

## THE USE OF PHEROMONE MD TECHNIQUE FOR THE CONTROL OF *OSTRINIA NUBILALIS*. PRELIMINARY RESEARCH AND FIELD APPLICATIONS.

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*Ostrinia nubilalis* Hubner is the main pest of corn, on which very high populations can develop. The economical importance of its damages is mainly related to the destination of the commercial destination of corn .

In fact in high value production like seed corn and sweet corn, several insecticide sprays are normally applied along the season.

Instead, on cow food production, the higher damage threshold due to very low value of the production, lead to a zero defence strategy.

Nevertheless, in the last few years, several studies showed that the damages caused by the insect larvae can help the development of mycotoxin-producing fungi and this raised considerably the interest on a better defence strategy approach against pest even because, due to the larvae behaviour, is not so easy to reach a good level of efficacy with the standard control tools.

With the aim of finding out new means for controlling ECB, but with low environmental impact, during the years 2003-2006 studies were carried out in order to verify the possibility of applying Mating Disruption (MD) on *O. nubilalis*.

Capillary type dispensers from Shin-Etsu Chemical Co. Ltd containing the insect heromone blend E11-14Ac: Z11-14Ac (50:50) were utilized.

In 2003-04 the application was on seed corn and cow food corn with no additional insecticide spray, instead on 2005, 2006 and even on 2007 the trials were conducted on sweet corn with additional and no additional insecticide spray.

On cow food corn, control plot was with no insecticide spray whereas on sweet corn the efficacy comparison was done with standard farm strategy plots and, where possible, no insecticide plots.

The best results were obtained on seed corn, where the MD application determined reduction of damages to one-third.

On sweet corn, where pheromone applications were integrated with Bt spray, results were unsteady.

As always happens when dealing with MD, the efficacy were greatly affected by initial pest population pressure of the target insect.

Other factors that plaid an important role where the possible difficult movement of the pheromone inside the corn vegetation that may have lead to an a.i. distribution not so homogeneous and the not so perfect integrations with the additional insecticide.

Taking into consideration all this factors we can conclude that MD against *O. nubilalis* can be a possible tool to reduce the reproductive potential of the target pest but its possible application and integration with standard control strategy needs further investigation.

Key words: mating disruption, pheromones