Semi-Authomatic Method For Distribution of Eggs of Sugarcane Borer (*Diatraea saccharalis*) in the Rearing Cups

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The importance of sugarcane borer (**Diatraea saccharalis** Fabr., 1794) to the Brazilian economy can be estimated by the annual sugarcane crop loss of US$ 10 million, caused by this insect.

Aiming at obtaining data regarding the distribution of this insect, mass rearing was started in November, 1972 at CENA's laboratories for marking and release. The technique initially adopted was the one described by HENSLEY & HAMMOND (1968). With the objective of trying to improve the method research was directed towards:

1) finding a procedure for separation of egg masses from the insects, and

2) automatization of placement of eggs in the rearing cups.

The first problem was solved by adopting a technique similar to the one described by RETNAKARAN & FRENCH (1971) for the separation of egg mass of the spruce budworm (**Choristoneura fumiferana** Clemens). To obtain the eggs of the borer polyethylene bags were used, with 18 cm side (400 cm3) and 5 pairs of insecta were put in each bag. The advantage of the plastic substrate is that the eggs do not adhere to it and can be taken out with a pair of tweezers. When the egg masses (approx 2000 eggs) reached the "black eye" stage they were put in an Erlenmeyer flask (125 cm3) containing 60 cm3 of 0,1% sodium hydroxide solution which was

then magnetically stirred for 10 minutes at 35°C. The eggs were then sieved through a fine mesh and washed under flowing distilled water and then under 70% ethanol for 3 minutes. The separated eggs were then suspended in 50 cm3 0,3% bacto agar solution.

The second problem was solved with the construction of a sprayer similar to GAST's (1966). The solution with the eggs was put into the sprayer tube. A solenoid valve controlled the spraying of the solution. The apparatus was mounted on a moving track, the functioning of the solenoid valve depending on the movement of the rearing cups under the sprayer. The number of eggs distributed per cup can be controlled by the density of the eggs in the solution and by the spraying control system. The viabillity of separated and sprayed eggs is 51.38% and the capacity of the apparatus is estimated at 2000 rearing cups per hour, with two operators.

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