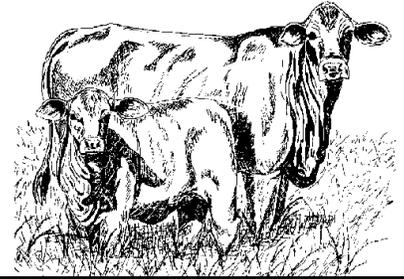




## Forage/Livestock Newsletter



### Polk County

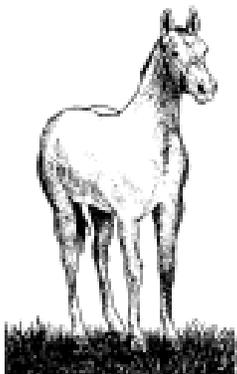
April, 2002

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#### Coming Events:

- 19<sup>th</sup> Annual Beef Cattle Reproductive Management School. April 16 - 18, 2002. Hardee County Agri-Civic Center, Wauchula. See enclosed brochure for details.
- Polk County Water School and Tour "Water for the New Century? A Water School for Polk County Decision Makers". School meets weekly from April 18 through May 23 at the Polk County Agricultural Center, Bartow. Call John Brenneman at the Extension Office for more information and a brochure.
- 51<sup>st</sup> Annual Beef Cattle Short Course. May 1 - 3, 2002, Sheraton Hotel, Gainesville. Call the Extension Office for a brochure.
- Spring Rancher's Forum. May 16, 2002, Yarborough Ranch. Yarborough Ranch is located at 1355 Snow Hill Road, Geneva, FL. Geneva is located east of Altamont Springs.
- Farming in the New Millennium - How to Manage Risk. May 21, Ft Myers, July 16, Gainesville. Sponsored by Florida Farm Bureau. Contact the Extension Office or the Farm Bureau Office for more information.

#### Agricultural Center Horse Arena



The Horse Arena at the Polk County Agricultural Center has recently been refurbished. Other than the Youth Fair and a

few horse shows, the arena gets

little use. The Polk County Parks and Recreation

Division, which oversees the Arena, would like to see the Arena used more. Anyone interested in using the Horse Arena may contact Daryl Sheffield at Polk County Parks and Recreation, (863) 534-4340.

#### Eastern Equine Encephalitis & West Nile Virus

The Florida Dept of Agriculture has reported two positive cases of Eastern equine encephalitis (EEE) and one positive case of West Nile virus (WNV) in horses here in Polk County. Agriculture

Commissioner Charles H. Bronson noted that most of Florida's WNV and EEE equine cases during 2001 were located in the Panhandle. "West Nile is not the



kind of disease that goes off the radar in six months or a couple years. As with the mosquitoes that carry it, West Nile is now a Florida resident.”

The best way to prevent exposure of people and animals to mosquito-borne diseases is to minimize exposure to mosquitoes. Humans should try to avoid mosquito-plagued areas, particularly at dawn and early evening, and if you must be outside, wear long pants and long-sleeved shirts and use mosquito repellents as directed. Residents should also clean up backyards and neighborhoods to prevent pooling of water in containers that support the breeding and hatching of mosquitoes.

Horses should be vaccinated against EEE and WNV at least three times yearly. Horses that have never been vaccinated should be given an initial dose followed by a second dose in three to four weeks. Unvaccinated and previously vaccinated horses should be protected by immediate vaccination and followed by appropriately timed boosters. Contact your veterinarian for further information and to schedule vaccination for your horses.

The most common signs of West Nile virus infection in U.S. horses have been stumbling or incoordination, weakness of limbs, partial paralysis, muscle twitching and in some cases death. Fever has been detected in less than one-quarter of all confirmed cases.

One of the most important indicators of WNV and EEE presence is the surveillance and monitoring of wild bird populations. You are encouraged to report wild bird deaths to the county health department. (Source: news release, Florida Dept. of Agriculture & Consumer Services, April 3, 2002.)

### **Parasitic Nematode Available for Biocontrol of Mole Crickets**

*Soil moisture and timing of nematode application critical for successful control.*

After six years of waiting, *Steinernema scapterisci* (Ss), the entomopathogenic nematode that provides permanent biocontrol of mole crickets is now commercially available under the trade name Nematac S<sup>®</sup>. It is produced and marketed by MicroBio, a subsidiary of Becker Underwood, Inc., Ames Iowa. Proper timing of application will be essential for successful biocontrol.

Nematac S contains infective juvenile nematodes which are the only free-living stage of the Ss nematodes. The infective juvenile nematodes in the Nematac S product do not feed but may live for months on stored reserves if

kept cool (40° F). Once applied on a pasture, the sole function of the infective juvenile nematodes is to search for an adult or pre-adult mole cricket, invade it, and initiate infection. The reproductive stage of Ss nematodes normally takes place inside a dead mole cricket.

The infective juvenile nematodes don't move far in the soil but depend on mole crickets to move them. The infective juvenile nematodes attach to a mole cricket, enter it through its mouth or breathing tubes, and start an infection. The infective juvenile nematodes only move a few inches through the soil on their own. However, mole crickets infected with infective juvenile nematodes might disperse the nematodes several miles. In addition, the length of time the Ss juvenile nematodes survive in the soil after application and without finding a mole cricket is days or weeks, depending on soil temperature, soil type and soil moisture and natural enemies. Survival is better in sandy or sandy-loam soils with adequate moisture and temperatures between 60° and 75° F. Survival is lower in clay soils or soils with excessive moisture or higher or lower temperatures. There are many organisms in the soil that prey on infective juvenile nematodes (such as mites, fungi and other nematodes). As a result, large numbers of infective juvenile nematodes are needed (about 1 billion/A), and they must find and infect a mole cricket in the shortest possible time after application for biocontrol to occur.

The timing of application of the Ss nematodes must match the seasonal pattern of mole cricket activity in pasture. Nematodes are more effective on large juveniles and adult mole crickets which have larger body openings than nymphs. The two best times to apply Ss nematodes to pastures in Florida are September to November, and March to May when a high percentage of adults mole crickets are present. During these periods nematodes should be applied in early morning or in the evening, followed by a rain or irrigation to ensure moist conditions for nematode survival. Once the Ss nematode successfully enter and infect mole crickets, they kill the mole cricket and reproduce in the body of the dead mole cricket and recycle back into the soil infecting other mole crickets, providing long-term mole cricket control. (Source: Agronomy Notes, Univ. of Florida-IFAS, March 2002.)

### **Fertilizing Pastures and Hay Fields**

The six soil-supplied nutrients required by plants in the largest quantities are nitrogen (N) phosphorus (P), potassium (K), calcium (Ca), magnesium (Mg), and sulfur (S). Micro-nutrients including iron, copper, zinc, manganese, boron, molybdenum, and chlorine are also essential, but are needed 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 sufficient for optimum growth.

### **Recommendations to Optimize Biocontrol of Mole Cricket on Pasture:**

1. Purchase fresh nematodes (Nematac S) within a few weeks before planned application. (Even better to have them arrive as close to application time as possible).
2. Store nematodes in a refrigerator at about 40° F (4-6° C).
3. Transport nematodes to the field in a cooler with ice or in an air-conditioned vehicle. Use a towel or other barrier to prevent direct contact with the ice.
4. Time application for early morning or in the evening in **March-May** or **September-November**.
5. **Apply nematodes to moist soil.**
6. Use a machine with injector tines or a modified slit-seeder that can place the infective juvenile nematodes in suspension 1 inch below the soil surface and close the slit with press wheels. If soil is very moist and plant cover is not too dense, a spray rig with filters removed can also be used (check pump and nozzle).
7. Mix nematodes directly into a tank partly filled with fresh clean water, with the agitator running, and then bring volume up to 100 gallons. Calibrate sprayer to apply 1 billion nematodes in 100 gallons of water to the acre.
8. Apply the nematode suspension in strips, immediately after mixing, while maintaining constant agitation, to one eighth to one quarter of the pasture to be treated.

Note: Ss Nematodes can be purchased from Becker Underwood southeast representative, Gabe Diaz-Saavedra at (941) 350-7291.

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 most likely the one that results in increased forage production when added. Phosphorus may be deficient in some areas, but some Florida soils are naturally high in 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 pounds of nitrogen 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 bermuda-grass hay fields. Potassium can very quickly become deficient; also calcium, magnesium, sulfur, and some micronutrients may eventually become deficient, after several years of harvesting and removing hay. Calcium, magnesium, sulfur, and the micronutrients are seldom a problem in pastures where considerable recycling of nutrients occurs. (Source: Florida Forage Handbook, reported in Agronomy Notes, Univ. of Florida-IFAS, March 2002.)

### **Florida is Officially Free of Brucellosis: USDA**

Here's good news for Florida's 20,000 cattle operations, about 98 percent of which are owned by small farmers. The Agriculture Department declared Florida free

of brucellosis earlier this month (December, 2001), and it lifted certain restrictions on the interstate movement of cattle from Florida.

Brucellosis class-free status will enhance the national and international marketability of beef from Florida, according to a news release. The status hinges on finding no cases of brucellosis in cattle and bison for 12 months.

Florida has not discovered any infected herds in more than 12 months and has met all other requirements of the cooperative state-federal brucellosis eradication program for class-free status. Florida joins 47 other states, Puerto Rico and the U.S. Virgin Islands in achieving brucellosis class-free status.

The presence of brucellosis has cost the federal government, states and the livestock industry billions of dollars in production losses, eradication costs and lost or unrealized export markets. As long as the disease is present in the United States, it poses a

threat to the \$53 billion U.S. beef industry, the news release added.

Brucellosis is a highly contagious disease of cattle causing abortions and lowered milk production. In humans, the disease causes severe flu-like symptoms that can last for months or years if left untreated. (Source: Bryan Salvage — Meatingplace.com — Release — December 17, 2001)

### **Polk County Environmental Lands Program**

On November 8, 1994 Polk County voters approved a referendum for a 0.2 mil ad valorem tax levy to purchase environmentally sensitive land. A folder with information about Polk County's Environmental Lands Program is available through the Polk County Extension Office. The folder contains a fact sheet on each of the parcels purchased under the program and a map showing the location of each parcel. Call or stop by the Extension Office to receive the information free of charge.

Sincerely,



James A. Stricker  
County Extension Director

