

21. LABORATORY-SCALE STUDY OF BIOCIDES USED IN THE SUGAR INDUSTRY IN TUCUMAN

Anduni G¹, Reinoso M¹, Orosco E¹, Gusils C^{1,2}, Ruíz M¹, Cárdenas G¹.

¹Estación Experimental Agroindustrial Obispo Colombres, Av. Williams Cross Tucumán 3150; ²CONICET; E-mail: microbiologia@eeaoc.org.ar

The sugar industry uses biocidal products mainly to reduce the reaction of sucrose inversion caused by microbial invertase. The purpose of this study was to evaluate at the laboratory scale the action of the main biocidal products used in sugar cane juice in the Tucumán sugar industry.

The process of sugar cane juice clarification before being warmed up to enter the decanter was reproduced. The biocides used were: sodium hypochlorite (NaClO), quaternary ammonium compounds (AM), organo sulfur (OS) and dimethyldithiocarbamate-ethylenebisdithiocarbamate (DE). Two concentrations were tested: i) normally employed in the local sugar industry and ii) 10 times higher concentrations with respect to (i). The doses commonly used at the local sugar industry did not produce a significant reduction in the microorganisms present in sugar cane juice. At 10-fold higher concentrations the decreases were significant only for NaCl and quaternary ammonium.

Further studies would be necessary using higher concentrations or combinations of different biocides.

22. BIOTYPES OF WHITEFLY *Bemisia tabaci* (GENNADIUS) VECTORS OF BEGOMOVIRUS IN BEAN CROPS

Alemandri V, Truol G.

IFFIVE-INTA, Camino 60 Cuadras, km 5 °, X5020ICA Córdoba, Argentina. E-mail: valemandri@correo.inta.gov.ar

Studies of whitefly *Bemisia tabaci* populations have demonstrated a complex taxonomy and the possibility that some members of this taxon could be different species or a complex of different biotypes. The aim of this study was to determine the whitefly biotypes of *B. tabaci* in bean in northwestern Argentina. Adult whiteflies were collected from 5 localities in the districts of Gral. J. San Martín, Orán and Metán in the Salta province. DNA was extracted from individual insects. Biotypes were identified through RAPD-PCR. Band profiles from 9 lots were similar to biotype A used as a control. Samples of 2 lots from the locality of Pichanal showed profiles different from the standards used for biotypes A and B. Other primers will be used to continue identifying samples that presented different profiles. These results showed the presence of biotype A of *B. tabaci* and the possibility of another biotype in the beans crops at Pichanal. Monitoring whiteflies biotypes is essential for efficient control as well as to prevent the invasion of foreign biotypes and enable a better management of the diseases they transmit.

23. EFFECT OF THE POPULATIONS OF *Alabama argillacea* Hübner ON COTTON CROPS AT TWO DISTANCES IN THE IRRIGATION AREA OF SANTIAGO DEL ESTERO

Helman SA¹, Beltrán RE², Garay F³ (ex aquo).

UNSE, FAyA. Av. Belgrano (S) 1912, 4200-Santiago del Estero, Argentina. E-mail: silhema@unse.edu.ar

In order to evaluate the incidence of damage to the leafworm in yields in cotton narrow and ultra narrow rows crops, was tested from 2005 through 2007 at distances between lines of the crop of 0.38 and 0.76 meters. The experimental design was split plot with four replications. The period evaluated was extended from the early of blooming to first open boll. The treatments were: T1 without control of larvae; T2: with control of larvae; T3: control since the early of blooming to the end of effective blooming rest without control and T4: with control since end of effective blooming to first open boll. The effect of injuries on the crop was evaluated through the cotton yield and fiber quality. The density of the populations of larvae were recorded weekly, with vertical cloth, and were expressed per square meter. The populations of *A. argillacea* in the evaluated period and distance of 0.38 and 0.76 m between rows, were present from early of blooming until to first open boll. The highest densities were recorded between the end of effective blooming and to first open boll. There were differences in the densities of populations in the distance between rows, they remain higher for 0.38 m. The defoliation reduced weight and number of fruits during the evaluated period.

24. ANALYSIS OF THE PRODUCTION OF PROPOLIS WITH DIFFERENT EXTRACTION SYSTEMS AND OF THE PRODUCTIVE CAPACITY OF HIVES

Malacalza N, Mouteira MC, Basso I, Soria M.

Fac. Cs. Agr. y Ftiles, UNLP, y MAA y P. C.C. N° 1900. La Plata. E-mail: mouteiracecilia@yahoo.com.ar

Propolis is collected with screens and traps. The study evaluates collection systems and yield/hive. We used moulded fibre glass (A), die-cast plastic (B), double thread woven plastic (C) screens, and trapezoidal opening traps (D). We checked for lifespan, collection complexity and retention % after extraction. We also determined yield/hive: screen or trap, and scraping. Results were: retention % A 8.97, B 13.36, C 3.21, D 25.67; Extraction complexity (time) A medium, B and D Low, and C high; lifespan (seasons) A low, B and C medium and D high; yield/hive: Apiary I 37.07 gr/screen or trap/hive and 23.07 gr/scrape/hive. Apiary II 28.41 gr/screen or trap/hive and 14.22 gr/scrape/hive. Double thread woven screens showed easier extraction and lower retention %, and intermediate lifespan. Both apiaries showed similar yields but #1 had higher values for scraping of those heads with screens and traps.