



PALM BEACH COUNTY EXTENSION AGRICULTURE NEWSLETTER



UF UNIVERSITY of
FLORIDA
IFAS Extension

September - October 2007

UF/IFAS Sugarcane Fertilization Standards

Generally, organic soils naturally provide enough nitrogen (N) to support the 3-year sugarcane crop, but low-fertility sandland sugarcane requires N inputs. Sandland growers have struggled with their N fertilization programs, particularly those growing sugarcane on “marginalized” lands with extremely low organic matter. In June 2006, UF/IFAS Sugarcane Extension (Les Baucum and Ron Rice with Hendry and Palm Beach County, respectively) held a sandland sugarcane grower meeting to discuss perceptions of UF/IFAS nitrogen fertilizer recommendations for sugarcane.

Thereafter, the UF/IFAS Sugarcane Focus Area Team (Dr. Curtis Rainbolt, Chair), in discussion with growers, decided that sandland sugarcane response to N inputs (different input rates, timing, and sources) should be studied using on-farm studies (small-plot and commercial-scale). This work was initiated in Fall 2006 and will continue for several years.

Coincidentally, in November 2006, UF/IFAS Deans for Research (Dr. Mark McLellan) and Extension (Dr. Larry Arrington) established the Sugarcane Fertilization Standards Task Force, with objectives to review current UF/IFAS recommendations for sugarcane fertilization, review all related data underlying current



Above: Members of FFA Hendry County hand-applying nitrogen fertilizers to sugarcane plots.

recommendations, identify gaps in knowledge that require further research, and develop a strategic plan for future grant funding opportunities to fund required research.

The Task Force included Les Baucum and Gene McAvoy (Hendry County Extension), Dr. Ron Rice (Palm Beach County Extension), Drs. Rob Gilbert, Mabry McCray, and Samira Daroub (Everglades REC, Belle Glade), Drs. Kelly Morgan and Ike Ezenwa (South West Florida REC, Immokalee), and Dr. Nael El-Hout (US Sugar).

The Task Force focused primarily on sugarcane nitrogen, phosphorus and sulfur nutrition as these are the

nutrients with the largest gaps in knowledge combined with the greatest potential environmental concerns and highest likelihood of attracting grant funding. Task Force findings and recommendations were finalized in April, 2007, summarized as follows:

- * Nitrogen (organic soils): No N recommended.
- * Nitrogen (sandy soils): Sandland sugarcane continues to expand into low-fertility sandlands, yet current N recommendations were developed in the 1960s on transitional sands (high organic matter) using different cropping

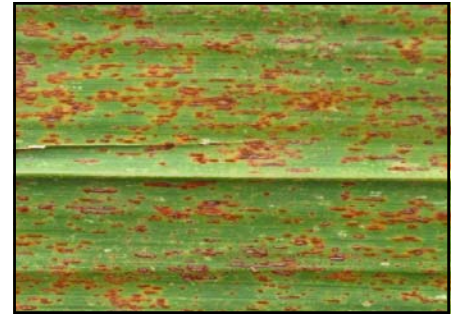
(Continued on page 2)

NEWS AND NOTES

Orange Rust Discovered on South Florida Sugarcane

In mid-July, USDA APHIS confirmed orange rust (*Puccinia kuehni*) on sugarcane varieties CP 80-1743 and CP 72-2086. USDA Canal Point has confirmed orange rust on some clones in Stage IV breeding trials. This is the first reported discovery of orange rust in the Western Hemisphere, well outside

its known distribution of Australia and Southeast Asia. Symptoms include orange pustules along lower leaf surfaces near the leaf base. Unlike brown rust, orange rust thrives during warmer, humid summer months. Wind and large weather patterns can rapidly spread the pathogen. If orange rust spreads rapidly, significant economic losses to the Florida sugarcane crop are a possibility. The main control strategy for orange rust is to breed for resistant varieties.



Above: Orange rust on sugarcane (South Africa).

(UF/IFAS Sugarcane Fertilization Standards continued from page 1)

systems and lower-yielding cultivars. Thus, the Task Force felt that UF/IFAS N fertilizer recommendations should be re-examined, consistent with the on-farm research already started in Fall 2006.

- * **Phosphorus (organic soils):** Recent multi-year multi-location field studies have produced enough data to support a new P fertilizer recommendation scheme using a different soil-test method (acetic acid instead of water).
- * **Phosphorus (sandy soils):** Considerable field research is required to determine appropriate P fertilization recommendations for sandland sugarcane, requiring grant funds to support both N and P research.
- * **Sulfur (organic and mineral soils):** Current UF/IFAS suggestions for S inputs are not well documented and do not reflect how S is used as a soil amendment to improve nutrient availability by lowering soil pH. The Task Force recommended S-related studies that document sugarcane agronomic and sugar yield responses to S rate and S source under current growing environments and management systems. A sulfur research working group was established to coordinate UF/IFAS sugarcane sulfur research.

Ag Climate: Forecasts At Your Fingertips

Combining computer crop models with climate forecasts that predict whether an upcoming season is likely to be a wet and stormy El Niño year, scientists from the University of Florida and other Southeastern universities have designed a unique Web-based decision-making tool for farmers. Known as AgClimate.org, the tool allows farmers to get information on how different the expected climate is going to be from normal, and provides estimates on how yields of particular crops might be affected.

The crop models are based on historical information about soil, weather and management. To predict climate conditions for a growing season, the researchers compile records of conditions during El Niño years, La Niña years and neutral years, as well as information about historical yields of certain crops during those seasons.

The Web tool aims to help farmers minimize risks throughout the growing season, from likely climate conditions affecting the establishment of a crop right after planting, to conditions by harvest time to the possibility of freezing.

AgClimate is a product that is still under development. At present it includes:

- County level forecasts of temperature and precipitation
- County level crop yield data for sugarcane
- A tool to compare climate variability under different El Niño and La Niña conditions
- Crop information and tools for tomato
- Forest management and wildfire risk assessment
- Links to other sources of related information

Adapted from C. Gramling and J. Jones, UF/IFAS Communications.

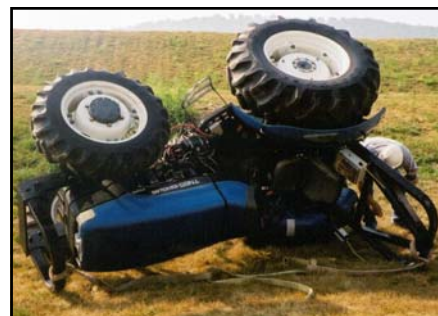
Keep Your Tractor Operators Safe and Compliant This Season

Farming in Palm Beach County is alive with planting and harvesting activities. Operators are utilizing global positioning system (GPS) tractors outfitted with air-conditioning and radios that generations of farmers before only dreamed about using. With all the advances technology has brought, the agricultural industry continues to be plagued with tractor injuries and fatalities because of misuse and human error.

Last year, two local individuals were killed by tractors they were riding. Owners and managers had to deal with the loss of valued employees while being investigated by the Occupational Safety and Health Administration (OSHA). In both instances, owners were found in compliance with two federal laws (discussed below) that require employee equipment training and hazard mitigation procedures. Employers paid thousands of dollars in fines and will be inspected annually by OSHA for compliance.

The first federal law, commonly referred to as “The General Duty Clause,” was written in 1970 as part of the Occupational Safety and Health Act. Section 5 (a) (1) requires all employers to provide a place of employment that is free from recognizably dangerous situations that could cause injury or illness. This law is the basis for safety and hazard mitigation program standards. The General Duty Clause is one of the most commonly cited laws that employers violate. In some cases, employers can face lengthy incarceration for non-compliance.

Farmers also faced fines for a section commonly referred to as “The Agricultural Standards” (OSHA 29 CFR 1928). This second federal law details the steps owners and supervisors should take to train tractor operators and enforce safe equipment operation. The proper use of tractors, roll-over protection (ROPS) procedures and implement guarding



are discussed in detail and provide useful information to make compliance easy for operations.

Keep your tractor operators safe and your operation compliant this season. Videos and manuals are available from the Palm Beach County Cooperative Extension Office to assist agricultural operations with OSHA compliance. Additionally, safe tractor operator training is offered as a service to agricultural clientele. Free trainings are held each month at either the Belle Glade or West Palm Beach offices. This training is mobile and is easily taken to farms, fields and nurseries.

Pesticide Certification Training For Hispanic Agriculture Workers

Hispanic workers are the largest ethnic group working in US agriculture. These workers face numerous difficulties, including language barriers that limit their educational opportunities, employment options, and financial security. Agricultural Extension has developed Spanish-language pesticide license certification training programs in order to improve Hispanic worker education and to increase passing rates on pesticide certification exams written in English.

From 2001 through 2007 approximately 700 Hispanic agriculture workers attended the trainings. In March 2007, a telephone survey of attendees was conducted to explore factors affecting exam success. A random sample of 64 attendees were contacted, 44 completed the interview.

* Country of origin: 75% from Mexico (remainder from El Salvador, Guatemala, Nicaragua,

- Cuba, Columbia, and Costa Rica)
- * Education: Overwhelmingly elementary school, some high school, a few with college-level coursework
- * Age: Average 37 years (range: 23 to 68 years)
- * Work experience: Average 15 years (range: 3 to 34 years)
- * US residency: Average 17 years (range: 3 to 36 years)
- * English training: 16% received at least 2 months formal English instruction; the remainder learn English “on the job”

Results indicate that formal education and work experience were positively correlated to superior performance on English pesticide exams. Most participants had taken the Spanish-language pesticide training at least twice before successfully passing pesticide certification exams.

**Thank You
Sugar Cane Growers
Cooperative of Florida**



**(561) 996-5556
www.scgc.org**

**For sponsoring
this newsletter
issue!**



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UPCOMING EVENTS

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September 17
8:00 am - noon
1:00 pm - 3:00 pm

September 19
8:00 am - 10:00 am
1:00 pm - 3:00 pm

September 21
7:45 am - 11:45 am

September 27-28

October 1
8:00 am - 10:00 am
10:00 am - noon
1:00 pm - 3:00 pm

October 3
8:00 am - 10:00 am
1:00 pm - 3:00 pm

October 10
9:00 am - 11:00 am

October 30
8:00 am - noon

October 31
8 am - noon English
1 pm - 5 pm Spanish

Restricted Use Pesticide Training & Testing, West Palm Beach
General Standards/Core Review, 4.0 CEUs
Aquatic Weed Control Review, 2.0 CEUs

Restricted Use Pesticide Training & Testing, Belle Glade, Call 561-996-1655 to register
General Standards/Core Review, 2.0 CEUs
Private Applicator Review, 2.0 CEUs

American Society of Sugar Cane Technologists (ASSCT), EREC, Belle Glade
Registration starts at 7:45 am, Call 561-996-1655 for more information

Agricultural Labor Relations Forum, Orlando, Call 321-214-5233 for more information

Restricted Use Pesticide Training & Testing, West Palm Beach
General Standards/Core Review, 2.0 CEUs
Private Applicator Review, 2.0 CEUs
Ornamental & Turf Review, 2.0 CEUs

Restricted Use Pesticide Training & Testing, Belle Glade, Call 561-996-1655 to register
General Standards/Core Review, 2.0 CEUs
Agricultural Row Crops Review, 2.0 CEUs

FREE WPS Handler Training, West Palm Beach
Offered in English and Spanish, proof of training provided, Call 561-996-1655 to register

FREE OSHA Agricultural Update, EREC, Belle Glade
Call 561-996-1655 to register

First Aid/CPR Training, Belle Glade, Instructor: Chuck Stamm, LifeFirst
*\$40 per person, pre-registration is required
Call 561-996-1655 for more information