

121.
**INFLUENCE OF MOLASSES ON INORGANIC NUTRIENTS
IN SOILS AMENDED WITH SUGARCANE TRASH**

Jimenez CM, Sampietro DA, Vattuone MA, Sgariglia MA, Soberón JR, Quiroga EN.

Cátedra de Fitoquímica. Instituto de Estudios Vegetales "Dr. A. R. Sampietro". Facultad de Bioquímica, Química y Farmacia. Universidad Nacional de Tucumán. Ayacucho 461. CP 4000. S.M.de Tucumán. Argentina.

In a previous work, we showed that soil irrigation with molasses accelerates microbial mineralization of sugarcane trash. In this work, we evaluated evolution of nitrogen and phosphorous contents after molasses incorporation in soils where sugarcane trash was incorporated or left on the soil surface. Plastic containers filled with soil were irrigated with 0.6 and 2% molasses. Sugarcane trash was incorporated or left on the soil surface. Containers irrigated with water were used as controls. Soil samples were collected at different times after molasses incorporation. Nitrate, ammonium and phosphor contents were determined with Hach reagents. Molasses incorporation increased soil nitrogen, ammonium and phosphor contents. Highest increase in nitrogen and phosphor contents was observed when trash was soil incorporated. Our results suggest that incorporation of 2% molasses to soil amended with sugarcane trash increases nitrogen and phosphor available for plant growth.

122.
**PERMANENT COMPETENCE OF *Tagetes minuta* L. IN
SUGARCANE cv TUC 77-42, EL CEVILAR, TUCUMAN**

Chaila S¹, Sobrero MT², Nasif AMM¹, Díaz LP¹, Arévalo RA³, Piscitelli FR¹.

¹U.N.T., ²U.N.S.E., ³APTA-Piracicaba. BR.
E-mail: sach@faz.unt.edu.ar

Tagetes minuta (TAGMI) invasion in sugarcane crops occurs in December while escaping post-emergence herbicide action. The objective of this work was to determine the losses caused in crops by the effect of competence. The assay was carried out in El Cevilar (Tucumán) in 2006 on 2-year ratoon sugarcane of healthy cultivar TUC 77-42. The experimental design was randomized blocks with 5 treatments and 3 replications: Without competence, Permanent Competence Level 1 (13.4 pl.m²), 2 (7.2 pl.m²), 3 (5.5 pl.m²) and 4 (1.6 pl.m²). Each plot was 64 m². In the August 2006 harvest cane weight determination, saccharine analysis, and height and stem diameter measurements were carried out. ANOVA and Tukey $\alpha=0.05$ Test were used. Results: Sugarcane losses between 1.92 and 34.15%, and sugar losses between 4.71 and 31.83%. Permanent competence losses for stem number were 10.52 to 36.84%; for stem height 4.28 to 22.14%, and stem diameter decreases 2.44 to 15.10%. We concluded that when TAGMI competes with varietTUC77-42, it produces a great decrease in number, height and stem diameter with important cane and sugar losses per hectare.

123.
**COMPARATIVE ANALYSIS OF EMERGENCE VELOCITY
OF *Sicyos polyacanthus* Cogn. USING DIFFERENT INDEXES**

Chaila S¹, Sobrero MT², Díaz LP¹, Arévalo RA³, Nasif AMM¹.

¹FAZ-UNT; ²FA y A-UNSE; ³APTA Centro Sul. (BR). E-mail: salvadorchaila@yahoo.com

The germination velocity and the emergence velocity of plantlets are two tests used for evaluation of seed vigor. The objective of this work was to test different emergence indexes and to propose a new one for the calculation of emergence velocity of *Sicyos polyacanthus*. The assay was carried out in Santa Bárbara (Tucumán, AR) during the year 2005, in plots of 2 x 2 m totally randomized with 5 replications; 150 seeds were sown per plot in furrows of 0.40 m at 0.02 m deep. Each plot was sown with 5 lines and 30 seeds. The different models for comparative calculus were: EV (emergence velocity); EVI (emergence velocity index), EVC (emergence velocity coefficient) and ERV (emergence relative velocity). The proposal of the ERV index was made for species emergence in field plots. Greater values were obtained with ERV and there were significant differences between this and the other indexes. This index enables the determination of vigor and velocity by simple readings. In tests with *S. Polyacanthus*, the ERV index is the most adequate for vigor and emergence velocity due to its sensibility for differentiation and comparison of plots, samples and fields, with their different values and management practices.

124.
**TEMPORAL AND SPATIAL STUDY OF THE *Bemisia tabaci*-
GEMINIVIRUS COMPLEX USING A GEOGRAPHICAL
INFORMATION SYSTEM (GIS)**

Alemandri V, Izaurralde J, Melchiorre GB, Truol G.

IFFIVE-INTA, Camino 60 Cuadras, km 5 °, X5020ICA Córdoba, Argentina. E-mail: vanialemandri@yahoo.com.ar

Currently, GIS are being used in different research fields such as plant pathology as key tools for the study of diseases. The purpose of this study was the temporal and spatial analysis of the *Bemisia tabaci* -geminivirus complex, using a geographical information system. Data were used on 54 location points where *B. tabaci* and/or geminivirus were found in soybean and bean in 2007. The data were incorporated into the GIS Floramap 1.02. A map with the probability surface was thus obtained of the potential locations where *B. tabaci*-geminivirus might be found, bearing in mind climate features, and using 2007 data. This layer of information was superposed on the probability surface obtained from the data of the previous 2004-2006 period, showing an increase of potential locations, mainly in the provinces of Córdoba, Santa Fe, Entre Ríos, San Luis and Buenos Aires. It may be concluded that the implementation of technology such as GIS in spatial and temporal studies of plant diseases produced by vector-transported viruses is highly useful.