

# **EFFECT OF FLOODING ON EFFICACY OF SOIL INSECTICIDES USED FOR WIREWORM CONTROL IN FLORIDA SUGARCANE**

**Ron Cherry<sup>1</sup>**

Everglades Research and Education Center  
Belle Glade, Florida 33430

**Richard Raid**

Everglades Research and Education Center  
Belle Glade, Florida 33430

## **ABSTRACT**

The two soil insecticides most commonly used for wireworm control in Florida sugarcane are ethoprop applied as Mocap 20-G and phorate applied as Thimet 20-G. The objective of our research was to determine if the efficacy of these insecticides against the wireworm, *Melanotus communis*, is reduced after flooding since flooding due to excessive rainfall does occur in Florida sugarcane fields. Laboratory tests were conducted from 1996 to 1998. On a per volume basis of moist soil, seven times as much ethoprop or phorate was necessary to kill similar numbers of *M. communis* in muck versus sandy soil. Both insecticides retained efficacy against the wireworms, even after a seven day flood. At the rates used in our study, our data also showed that phorate killed more *M. communis* than ethoprop when granular formulations of these insecticides were used at equal rates.

# USE OF A NITROGEN STABILIZATION PACKAGE TO<sup>1</sup> INCREASE YIELDS AND REDUCE THE NITROGEN REQUIREMENTS OF SUGARCANE

**W.B. Hallmark and L.P. Brown**

Iberia Research Station  
LSU Agricultural Center  
Jeanerette, LA

**G.L. Hawkins**

Sugar Station  
LSU Agricultural Center  
St. Gabriel, LA

## ABSTRACT

A study was initiated to determine the effect of a nitrogen stabilization package (N-hib Ca, composed of calcium chloride, magnesium chloride, and a urease inhibitor) and liquid urea, on yields and nitrogen fertilizer requirements of sugarcane (Saccharum spp. hybrids). Urea and the nitrogen stabilization package were applied in all possible combinations in a 4x3 factorial (N rates were 0, 67, 134, and 201 kg N/ha; and calcium rates from the N stabilization package were 0, 22, and 44 kg Ca/ha) to a Baldwin silty clay (thermic vertic Ochraqualf) soil for four years. Adding 44 kg Ca/ha as N-hib Ca to 134 kg N/ha increased sugar yields by 2,950 kg/ha (\$1531/ha at a sugar price of \$0.519/kg) across the four year study, and reduced the nitrogen fertilizer requirement (by 67 kg N/ha each year) needed to obtain maximum yields. Use of N-hib Ca in a liquid urea fertilization program could, therefore, increase sugarcane yields and reduce environmental degradation resulting from nitrogen fertilization.

---

<sup>1</sup>Research was partially supported by Stoller Enterprises, Inc. N-hib Ca is a product of Stoller Enterprises, Inc. Use of N-hib Ca in this study should not be interpreted as an endorsement of this product.

## DISTRIBUTION OF THE LEAF SCALD PATHOGEN IN INFECTED SUGARCANE STALKS

**Y.-B. Pan, M.P. Grisham, D.M. Burner, and Q. Wei**

USDA-ARS, Southern Regional Research Center

Sugarcane Research Unit

P. O. Box 470, Houma, LA 70361

[ypan@nola.srrc.usda.gov](mailto:ypan@nola.srrc.usda.gov)

### ABSTRACT

Polymerase chain reaction (PCR) and isolation on a semi-selective medium methods were used to study the within-stalk distribution pattern of the leaf scald bacterium, *Xanthomonas albilineans*. Xylem sap samples from every elongated internode (at least 1 cm in length) of 11 pairs of infected symptomatic vs. asymptomatic stalks were examined for *X. albilineans*. When internodes were grouped into upper, middle and lower thirds, no significant difference in mean percentage of detection was found between the two methods. *Xanthomonas albilineans* was detected by both methods in nearly every internode in the middle and lower thirds of symptomatic stalks. The mean percentages of detection in these two thirds of the symptomatic stalks were significantly higher than the mean percentage of detection in the upper third of the symptomatic stalks and in all the three sections of asymptomatic stalks. However, no significant differences were found among the mean percentages of detection for the three sections of asymptomatic stalks. This suggests that distribution of *X. albilineans* was random among internodes of asymptomatic stalks. It is recommended that as many as 20 stalks be collected across a field, where no leaf scald disease symptoms exist, and that a composite of xylem sap samples from six internodes per asymptomatic stalk, two randomly from each third, be used for diagnostic tests.