

AGRONOMY

UNIVERSITY OF
FLORIDA
IFAS EXTENSION

NOTES

April, 2004

DATES TO REMEMBER	
May 22	4 th Annual Perennial Peanut Field Day, Moultrie, GA
May 27	Corn Silage Field Day, Citra (http://www.animal.ufl.edu)

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Aeschynomene

If the summer rains come early this year it will present an opportunity to overseed pastures with common aeschynomene (*Aeschynomene americana*). This summer annual legume is adapted to moist flatwood soils. It should be seeded in early June at the rate of 5 to 7 pounds of dehulled seed per acre. Make sure that the pasture has been grazed short before seeding. If the summer rains start and continue, the first crop of seedlings will continue to grow and develop into productive plants. Often seedlings that come up after a rain in April or May die due to a 7 to 10 day drought. This legume is very palatable to both cattle and deer.

It provides much needed protein in July and August when the quality of perennial grasses slump.

Weight gain of all classes of animals improves. Calves that were creep grazed on aeschynomene gained an extra 0.3 pound per day resulting in 30 to 50 pounds of additional weight at weaning. Success with overseeding aeschynomene depends on early June planting, appropriate grazing management, and sustained soil moisture through the summer.

CGC

Clover Pastures

Cattle should be removed from heavily grazed white clover pastures for about two weeks to allow for reseeding. After flowers have begun to turn brown, grazing may be resumed. Arrowleaf clover pastures should be treated similarly. When flowering starts either remove cattle or reduce stocking rate to allow for adequate reseeding.

CGC

Establishment of New Pasture and Hay Crop Seedings - I

When seedings are made it is assumed that some of the seed will not germinate and/or develop

into plants. Therefore, more seed are sown than numbers of plants needed to make a complete stand or cover. A number of factors affect germination and seedling development.

Germination of live seed requires:

1. Permeable seed coat. Scarification has been used to increase seed coat permeability.
2. Sufficient air. Seed sown too deeply (especially in wet, heavy soils) may not have enough oxygen to germinate. (Not as much of a problem on sandy soils).
3. Favorable temperature. Usually obtained with proper seeding date. (In south Florida seeding of bahiagrass can be made at any time of the year when moisture is sufficient. Germination during the cool season will be much slower than during the warm season. It may be desirable to make seedings after chances of a severe freeze are minimum. A hard freeze may kill young bahiagrass seedlings).
4. Sufficient moisture. Alternating temperature and moisture levels (too low for complete germination) can lower seed viability and result in death.

Establishment after germination may fail because of:

1. Drying. Seed placed in loose surface soil may germinate after a light rain but may dry out and die before developing sufficient roots for establishment.
2. Freezing. Seed are especially sensitive to freezing as the young root breaks the seed coat, and temperatures below -3C are lethal. Soil coverage reduces the likelihood of injury, and once rooted, seedlings can withstand much lower temperatures.
3. Coverage that is too light. Soil cover or mulch protects against both drying and freezing; without it seed establish only when soil surface remains moist for extended periods.
4. Coverage that is too heavy. More seed probably is wasted in this way than any other.

5. Crusted soil surface. This can prevent emergence, especially when seed are sown deeply on fine textured (clay) soils.

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Establishment of New Pasture and Hay Crop Seedings - II

Growth of seedlings after establishment may stop because of:

1. Undesirable pH. Lime should be applied according to soil test to provide desirable pH, plus Ca and Mg as nutrients.
2. Low fertility. A soil test should be used to ensure adequate P, K, or other nutrients.
3. Inadequate legume inoculation.
4. Poor drainage. Water accumulation on the surface or in the soil profile can limit growth.
5. Drought. This is the most commonly given reason for stand failures.
6. Competition from companion crops. Cereals compete with forage seedlings for water, light, and nutrients and are not “nurse crops”.
7. Competition from weeds. Weeds are similar to companion crops, but competition may be more severe and last longer.
8. Insects. Pests like the mole cricket can weaken new stands of bahiagrass.
9. Diseases. Pathogens like anthracnose or pythium can be fatal.
10. Winter-killing. Seeding too late in the fall or seeding poorly adapted cultivars can result in winter-kill.

CGC

Legume Inoculation

It will soon be time to plant summer forage legumes. One of the important features of legume plants is their symbiotic association with nitrogen fixing bacteria. These bacteria form nodules on the roots of the plant and fix atmospheric nitrogen which can be used by the plant.

The proper strain of bacteria may be introduced into the soil in which a legume is to be planted by applying a commercially prepared culture of bacteria to the legume seed. In using commercial inoculants, the following points should be observed:

1. Check that the packet of inoculum contains the correct rhizobial strain for the legume to be sown.
2. Check that the date stamp has not expired.
3. Keep packets of inoculant under refrigeration or in a cool place until ready to use.
4. Inoculate seed according to directions just prior to sowing. (This includes using a material that will stick and hold the inoculum to the seed - commonly called a sticker.) (Under Florida conditions, increase the rate of inoculum two to four times that recommended by the manufacture.)
5. Do not expose inoculated seed to direct sunlight.
6. Sow inoculated seed as soon as possible into moist soil and cover.
7. Do not mix inoculated seed with caustic lime or soluble fertilizers as this may kill the bacteria.

The summer annual legumes commonly used in Florida use the “cowpea” type inoculant. Most of our soils already contain this type of bacteria. The question arises as to whether or not we should inoculate seed of the summer annual legumes with the nitrogen fixing bacteria. Probably not. If the area (field) to be planted has had any of the summer legumes in it in the past then the bacteria will likely be in the soil. Some producers inoculate their seed just to be sure (insurance).

CGC

Pasture Establishment

April and May are usually too dry to plant a new pasture or hay field, especially in peninsular Florida. But, by mid June the summer rains usually start and the risk of drought decreases. During the dry period of April/May, start preparing the land for planting by plowing

and/or discing, plus dragging to smooth and level the land. Add lime if needed before land preparation begins. Be prepared to obtain seed or planting material and plant when the summer rains start. The frequent rains that occur during June, July, and August make this period a particularly good time for pasture establishment. Always plant into a moist seed bed. One final discing (harrowing) just before planting will destroy any weeds that have germinated. If the ground is very soft, it probably should be packed with a land roller before planting. This will prevent planting equipment (drills, sprig planters) from planting the seed or sprigs too deep. Don't forget to use a land roller or cultipacker to pack or firm the seed bed after planting.

CGC

Pasture Renovation

It may be desirable to renovate an existing pasture if it has deteriorated to the point that forage production is greatly reduced. Renovation provides opportunities to fill in bull holes, control weeds, incorporate lime if needed, and establish a new improved forage.

One of the problems that producers with small land holdings may face is "where will the cows graze if I destroy the existing pasture". A practice that has been used in some areas is to plant part of the land in sorghum x sudangrass or pearl millet. (If grazing horses, plant only pearl millet). Roundup herbicide can be used to kill the existing vegetation and pearl millet or sorghum x sudangrass drilled into the killed sod. Alternatively, a clean-tilled seedbed could be prepared. This will in a very short time (30 to 45 days) supply a large volume of forage per unit of land. When this area is ready to graze the remaining land area can be prepared for planting of the permanent pasture grass. Of course, one of the problems with using these productive summer annual grasses is estimating what the forage production will be - how much and for how long.

CGC

Spring Drought

At this time of year (April-May) the chances of not getting a rain are greater than the chances of getting a rain. We are in a serious drought. Many pastures have no grass left or any grass remaining has "browned-off". Ranchers must decide if and how they can feed their cattle in order to sustain them through this drought. If feed has run out and cattle are losing weight rapidly, a rancher may attempt to hold on thinking that a rain will come "tomorrow". But, remember, at this time of year (April-May) the chances of not getting a rain are greater than the chances of getting a rain. Also, it will take at least two weeks or longer after a rain before there is any significant (grazable) growth, especially on pastures that have been grubbed to the sand. Do not wait too long to do something about a difficult situation.

CGC

Increased Soybean Prices Bring Increased Acreage

There has been more interest in soybean this year than in the past 10 years due to the current price (above \$9/bu) and the expected price at harvest. Seed should be purchased early to make sure that you get the better varieties. Soybean performance trials for the deep south can be found on the web at www.griffin.uga.edu/swvt. Generally soybean respond more to residual fertility than to direct fertilization but can respond to potassium applications on soils testing low or very low. There are several good Roundup Ready varieties on the market that make growing soybean much easier than with conventional varieties 10 years ago. Soybean may also be drilled with this technology and still expect to get good weed control at very little cost. However, when planting soybeans for the first time in several years, make sure the seed are inoculated with the proper inoculant (*Rhizobium japonicum*) at planting to ensure that the young soybean plants can fix their own nitrogen for good plant growth and yield.

DLW

Seeding Rates For Drilling Vs. Wide Row Soybean

Soybean were grown in 36" rows by most producers in the 80's and early 90's due to having to get into the fields for weed control purposes. However, with herbicide resistant soybean, planting can be done in any manner with good weed control results. Seeding rates will be different for different row spacing. Normally we suggest 7-9 seeds per foot of row in 36" rows which amounts to about 45 lbs of seed per acre depending on seed size. With no-till drilled beans in 10" rows 3-4 seeds per foot of row is required or about 65 lbs of seed per acre. If a conventional drill is used with 7" spacing about 2.5-3 seed are needed or about 75 lbs of seed per acre. If conditions are optimal at planting a few less seed can be used but if conditions are harsh at planting higher seeding rates are needed as well as for late plantings in July.

DLW

Soybean Planting Date

Several years of research with group V-VIII soybean shows that the optimum planting date for soybean is not until early May through the second week of June. Earlier planting or later planting than this period will result in lower soybean yield. The long juvenile soybean that was developed by Dr. Hinson will allow higher yields at early and later planting. However, even these varieties will have higher yields planted during the recommended planting date of May 10 to June 15. Planting a week or two earlier is normally better than planting a week or two later than the recommended planting period. There are more group V, VI, and VII soybean on the market than there are group VIII, since the later group beans were developed for the deep south and the acreage has been low in these states for about 10 years. In many cases, group V and VI soybean will do better under rainfed conditions than later group soybean because they mature earlier and need good soil moisture during the months of August and early September. Group VII and VIII soybean will need good soil moisture through September and

early October. Group V soybean will normally be ready to harvest by about October 7-10 while group VIII soybean will be ready to harvest around November 7-10. The other groups will fall in between about 7 -10 days apart.

DLW

Prowl H₂O: Familiar Product, New Formulation

Prowl 3.3EC is a familiar "yellow dye" herbicide that has been used to control annual grasses and small-seeded broadleaf weeds for many years. Although this product is relatively inexpensive and very effective, there are some disadvantages to its use. The most notable is the yellow staining of spray tanks, truck beds, clothes, etc.

Prowl H₂O is a microencapsulated formulation of pendimethalin (the active ingredient of Prowl 3.3EC). The microencapsulation process forms a thin polymer layer around the herbicide molecules. These polymers will then quickly degrade in soil leaving the active herbicide molecules available for uptake by weeds. The polymers also shield the herbicide molecule from staining spray tanks, or other surfaces, while in solution. As an added benefit, microencapsulation will also greatly reduce pesticide odor.

Prowl H₂O is a 3.8 lb/gallon and is currently labeled for use in Florida at a rate of 2 to 3 pt/A. University research has shown that Prowl H₂O and Prowl 3.3EC provide equal levels of weed control. Additionally, Prowl H₂O has been shown to be less injurious than Prowl 3.3EC when applied broadcast to 2-leaf cotton.

There will likely be a price differential between Prowl H₂O and Prowl 3.3EC. However, calls made to chemical dealers in Northwest Florida in March found no Prowl H₂O in stock. Therefore, availability for the 2004 growing season will likely be limited.

JAF

Updated Publications

SS-AGR-21

Natural Area Weeds: Old World Climbing
Fern (*Lygodium microphyllum*)

The use of trade names does not constitute a guarantee or warrant of products named and does not signify approval to the exclusion of similar products.

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