



Forage/Livestock Newsletter



Polk County

Spring 2003

Florida Cattle Market Update is now available on the UF Ona Range Cattle REC Web site:
<http://rcrec-ona.ifas.ufl.edu/markets.html>

Coming Events:

- **April 22 to 24** - Reproduction Management School, Wauchula, FL (See enclosed brochure).
- **April 30 to May 2** - 52nd Beef Cattle Management Short Course, Gainesville, FL.
- **May 15** - Field Day, UF/IFAS Range Cattle Research and Education Center, Ona, FL (See enclosed).
- **May 29** - Spring Ranchers Forum, Yarborough Ranch, Geneva, FL.

For more information on the above events contact the Polk County Extension Office (863) 519-8677 ext 102

Vegetative Planting Material

If you plan to develop vegetative planting material of one or more of the bermudagrass or stargrass varieties, and will have planting material to sell, contact the Polk County Extension Office. Occasionally, we get requests from people looking for planting material. We will develop a list and make it available to people who are looking for planting material.

To develop good quality vegetative planting material, Dr. Paul Mislevy, Pasture and Forage Agronomist at the Range Cattle REC, Ona, recommends starting with a clean 100% weed free (common bermudagrass free) field. The plant material should be fertilized in late March with 100-50-100 lb/A N-P₂O₅-K₂O plus

2 lb/A Zn, Cu, Mn, Fe (sulfate form) and 0.2 lb/A Boron. Allow the grass to grow about 90 days. About three weeks before grass is cut for planting material apply 50 lb/A N to encourage stem bud development. Perennial grasses treated with the 50 lb/A N will show signs of top growth and good root development within 5 to 7 days. Keep in mind that grasses for plant material (90 days) and grasses cut for hay (28-35) days are different products.

- Be alert and aware of suspicious activities surrounding food and agricultural operations and report any suspicious activities to your local law enforcement.
- Consider inspecting all vehicles entering the farm or ranch and escorting all visitors.
- Increase surveillance around facilities and consider restricting public events such as tours.

Homeland Security

Terrorist activity could include farms and other types of production facilities. Some of the steps you may want to take include:

- Update emergency phone numbers.

Fertilizing Pastures and Hay Fields

The six soil-applied nutrients required by plants in the largest quantities are nitrogen (N), phosphorus (P), potassium (K), calcium (Ca), magnesium (Mg), and sulfur (S). Micronutrients, iron, copper, zinc, manganese,



boron, molybdenum, and chlorine, are also essential but are used by the plant in very small amounts. The soil can supply the plant with most, if not all of these nutrients, but often the supply of one or more of the nutrients is insufficient for optimum growth.

Nitrogen is the most important fertilizer nutrient used on grass pastures and hay fields. It is the nutrient that is most likely to be deficient and therefore the one that most often results in increased forage production. Phosphorus may be deficient in some areas, but some Florida soils are high in native P. Also, some pasture grasses (such as bahiagrass) may extract sufficient P from the subsoil, even when the P level in the surface soil is low. Potassium may need to be added to some pastures, but in south Florida, bahiagrass pastures on flatwoods that receive 50 lbs of N or less per year have shown little if any response to potassium fertilization. Under intensive hay or silage production, where nutrients are removed from the land, annual applications of P and K are needed. Where nutrients are being removed in harvested forage (hay) potassium may reach critically low levels, where not only plant growth is reduced,

but plants may die. This is usually indicated by a thinning stand in bermudagrass hay fields. Potassium can very quickly become deficient; also calcium, magnesium, sulfur, and some micronutrients may eventually become deficient after several years of harvest and removal of forage. Calcium, magnesium, sulfur, and the micronutrients are seldom a problem in pastures where manure deposits result in considerable recycling of nutrients. (Source: Florida Forage Handbook/Dr. Carrol Chambliss, Extension Forage Agronomist)

Biological Control of Mole Crickets

Mole crickets are a serious pest of bahiagrass pastures. The most destructive is the southern tawny mole cricket. A 1998 survey by the South Florida Beef Forage Program found that 64% of beef producers suffered mole cricket damage. The damage reported averaged 290 acres for each ranch. The estimated economic damage in south central Florida exceeded \$40 million annually in forage production alone, plus an additional \$40+ million for pasture renovation. While chemical control strategies can be effective, they are only temporary and may result in harmful residues in the environment.

Managing Mole Crickets with Parasitic Nematodes

The Univ. of Florida IFAS has patented a nematode (microscopic worm) which can be

used to control mole crickets. The nematode (*Steinernema scapterisci*) carries a bacterium (*Xenorhabdus sp.*) that kills pest mole crickets within a few days after infection. The nematodes do not affect other insects, invertebrates, or vertebrates. They provide long-term protection by multiplying inside the mole crickets they kill. The offspring from the nematodes emerge from the dead mole crickets and infect other mole crickets (Figure 1).

The University of Florida IFAS has a license agreement with a company named Becker Underwood, Inc., Ames, Iowa to make the nematodes commercially available. MicroBio, a subsidiary of Becker Underwood, Inc. is marketing the nematode under the trade name Nematac S[®]. The local representative is Mr. Gabe Diaz-Saavedra. He can be reached at (941) 350-7291. You have the option of applying the nematodes yourself or hiring a custom applicator. The only custom applicator presently available is Mr. Gary Anderson, who works for Ingram Grove Service in Winter Haven. Mr Anderson can be reached at (863) 422-4918 or (863) 287-3439 (mobile).

The seasonal pattern of mole



Figure 1. Mole Cricket

cricket activity in pasture is critical for timing the application of *Ss* nematodes. The nematodes are more effective on large juveniles and adults, which have larger body openings. Two times of the year are ideal for applying *Ss* nematodes to pastures, **March to May** and **September to November** when a high percentage of adult mole crickets are present. Nematode application during these periods should be timed for early mornings or in the evening, following rainfall or irrigation to insure cool moist conditions necessary for nematode survival. Once they enter and infect a mole cricket, the nematodes will reproduce in the mole cricket cadaver and recycle back into the soil to infect other mole crickets thus providing long- term mole cricket control.

Handling Parasitic Nematodes

Nematodes are delicate living organisms and regardless of how they are packaged, they must be properly handled, stored and field applied. The nematode product should be refrigerated at about 39° F, or at least stored under air-conditioning, until they are applied to the soil. Since the nematodes tend to lose viability with time, storage should not exceed six weeks. The nematodes are sensitive to high temperatures and UV light, as a result they should be transported to the field under air-conditioning or preferably, in insulated containers with ice packs. They should not be exposed to direct sunlight or prolonged heat.

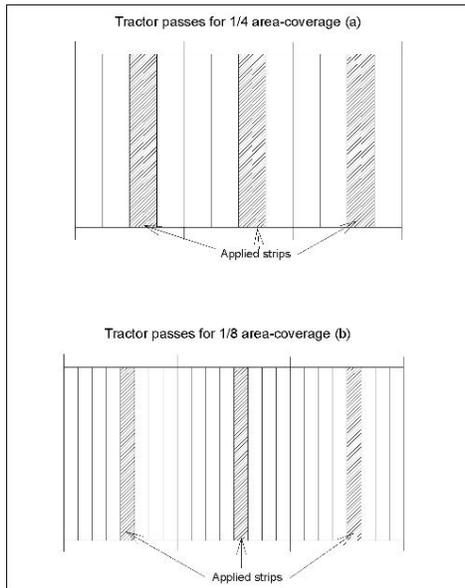


Figure 2. Mark out machine widths on field and turn on machine every fourth pass (a) or every eighth pass (b) to achieve 1/4 or 1/8 area coverage respectively.

Applying *Ss* Nematodes

Partly fill a tank with fresh, clean water. With the agitator running, mix the Nematodes directly into the tank, then bring the volume up to 100 gallons. Calibrate to apply 1 billion nematodes in 100 gallons of water per acre. When applying the nematodes to the soil it's best to use a machine with injector tines or a modified slit-seeder that can place the nematodes in suspension one inch below the soil surface and close the slit with press wheels. If the soil is moist and plant cover is not too dense, a spray rig with filters removed may also be used. Apply the nematode suspension in strips, immediately after mixing, while maintaining constant agitation, to one-quarter or one-eighth of the pasture to be treated (see Figure 2).

References

- Adjei, M.B., G.C. Smart, Jr., B.J. Adams. *Infectivity and Persistence of *Ss* Nematodes on Pasture Mole Crickets in South-Central Florida*. Entomology & Nematology Dept. Cooperative Extension Service, Univ. of Fla. IFAS. Aug., 2002. Pub. No. ENY-669. <http://edis.ifas.ufl.edu>
- Adjei, M.B., G.C. Smart, Jr., J.H. Frank and N.C. Leppla. *Timing the Application of Beneficial Nematodes to Mole Cricket Activity on Pasture to Optimize Control*. Entomology & Nematology Dept. Cooperative Extension Service, Univ. of Fla. IFAS. Feb., 2002. Pub. No. ENY-663. <http://edis.ifas.ufl.edu>
- Adjei, M.B., W.T. Crow, G.C. Smart, Jr., J.H. Frank, and N.C. Leppla. *Biological Control of Pasture Mole Crickets with Nematodes*. Entomology & Nematology Dept. Cooperative Extension Service, Univ. of Fla. IFAS. Feb., 2001. Pub. No. ENY-9. <http://edis.ifas.ufl.edu>
- Capinera, J.L. and N.C. Leppla. *Mole Crickets, *Scapteriscus*, Spp.* Entomology & Nematology Dept. Cooperative Extension Service, Univ. of Fla. IFAS, Sept., 2001. Pub. No. EENY-235. <http://edis.ifas.ufl.edu>

Beef Management Calendar

March

- Deworm cows as needed.
- Make sure calves are healthy and making good weight gains.
- Hang forced-use dust bags by April 1st for external



parasite control or use insecticide impregnated ear tags.

- Identify, vaccinate, implant and work late calves
- Remove bulls March 22nd to end calving season January 1.

April

- Check and fill mineral feeder.
- Check dust bags or apply treated ear tags.
- Check for external parasites and treat if necessary.
- Observe cows for repeat breeders.
- Deworm cows as needed if not done in March.
- Vaccinate calves against blackleg and brucellosis after 3 months of age and before 12 months of age.
- Market cull cows and bulls.
- Update market information and refine market strategy for calves.

May

- Check mineral feeder.
- Check for spittlebugs and treat if necessary.
- Apply Spot-on agents for grub and louse control.
- Check dust bags.
- Vaccinate and implant with growth stimulant any late calves.
- Reimplant calves with growth stimulant at 90-120 days, when you have herd penned.
- Dispose of dead animals properly.
- Update market information and refine marketing plans.
- Remove bulls May 21 to end calving season March 1, 2004.

Sincerely,

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