armyworm) on established and seedling stands of forages.
- Plant winter annuals on prepared seedbed for earliest fall grazing.
- Overseed winter annuals onto summer perennials after they have been closely grazed. Planting early will require that herbicides be used to suppress the existing grass growth.
- Overseed legumes into properly fertilized and grazed pure grass pastures.
- Make a winter feed supply inventory so deficiencies can be avoided now (by purchasing hay or planting more winter pasture).
- Sample soils to be overseeded or planted next spring, so the limestone can be applied early enough to react.
Stockpiling Grass for Winter Feed

Most of us have experienced a 40-50% reduction in the amount of hay produce in our first cutting. Those who have tried to buy hay have discovered that quantities are scarce and are significantly higher priced. The days of $10-15 round bales are long gone. You will most like be looking at $20-35 per bale depending on the type and quality of the hay. This may be the year to start Stockpiling your fall grass growth to help you save on winter feed costs and labor. Now is the time to begin. Analyze your pastures to determine which are candidates for stockpiling. If you haven’t already taken soil samples, take them now and get them sent off as soon as possible. The following information will help you set up a stockpiling program on your farm for this winter’s forage. If you have any questions or would like some assistance on how to start, feel free to contact me at 652-7874.

Stockpiling Principles

Characteristics- Tall fescue is a cool- season perennial grass that can be managed to provide significant grazing during winter months when other grazeable forage is in short supply. Fescue is in semi-dormant condition during much of the summer (June- August). In late August it begins to respond to decreasing day length and temperature by increasing its growth rate. The clear, cool days of autumn stimulate the plant to manufacture and store carbohydrates for the winter period. The primary fall growth phases occurs from September through November. Grass produced during these months is some of the best of the year due to its high carbohydrate concentration. If proper management is followed 2,000, to 3,500 pounds of dry matter per acre may be accumulated by mid November.

Stockpiling Defined- Stockpiling refers to management that defers the grazing of forage produced during August through November until later, November through February (when grazing is scarce). Depending on the class of animal and the amount of grass stockpiled, part or all of the nutritional requirements of grazing animals can be satisfied. How long the accumulated grass will last depends on how the grass is allocated to the animal group.

How to Graze- Use electric fence with a strip grazing technique to ration the grass to the animals. If a daily feed allocation is offered by allowing animals to line-up along a temporary polywire fence, 70 to 80% utilization of the forage can be achieved. This is true because very little of the fresh pasture becomes fouled with manure and urine before the cattle attempt to graze it. Furthermore, since the growth rate of fescue is very low from late (about 5 lbs./A/day) November until late February, you don’t have to worry about regrowth or ‘back fencing’ cattle off the pasture area just grazed. Simply move the fence forward. This is also helpful in providing access to water.

Stockpiling Steps – A few simple assumptions and a little trial and error can get you started. Select the area to be used for stockpiling well before the beginning of the accumulation period.

Stage-back the pasture (s) to mid August to early September by removing any excess growth above 3 inches that accumulated over the summer by grazing or mowing for hay.

After stage-back, top-dress 50 to 80 pounds of nitrogen per acre on the pasture and close it to grazing. Pastures will accumulate growth at the rate of about 15 to 35 pounds of dry matter per acre per day during the accumulation period (Aug.-Dec.).

Graze all other pasture on the farm (especially warm-season grasses) before beginning to graze the stockpiled growth. About ½ acre of stockpiled grass per animal unit will provide about 60 to 90 days of grazing.

Use electric fence to strictly allocate pasture feed according to predetermined nutritional requirements.

How Much Grass?- Deciding on how much grass to offer an animal group can be determined by calculating a feed budget or by trial and error. The easiest way to begin is by setting the fence to provide what you think will be a one day feed supply. This means that the pasture should be grazed uniformly to 2 inches in a 24 hour period. If the grass is grazed to less than 2 inches it means that you did not give the group enough area. Increase your allocation by about 25% and try again. If on the other hand, there is spotty grazing and waste with considerable grass ungrazed after 24 hours, you gave the group too much area. Decrease the allotment by 25 to 50% and check again. In a few days you will be very close to the correct allotment. At this point, the allocation can be changed to accommodate the management style of the grazier; that is a 2 or 3 day allocation can be made instead of daily moves. It should be noted, however, that once the allocation is increased beyond about 3 days, increased waste and reduced utilization can be expected. Strip grazing a one day allocation of grass will allow utilization of about 70 to 80% of the grass on offer. Allocating grass for longer periods (a week or more) will reduce utilization to 50% or less.

Summary- In summary, stockpiling fescue for deferred fall/winter grazing is an important practice that can reduce winter feeding costs and result in well fed animals and well managed pastures. It is a practice that should be seriously considered anywhere that fescue makes up a significant portion of the grazing program.
FERTILIZER PRICES AND USAGE

As many of producers have already seen, Nitrogen and fertilizer costs have risen from 50% to as much as 100% over last year. This has prompted many producers to take a closer look at the need to lime and fertilize this spring. While cutting back on certain fertilizer and liming practices will help your immediate economic cash flow, it could reduce your overall profits for the year. Pastures require nutrients to be productive. These nutrients are derived from several sources including residual nutrients in the soil, nitrogen produced by nitrogen fixing organisms in legumes, nitrogen from rain and snow, nutrients derived from the breakdown of manures and organic matters in the soil and lastly nutrients applied from fertilizers and lime.

In some situations a fair percentage of nutrients can be derived from these residual fertilizer sources however seldom can all the nutrient needs be met without some commercial fertilizer application. The only way to know what residual nutrients are available is to soil test. Never has it made more sense to soil test than now!!! Another factor that needs consideration is the availability of these nutrients to the plant. While most soils have some level of nutrients present, if the soils are acidic (low PH), the negatively charges particles bind some of these nutrients to the soil so that they are not available for the plant to utilize. In these soils, the most economic beneficial application would be that of lime rather than higher levels of fertilizer. Pastures that have significant percentages of broom sedge are often needing lime or Phosphorus. The only sure way to know is to soil test! Following are a few tips to help make the best economic use of your lime and fertilizer budget:

1. Soil test. Even though it will likely take about 2 months to get your results, you can use a standard recommendation of 300-350 lbs of 17-17-17 and make up any deficiencies later in summer or fall applications if needed. The only true way to know what you need is to know what is available in your soil and what nutrients are needed by the forage you are growing.

2. If you have not limed in the last 2-3 years, chances are you will need an application of lime (1-2 tons per acre). (Especially if you are noticing an increase in broomsedge). Pastures that receive higher levels of Nitrogen to increase yields will tend to become acidic more rapidly requiring more frequent applications of lime.

3. Utilize livestock and poultry manures whenever it is economically and environmentally feasible. These sources are often available at a lower cost than commercial fertilizers. There are also by-product and municipal waste sources available that make excellent liming and/or fertilizer sources. However, often there is paperwork required in the utilization of these low cost resources and there may also be a limitation as to how much can be used. There may also be restrictions as to how soon livestock can graze these fields after application.

4. Apply only the nutrients you need! Fertilizers are sold based on the percent Nitrogen (N), Phosphorus (P) and Potash (K) in the blend. 100 lbs of 17-17-17 contains 17 percent Nitrogen, Phosphorus and Potash respectively. 100 lbs of 18-46-0 contains 18% nitrogen, 46% phosphorus and 0% potash. Many of our soils have adequate levels of Potash. On these soils utilizing 17-17-17 to meet our fertility needs would give us unneeded levels of potash. Soil test and match the ratio of N-P-K in the fertilizer blend we use to the ratio of N-P-K recommended for our soil.

5. Split applied Nitrogen into 2 or more applications. Nitrogen is very volatile and can move or leach from the soil rapidly compared to P and K. Usually a majority of the Nitrogen applied in a commercial fertilizer is gone in 60 days. Applying all our N in one application would leave our pastures deficient towards the middle and end of the season giving us reduced yields.

6. Interseed clovers into our grass stand to help provide N for our grasses. Clovers are legumes and have the ability to fix Nitrogen in the soil making it available for grasses to utilize. This is an excellent way to economically increase production of our grass pastures. (Legumes do require a higher PH than grasses so be sure to lime) With cattle prices at a higher level it may not be economically feasible to cut back on pasture fertility to the point of realizing a reduction in pasture production, weaning weights and cow fertility. Don’t be penny wise and pound foolish!!!
Estimating Winter Forage Needs

Summer and early autumn is the time to inventory hay and pasture assets for use during winter. At that time, grain or by products like cottonseed can be purchased as needed. Projected needs of livestock during the winter months should be addressed. In planning your winter forage needs, consider all reasonable factors in order to prevent feed shortages.

The first step is to make sure that the amount of hay on hand is adequate. In order to do this, you must be able to estimate weights of bales, because stock have feed requirements in pounds, not bales. Guessing weights is very difficult, so find some way to weigh a sample of bales in each lot of hay. Eventually, by guessing weights and then weighing hay, better estimates will result, reducing the need to actually weigh bales.

In order to have a reasonable idea of the amount of hay and supplement to have in the inventory, energy and protein values of the feed on hand should be based on the feed analysis. Once hay inventory and quality is known, extra hay can be bought if needed and you can plan for an appropriate protein and energy supplement. It is important to remember that hay is always less expensive and generally higher in quality if purchased in the summer and early fall as compared to emergency purchases in the dead of winter.

It is advisable to have on hand about 25% more hay than is required for the winter. The extra hay will come in handy in case of severe weather or a late spring. Major snowstorms are rare, but we frequently have muddy conditions that require extra energy supplementation for livestock. It is actually important to have hay left over, because we can have early spring and summer droughts, and livestock producers with a “drought preparedness” hay supply will have an edge.

Hay should be stored under a shelter or covered with plastic although many producers still store hay outside. It is important to estimate spoilage on the outside-stored hay if bale “weight” was estimated during fall, and then to reduce the weight expected at feeding time. Generally, outside storage will result in about 25% loss of hay, while plastic storage will result in about 10% loss and barn storage about 5% loss. If you have all three types of storage, plan to use the outside hay first, plastic-covered hay second, and reserve any barn-stored hay for late in the season, or for carryover. Because the highest livestock requirements are often in late winter after offspring are born and during onset of lactation, better quality hay is best kept in barn storage.

A number of simple calculations are useful for determining the amount of hay and supplement needed over the winter. Number of head of livestock to be fed is the most obvious variable to consider followed by the body condition score of the stock. Thin stock require extra feed during winter, so if they are not at least a body condition score 5, increase the amount of feed needed by 10%.

The next factor to consider is the number of days that harvested feed will be necessary. Pasture supply will be hard to predict because of variable fall growing conditions and possible snow or ice which can damage standing forages. In general, historical information is useful for when hay feeding usually starts in the fall and ends in the spring and those times can be adjusted to allow leeway for more severe winters. If pasture can be used longer than expected then you will end the winter with feed left over.

The most significant consideration for winter feeding of cattle should be the stage of the production cycle that cows are in. In North Carolina, many herds calve in fall, while some also calve in late winter and early spring. Therefore, a producer may have cows in early to mid-lactation during the winter, or the producer’s cows may be dry and gestating. Generally, for cows in adequate body condition the lowest nutritional requirements are during the dry period, and for spring-calving cows that would be in the winter. A dry cow can maintain herself and produce a healthy calf on about 2.25% of body weight of low to medium quality dry hay. Fall calving cows are lactating and also re-breeding during winter and need a much higher plane of nutrition. They would need at least 2.5% of body weight of higher quality hay, plus in many cases 2 to 5 lbs of an energy supplement (with at least 14% protein). In practice, it is good to give the cow all the hay she will eat, and then supplement as needed to maintain a body condition score of at least 5.

(continued on next page)
Unfortunately, many herds calve year-round, and this reduces the efficiency of winter feeding. Basically, a year-round calving herd must be fed like all the cows are lactating, so some cows will be in better body condition than they need to be.

Consideration must also be given to waste of hay during feeding. When round bales are unrolled on dry pasture, loss is near 10%, similar to losses with hay rings and hay trailers. When round bales are put out without using a feeder of some kind, then waste could be as much as 50% in some cases. If a feeder is not available to reduce losses, an alternative is to unroll hay (either down a hill, or using unrolling equipment) if it is practical from a labor standpoint and if conditions are not extremely muddy. Following is an example of how to roughly estimate hay needs as an initial way of checking the adequacy of your hay inventory for cattle:

**Estimating Hay Requirements**

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Sample Information</th>
<th>Your information</th>
</tr>
</thead>
<tbody>
<tr>
<td>feeding period</td>
<td>90 days</td>
<td></td>
</tr>
<tr>
<td>cow numbers</td>
<td>25 head</td>
<td></td>
</tr>
<tr>
<td>cow weight in moderate condition</td>
<td>1100 pounds</td>
<td></td>
</tr>
<tr>
<td>cow intake</td>
<td>2.5% of body weight (average)</td>
<td></td>
</tr>
<tr>
<td>cow intake in lbs</td>
<td>0.025 x 1100 = 27.5 pounds</td>
<td></td>
</tr>
<tr>
<td>total hay intake</td>
<td>27.5 lbs/cow x 25 cows x 90 days = 61,875 pounds</td>
<td></td>
</tr>
<tr>
<td>Hay offered increased by 10% to account some for waste</td>
<td>61,875 x 1.1 = 68,063 pounds</td>
<td></td>
</tr>
<tr>
<td>Total hay needed (increased by a 25% safety factor)</td>
<td>68,063 X 1.25 = 85,079 pounds</td>
<td></td>
</tr>
</tbody>
</table>

Planning for winter feeding is very important and late summer or early fall is the time to start. Once winter sets in, many opportunities for inexpensive hay and supplement purchases are gone.

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