Studii şi Cercetări	Mai 2010	Biologie	19	61-62	Universitatea"Vasile Alecsandri" din Bacău

USE OF SYNTHETIC PHEROMONES FOR SEQUENTIAL MONITORING OF *PLUTELLA XYLOSTELLA* L. SPECIE IN SUMMER CABBAGE

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Key words: *monitoring, diamondback moth, summer cabbage*

INTRODUCTION

The diamondback moth is harmful specie in cabbage cultures (Călin, 1998).

Gavloski (2010) monitored the populations of diamondback with the pheromone traps and the obtained data were utilised in warning and establishing of pest control treatments.

An important place in the biology and ecology of diamondback moth population is occupied by the pedo-climatic conditions (Leather, 1995). The warning and prognosis of pest occurrence as well as the estimation of larva attack have a great importance in the maintaining of diamondback moth population under the economic damage threshold attack (EDTA).

Nuessly and Larsen (2010), widely used pheromone traps to warn treatments for diamondback control. For the warning and the reduction of number of treatment applied in control of diamondback moth, SCDL Bacau and I.C.C. Cluj Napoca accomplished synthesis of variants with synthetic pheromones as well as experiments in the field during 2009 – 2010.

MATERIAL AND METHODS

The monitoring of diamondback moth pest in adult stage was accomplished using the pheromone traps with adhesive.

The sexual pheromones were assured by the Institute for Chemistry Cluj-Napoca.

Var. 2009 variant was experimented in the present study.

The pheromone traps were placed in the cabbage cultures during the entire period of vegetation, from establishing of the crop until harvest, almost 3 traps/ha, at plant level.

The pheromone capsules were changed every 3 weeks, and the surfaces with adhesive at the clogging with fauna.

The captures were collected from the pheromone traps twice a week.

The dates regarding the development of stages and generations were obtained after different observation in the field and the captures registered in the pheromone traps.

With the results obtained, the curves of male diamondback moth flight were marked out.

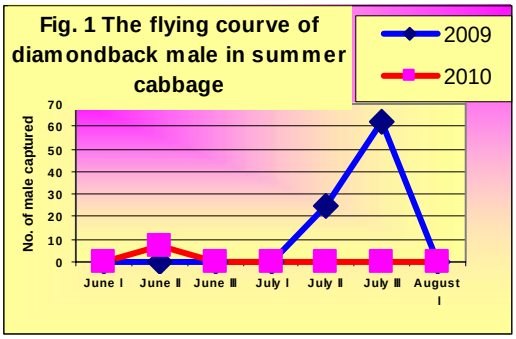
RESULTS AND DISCUSSIONS

In the summer cabbage the first generation of diamondback moth usually occurs in June or July. In 2009 and 2010, the number of pheromone captures of first generation pest, was different (table 1, fig. 1).

Table 1. The species of Lepidoptera captured on the pheromone variant Var. 2009, comparatively with Atrabras, in the first generation of noctuides

Specie	Var. 2009 - no. ex./trap			Coments
	June 2	July ll	July lll	
2009				
Plutella xyllostella L.	0	25	62	
Other species	34	45	76	
2010				
Plutella xyllostella L.	7	-	-	
Other species	38	-	-	

The dates presented for 2009 shows that the most cached butterflies were obtained in second and third decade of July. While in the second decade of July the catch number was 25. In the next decade, the number of males captured increased, reaching to 75. In the two years of experiments it was a time separation of diamondback generations (fig. 1).



Thus in 2010 due to numerous and large precipitation falling in May, June adults were in small numbers.

In 2009, adults were taken in decades II and III of July.

In late July, it was the beginning of summer cabbage harvest, which is why the diamondback moth attack had no economic importance.

The large number of adults captured in the two generations, indicates a good efficacy of synthetic pheromone in the diamondbac moth population monitoring.

CONCLUSIONS

Four species of pests were caught in 2008 with variant of pheromone trap Var. 2009: *Mamestra brassicae* L., *Discestra trifolii* H., *Autographa gamma* L. and *Agrotis* spp. Most of the captures belonged to diamondback moth specie, in variant V1 - Mb – 2008 – 1.5 males/trap.

The flight of pests started in the second part of May, the maximum of curve was registered in the third decade of this month.

At the beginning of June the male flight finished, the diamondback moth being present in cabbage crops only in larva stage.

In 2009 the population of diamondback moth was under Economical Damage Level (EDTA).

In 2010 the flight started in the third decade of May and it finished in the early June. Two noctuide species were caught: *Mamestra brassicae* L. and *Discestra trifolii* H.

The most catches belonged diamondback moth species.

The large number of adults captured in the two years, indicates a good efficacy of synthetic pheromone in the diamondback moth population monitoring.

ABSTRACT

Experiments were carried out at Vegetable Research and Development Station Bacau during 2008 – 2010. Four species of pests were caught in 2008 with variant of pheromone trap Var. 2009: *Mamestra brassicae* L., *Discestra trifolii* H., *Autographa gamma* L. and *Agrotis* spp. Most of the captures belonged to diamondback moth specie, in variant V1 - Mb – 2008 – 1.5 males/trap.

The flight of pests started in the second part of May, the maximum of curve being registered in the third decade of this month. At the beginning of June the male flight finished, the diamondback moth was still present in cabbage crops but only in larva stage. In 2009 the population of diamondback moth was under Economical Damage Level (EDTA). In 2010 the flight started in the third decade of May and finished in early June. Two noctuide species were caught: *Mamestra brassicae* L. and *Discestra trifolii* H. Most of the catches belonged to diamondback moth specie.

The results obtained demonstrate the good efficacy of the new synthesized pheromone variants - Var. 2009.

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