NEW RECORD OF *EUXESTA MAZORCA* STEYSKAL (DIPTERA: ULIDIIDAE) IN MAIZE (*ZEA MAYS* L.) IN BRAZIL

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INTRODUÇÃO

Injury to maize (*Zea mays* L.) plants, especially in sweet cultivars, includes consumption of silks, reduced pollination, clipped silks within the silk channel, blank ear tips due to larval feeding, destruction of developing kernels, feeding on ears, increasing vulnerability to ear rots, and reduced grain quality (Reis *et al.*, 1980, Branco *et al.*, 1994). The principal injury occurs on the developing ear, where they often hollow out the kernels. Larvae can be found feeding along the entire length of the ear. Yield reductions can reach 100%, with peak levels of injury occurring early in the season (Seal *et al.*, 1996). Significant injury can occur even when insecticides have been applied. Sweet corn ear infestations greater than 30% usually result in the field being rejected from fresh market sale. The incidence and economic importance *Euxesta* (Diptera: Ulidiidae) in maize fields in Brazil has not been well studied and probably is underestimated.

OBJETIVOS

The objective of this work was to evaluate the incidence of *Euxesta* spp. in Brazilian maize fields and to determine the most prevalent species using two different hydrolyzed protein foods attractants, BioAnastrepha (hydrolyzed maize protein) and Torula, placed inside McPhail traps.

MATERIAL E MÉTODOS

The experiment was conducted in the experimental area of the Agriculture and Livestock Brazilian Research Institution (EMBRAPA) at the Maize and Sorghum Unit in Sete Lagoas town, Minas Gerais State, Brazil in 2009. The trial was conducted in an organic maize production system using the open - pollinated cultivar BR 106 during the fall season comparing the food attractants BioAnastrepha (maize hydrolyzed protein) and Torula, two protein sources specifically used together with traps to monitor true fruit flies compared to check plots (soapy water solution). The attractants were used at 5% concentration (300 ml solution/trap), placed inside a McPhail trap. The traps were randomly distributed in the field and spaced 40 meters apart. Two traps for each treatment composed the replications in space. Insects were removed from each trap using a fine - mesh screen and then placed inside vials containing a 70% alcohol solution. Reposition to the initial volume of solution and water was made after each evaluation period. The insects were identified and stored according to the species, attractant, and date. Identification was based on well - described morphological differences between species, such as the color pattern and distribution of spots on wings, head structure

and ovipositor (Huepe *et al.*, 1986). Voucher specimens were deposited in the entomology laboratory at Embrapa in Sete Lagoas, MG, Brazil. Data from these experiments were analyzed by one - way Analysis of Variance (ANOVA) through the computer program SISVAR (Ferreira 2000) and treatment means were compared with the Scott - Knott test ($p = 0.05$) (Scott e Knott 1974).

RESULTADOS

Only two species of *Euxesta*: *Euxesta eluta* Loew, 1868 e *Euxesta mazorca* Steyskal, 1974 (Diptera, Ulidiidae) were identified. The data on average daily number of *Euxesta* spp. caught in the traps in our first experiment indicated a significant difference among treatments. The number of insects in traps baited with BioAnastrepha was significantly higher than the number of insects obtained in traps with Torula. The lowest number of insects was obtained from the water control traps. Averaging captures of these insects across the three types of attractants, *E. eluta* was captured in much greater numbers than *E. mazorca* (*i.e.*, capture ratio of 3.4:1). Analyzing each attractant separately, the average number of insects captured was significantly different between the two species in traps containing BioAnastrepha and Torula. For *E. eluta*, there were significant differences among the average number of insects caught in relation to the attractant used. A higher number of insects was captured in the traps baited with BioAnastrepha (1721.3 insects) than the other food attractants. For *E. mazorca*, there was no significant difference in the number of insects caught between traps baited with BioAnastrepha (489.8 insects) or those containing Torula (373.5 insects). The proportion of females found in the traps was higher than the proportion of males (sex ratio ranging from 0.73 to 0.82) for all treatments. This is the first report of *E. mazorca* in Brazil. Adults feed on pollen, nectar, plant sap and glandular exudates. Mating generally occurs at dusk and dawn. *Euxesta mazorca* is slightly larger than *E. eluta*. Wing bands are much darker and completely cross the wing in *E. mazorca*, as opposed to *E. eluta*. Previous researchers have observed that protein - based attractants, combined with McPhail traps are among the most efficient in trapping *Anastrepha* spp. in fruit trees (Monteiro *et al.*, 2007). BioAnastrepha is registered in Brazil for monitoring the true fruit flies belonging to the genera *Anastrepha* and *Ceratitis*. As demonstrated in the present study, this material is also effective for monitoring *Euxesta* spp. in maize fields. The higher presence of *E. eluta* adults in maize fields may indicate a better ecological adaptation to this crop than *E. mazorca*, as was pointed out by Huepe *et al.*, (1986).

CONCLUSÃO

These findings also demonstrated Brazilian maize fields can be attacked simultaneously by *E. eluta* and *E. mazorca* with a predominance of the former. The commercial hydrolyzed protein BioAnastrepha can effectively be used for monitoring the silk flies *E. eluta* and *E. mazorca* in maize fields.

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