

EFFECT OF SOME INSECT REPELLENT CROPS IN REDUCING CERTAIN BEAN AND SNAKE CUCUMBER INSECTS AND IT'S EFFECT ON YIELD

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Introduction

Bean and snake cucumber plants are liable to infestation with several insects during its grown seasons, which threaten both quality and quantity of the resultant yield. Among these insects *Thrips tabaci* (Lind.), *Aphis craccivora* (koch) and *Benisia tabaci*(Genn).

Therefore, the present work is an attempt to use some insect repellent crops such as maize, coriander, dill, parsley and celery in minimizing bean and snake cucumber insect populations and on the other hand magnifying the role of natural enemies at the environment, with special reference to the major crop yields.

Materials And Methods

On bean: Two field experiments were conducted at EL-Kanater Research station during the bean growing seasons 1999 and 2000 to study the effect of Giza 6 common bean variety as the major crop with some minor insect repellent crops named: Maize, coriander, dill and parsley to study their effect on *T. tabaci* and *A. craccivora* population density. Also the major crop (bean) was planted without minor crops (as a control). The five treatments were designed in complete randomized block system with 3 replicates and every plot consisted of 5 rows, 5 meters long and 60 cm width.

Seeds of minor crops were planted in one side of rows on the second week of February and bean was planted after two weeks in another side of the rows.

Weekly samples of 10 leaflets from each plot were chosen at random for laboratory examination.

On snake cucumber: Two field experiments were carried out at south of Tahrir during the snake cucumber growing season of 1999 and 2000 to study the effect of some insect repellent crops on the population of *B. tabaci* .The major crop snake cucumber variety flexuous was planted in one side of the row and parsley, coriander and celery (the minor plants) on the other side of each row and another treatment of snake cucumber only was used as a control. The four treatments were designed in complete randomized block system with 3 replicates and every plot consisted of 5 rows, 5 meters long and 150 cm width. Seeds of minor crops were planted in one side of row in the fourth week of May and after three weeks snake cucumber seeds were planted.

Weekly samples of 10 leaves from each plot were chosen at random for laboratory examination.

At the end of the season the major crop yield was evaluated and the average for every treatment was recorded for bean and snake cucumber.

Results And Discussion

On bean: The population average and the reduction percentages of *T. tabaci* and *A. craccivora* on bean plants under the different treatments in the two seasons 1999 and 2000 was shown in Table 1. The lowest population of the insects were found in maize and coriander treatments followed by dill and parsley treatments. Yield of bean plants per feddan in kg were shown in Table 1. All treated plants gave higher yield than untreated ones.

On snake cucumber: Data in Table 2 show that, parsley and coriander treatments had the highest percentages of reduction of *B. tabaci* and highest yield with no significant differences between them.

It is also worth mentioning that leaves of maize, coriander, dill parsley and celery are not infested by the target insects comparing with the major crops.

In this respect, Omar et al (1994) reported that intercropping cowpea with cotton was used as a cultural method to decrease target pests of cotton, *Aphis gossypii* (glover) and *Empoasca decipiens* (Paoli). Habashy (2000) found that the intercropping system of bean and cowpea as major crops with parsley, drill, coriander and maize as minor crops gave good results in reducing mite population.

Table 1. Effect of some insect repellent crops on the population of *A. craccivora* and *T. tabaci* infesting bean during 1999 and 2000 seasons in Qalubia Governorate and it's effect on the total yield.

Plant spp.	Mean, average & % reduction of <i>A. craccivora</i> nymphs /30 leaflets				Mean, average and % reduction of <i>T. tabaci</i> nymphs /30 leaflets				Total yield of common-bean kg./feddan	
	Mean of 1999	Mean of 2000	Average	% reduction of 1999 & 2000	Means of 1999	Means of 2000	Average	% reduction of 1999 & 2000	Mean of 1999	Mean of 2000
Maize	21.2	35.0	28.1	88.3	46.5	54.5	50.5	70.3	832.5	965.7
Coriander	45.0	63.3	54.2	77.4	65.2	79.0	72.1	57.6	932.4	1032.3
Dill	91.8	109.7	100.8	57.9	99.5	122.5	111.0	34.7	965.7	1132.2
Parsley	98.0	113.5	105.8	55.8	101.0	109.7	105.4	38.0	1032.3	1098.9
Untreated control	223.0	255.8	239.4		150.0	189.7	169.9		765.9	
L.S.D				18.5				13.2	103.1	157.2

Table 2. Effect of some insect repellent crops on the population of *B. tabaci* infesting snake cucumber 1999 and 2000 seasons in south of tahrir and it's effect on the total yield.

Plant spp.	Mean, average and % reduction of <i>B. tabaci</i> nymphs/ 30 leafs				Total yield of snake cucumber ton/ feddan	
	Mean of 1999	Mean of 2000	Average	% reduction of 1999 & 2000	Mean of 1999	Mean of 2000
Parley	199.7	213.9	206.8	54.6	7.81	7.11
Coriander	231.4	233.3	232.4	49.0	7.15	7.21
Celery	248.6	315.1	281.9	38.1	8.32	8.10
Untreated control	421.3	489.6	455.5		5.82	5.70
L.S.D.				6.5	1.19	1.81