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CONTROL OF NOXIOUS ANTS WITH LOCALLY PRODUCED BAITS

Sumario. Se controló a hormigas que cuidaban homópteros fitófagos, con partículas menores de 3 mm² de un cebo tóxico desarrollado localmente para controlar hormigas cortadoras.

Noxious ants have received little attention in the pest control strategies of Neotropical growers. Nevertheless, some species of ants are known to be responsible for maintaining and protecting populations of plant-feeding homopterans (4). In the Neotropics, species of *Crematogaster* (2), *Solenopsis* (1) and *Acropyga* (5) are important pests due to their association with homopterans.

Recently, a toxic bait has been developed locally for the control of leaf-cutting ants. The bait matrix for this bait consists of soybean meal pellets 3-8 mm large. During manufacture and storage, particles smaller than this are produced and are impregnated with toxicant (aldrin). Due to their small size, these particles are not suitable for leaf-cutting ant control. However, this powdered bait has shown promise in controlling other troublesome ants, and can thus be usable.

Methods

Details of the manufacture of the 0.4%aldrin bait have been given earlier (3). Colonies of species listed in Table 1 were treated by either applying 50 g of bait powder near the nest, or at the base of trees where workers were tending homopterans. The effectiveness of the bait was evaluated at 2 and 4 weeks post-treatment. All species were treated in San Lorenzo, Paraguay, with the exception of *Solenopsis invicta*, which was evaluated in Concepción, Paraguay.

Table 1. Results of toxic bait yield evaluations against noxious ants in Paraguay. All baiting values are significantly different from control ($P < 0.001$).

Species:	*Solenopsis invicta*	*Solenopsis wasmanni*	*Crematogaster*
Number of colonies			citrus trees
treated	35	26	27
control	30	26	20
Number inactive 2 weeks			
treated	29	20	22
control	0	0	1
Number inactive 4 weeks			
treated	32	25	27
control	2	0	1
%Control 4 weeks	91	96	93

Graciously done by S. Weiner.

Results and Discussion

The results of the baiting treatments are given in Table 1. In all cases, after 4 weeks post-treatment, control was achieved. It is very probable that the bait was attractive due to the use of soy oil as the toxicant carrier.

The utilization of the sediments of locally produced toxic baits for controlling these and other noxious ants enhances the economic considerations of toxic baits for small growers. These small growers can thus cheaply control colonies of leaf-cutting ants, and at the same time either use bait sediments to control other noxious ants, or to collect these sediments and sell these to other growers with noxious ant problems.

Abstract

Sediments of toxic baits developed for leaf-cutting ant control proved effective in controlling *Crematogaster quadriformis, Solenopsis invicta* and *Solenopsis wasmanni* colonies in Paraguay. These baits are effective controls for some species of noxious ants and increases the economic feasibility of their utilization by small growers.

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MERISTEM CULTURE OF BANANAS

Sumario. Se desarrolló un método rápido de propagación de plantas de banano por medio del cultivo del tejido meristemático. Los meristemas apicales, asépticamente removidos del rizoma, fueron cortados con 7 a 12 incisiones verticales y colocados en un medio de Murashige y Skoog modificado. Al mes, el grupo de vástagos formados fue separado y los vástagos individuales fueron transferidos a un medio de crecimiento fresco. Después de dos meses adicionales, las plántulas tenían sistemas foliares y radicales bien desarrollados y se transplantaron en el suelo

Banana ('Musa AAA') plants are normally propagated by detaching suckers from the parent rhizome. When large numbers of plants are available, sucker propagation can provide sufficient material for new plantings. However, when there is a limited number of plants available or when small plants are needed for experimental purposes, meristem propagation can provide the quantity and type of plants required.

Propagation of axillary buds from banana rhizomes, produced by injuring the central and lateral growing points, produced up to 150 plantlets in five to seven months (2). Berg and Bustamante (1) utilized heat-treated rhizomes to produce virus-free meristems from lateral buds (1). These meristems produced normal banana plants when grown on modified Knudson's medium. This communication reports a method of meristem propagation suitable for the rapid multiplication of disease-free banana plants.

Materials and methods

Rhizomes were dug up in the field, washed and the roots and outer layer of tissue removed. The central growing point and the lateral shoots were excised with their surrounding tissue. In the laboratory, tissue was cut away with a sterile knife until only the apical meristem and closely adjacent tissue were left. The pieces of tissue (ca. 2 mm^2) were surface sterilized in a 0.25% solution of NaOCl and cut vertically seven to twelve times with a sterile scalpel. Incised meristems were placed on a growth medium containing the major and minor salts of Murashige and Skoog's revised medium (3); glycine, 2 mg/l; thiamine hydrochloride, 0.5 mg/l; nicotinic acid, 0.5 mg/l; piridoxine hydrocloride, 0.5 mg/l; indole-3 acetic acid, 1.0 mg/l; 6-benzyladenine, 0.5 g/l; sucrose, 30 g/l; agar, 6 g/l. The medium was adjusted to pH 5.6 prior to dispensing 20 ml into 200 x 25 mm test tubes. Tubes were capped with aluminium foil and autoclaved at 1.05 kg/cm^2 for fifteen minutes.

Meristem cultures were incubated at ca. 29°C with a daily twelve-hour period of light provided by 40 W incandescent lights (150 lux). Shoots developing from the incised meristems were separated and transferred