

RELATIVE ABUNDANCE AND SUSCEPTIBILITY OF CUCUMBER AND COMMON BEAN VARIETIES TO INFESTATION WITH WHITEFLY AND LEAFHOPPER UNDER GREENHOUSE CONDITIONS

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Abstract: The population density and relative susceptibility of cucumber, *Cucumis sativis* L. (var., Kotia, Passandra, Nile and Asna) and common bean, *Phaseolus vulgaris* L. (var., Novax, Kentackey Wonder and A Slin Wonder) to infestation with the whitefly, *Bemisia tabaci* (Genn.) and the leafhopper, *Empoasca decipiens* (Paoli) under greenhouse conditions, were studied at the Experimental Research Center, El-Minia University during 2007 and 2008 growing seasons. The average numbers of *B. tabaci* (nymph) was higher on cucumber and common bean varieties than *E. decipiens* through the two successive seasons. The cucumber variety Katia harboured, higher numbers of the

pests followed by Nile, Passandra and Asna. Common bean varieties showed a significant difference in infestation by the two pests, Novax var., harboured higher numbers in infestation followed by A Slin Wonder and Kentackey Wonder, through the two seasons. The peak of abundance of whitefly and leafhopper occurred in April on cucumber and common bean varieties in both seasons of 2007 and 2008. The population densities of the two insect pests on vegetable crops were higher in 2007 than in 2008. Cucumber varieties counted a higher numbers of whitefly than common bean varieties. On contrast common bean varieties harboured higher numbers of leafhopper than cucumber varieties.

Key words: Cucumber, common bean, whitefly, leafhopper, susceptibility.

Introduction

Cucurbitaceous and leguminous plants are considered of the most important crops cultivated all over Egypt.

Cucurbitaceous plants, *Cucumis sativis* L. occupies an important position among vegetable crops in Egypt. According to Ministry of Agriculture records of 2005, the cultivated area was about 11043

feddans in the open field and 5404924 m² in greenhouses (Hassan *et al.*, 2007). Also, *C. sativis* L. is considered important vegetable for human consumption all over the world because of its nutritional value.

Leguminous plants (*Phaseolus vulgaris* L.) are one of the most important crops in Egypt, as well as all over the world, these crops

have high protein content which reaches 20-25% in most of dry legumes, and their proteins are considered complete compared to other vegetables.

Cultivation of cucumber and common bean plants under greenhouse are very expensive because of its sensitivity to the pest infestation and a high cost of cultivation. In addition, whitefly, *B. tabaci* and leafhopper, *E. decipiens* sucking the plant sap and transmitting virus diseases to many crops, particularly the vegetable crops under greenhouse conditions as cucumber and common bean. The population densities of the piercing sucking pests attacking vegetable crops have been studied by many investigators (Helaly *et al.*, 1990; Metwaly *et al.*, 1991 & 1995; Metwally, 1999; Mohamed *et al.*, 2000; El-Dash, 2001 and Ibrahim; 2002).

The aim of the present work is to evaluate the susceptibility of some cucumber and common bean varieties to infestation with whitefly and leafhopper and to study the population density of these pests on each of cucumber and common bean varieties.

Materials and Methods

The present work was carried out at the Experimental Research Center of El-Minia University "Shosha region". This area is located 20 Km Wt Samalute. This work was done under greenhouse conditions during the two

successive seasons of 2007 and 2008.

Seeds of the cucumber, *C. sativis* varieties (Katia, Passandar, Nile and Asna) and common bean, *Ph. vulgaris* varieties (Novax, Kentackey Wonder and A Slin Wonder) were planted in foam plates (7x12 wells). Plants of seventeen days old were transferred into greenhouse on 25 and 22 January in the first season and on 6 and 4 January in the second season for cucumber and common bean, respectively.

Weekly randomized samples of 10 leaves of each cucumber and common bean varieties in four replicates were taken from each part of the greenhouse (Northern, Center and Southern Parts) and from three different levels of plants (lower, middle and upper) through the two seasons.

Each leaf was caged carefully and sealed separately in a polyethylene bag and examined in the laboratory under stereomicroscope.

Numbers of the whitefly (nymph) and leafhopper (nymph & adult) were also recorded. Data were statistically analyzed according to Snedecor and Cochran (1967) and mean numbers were compared according to Duncan's (1955).

The classifications of the susceptibility degree of cucumber and common bean varieties were determined according to the

general mean (\bar{X}) for the two pests found per 10 leaves and the standard deviation (SD) as reported by Chiang and Talekar (1980).

The mean number of the two pests more than $\bar{X}+2SD$ was considered as highly susceptible (HS); between \bar{X} and $\bar{X}+2SD$ were susceptible (S); between \bar{X} and $\bar{X}-1SD$ were considered as low resistant (LR); between $\bar{X}-1SD$ and $\bar{X}-2SD$ were moderately resistant (MR) and less than $\bar{X}-2SD$ were considered highly resistant (HR).

Results and Discussion

1- Relative abundance:

1.1- Whitefly, *B. tabaci*:

Data in Tables (1&2) summarize the weekly numbers of individuals of *B. tabaci* (nymph), based on samples of 10 cucumber and common bean leaves through the two seasons.

Data show that during the first season *B. tabaci* was recorded in relatively high density (73.00, 67.50, 60.50 and 49.25 nymphs/10 leaves) on cucumber varieties (Katia, Passandra, Nile and Asna), and (26.00, 18.00 and 24.75 nymphs/10 leaves) on common bean varieties (Novax, Kentackey Wonder and A Slin Wonder), respectively. In the second season, highly densities (62.00, 60.25, 61.75 and 45.00 nymphs/10 leaves) were recorded on cucumber varieties (Katia, Passandra, Nile and Asna), and

(25.50, 14.25 and 14.00 nymphs /10 leaves) on common bean varieties (Novax, Kentackey Wonder and A Slin Wonder), respectively.

Data in Tables (3 & 4) and the corresponding figs. (1 & 2), show the monthly average numbers of *B. tabaci* on cucumber and common bean varieties during 2007 and 2008 seasons. The highest average numbers (337.50, 258.50, 289.00 and 210.00 nymphs/10 leaves) were counted during April on (Katia, Passandra, Nile and Asna), respectively, meanwhile (106.75, 66.75 and 97.75 nymphs/10 leaves) on Novax, Kentackey Wonder and A Slin Wonder, respectively, through April at the first season 2007. In the second season 2008, the highest average numbers (231.50, 206.00, 221.00 and 157.25 nymphs/10 leaves) on cucumber varieties Katia, Passandra, Nile and Asna, respectively, during April and (73.75, 43.75 and 59.00 nymphs/10 leaves) on common bean varieties Novax, Kentackey Wonder and A Slin Wonder, respectively.

1.2- Leafhopper, *E. decipiens*:

Data in Tables (1 & 2) show the number of the *E. decipiens* on the cucumber and common bean varieties during the first season with high densities of 7.25, 5.50, 6.50 and 4.50 nymphs & adults/10 leaves on cucumber varieties Katia, Passandra, Nile and Asna, and (17.25, 12.00 and 14.75 nymphs & adults / 10

Table(1): Average numbers of the *B. tabaci* and *E. decipiens* on cucumber and common bean varieties cultivated in greenhouse, Minia Governorate, during 2007.

Date	<i>B. tabaci</i> /10 leaves								<i>E. decipiens</i> /10 leaves						
	Cucumber				Common bean				Cucumber				Common bean		
	Katia	Passandra	Nile	Asna	Novax	Kentackey Wonder	A Slin Wonder	Katia	Passandra	Nile	Asna	Novax	Kentackey Wonder	A Slin Wonder	
Feb.	18	4.50	2.50	4.00	1.75	1.50	0.50	0.75	0.75	0.25	0.75	0.50	0.50	0.50	0.75
	25	7.25	4.75	7.25	2.25	1.50	0.75	1.75	1.00	0.75	0.75	0.50	1.75	0.75	1.25
March	4	19.50	12.75	13.75	8.50	4.00	1.75	2.75	0.75	1.00	0.50	1.0	1.75	1.00	1.50
	11	32.25	24.75	29.00	12.00	4.75	2.50	2.75	1.50	1.50	0.75	1.00	2.25	1.50	0.75
	18	45.50	36.25	39.00	20.00	6.75	4.50	3.50	1.75	1.00	1.25	0.75	4.75	4.00	3.50
	25	41.00	36.00	37.50	22.00	10.50	4.50	6.50	4.00	1.75	2.50	1.75	5.25	2.75	3.25
April	1	61.50	41.25	51.00	38.25	15.50	7.50	10.00	4.00	2.00	2.75	1.75	6.75	6.75	4.75
	8	65.25	48.50	60.50	40.50	19.50	12.25	17.50	3.00	3.00	2.75	2.25	11.75	4.00	8.50
	15	66.75	51.00	60.25	43.00	24.75	15.25	22.75	3.75	4.00	4.75	2.75	15.25	10.75	14.00
	22	73.00	67.50	57.50	49.25	26.00	18.00	24.75	7.25	5.50	6.50	4.50	17.25	12.00	14.75
	29	71.00	50.25	59.75	39.00	21.00	13.75	22.75	4.50	3.00	4.25	4.25	11.75	7.25	10.00
May	6	64.50	48.25	53.50	29.75	18.75	11.50	19.25	6.00	2.75	4.25	3.00	8.75	5.50	7.50
	13	44.50	41.75	39.50	21.75	15.50	12.00	13.00	4.50	3.00	4.50	2.00	8.50	4.50	5.25
	20	36.50	23.25	30.50	18.75	14.50	9.50	10.50	5.25	2.25	2.25	2.00	5.75	1.75	4.75
Mean		45.21A	34.91C	38.79B	24.77D	13.18A	8.16C	11.32B	3.43A	2.27C	2.75B	2.04C	7.29A	4.50C	5.75B

L.S.D. 0.05

Var.

0.784

0.574

0.348

0.461

Table(2): Average numbers of the *B. tabaci* and *E. decipiens* on cucumber and common bean varieties cultivated in greenhouse, Minia Governorate, during 2008.

Date	<i>B. tabaci</i> /10 leaves							<i>E. decipiens</i> /10 leaves							
	Cucumber				Common bean			Cucumber				Common bean			
	Katia	Passandra	Nile	Asna	Novax	Kentackey Wonder	A Slin Wonder	Katia	Passandra	Nile	Asna	Novax	Kentackey Wonder	A Slin Wonder	
Feb.	10	2.75	1.75	1.50	1.00	0.75	0.50	0.50	0.25	0.25	0.75	0.25	0.50	0.50	0.50
	17	3.25	2.25	1.75	1.50	1.00	0.50	0.75	0.50	0.50	0.50	0.50	0.50	0.50	0.50
	24	3.50	1.75	3.50	1.50	1.00	0.50	1.50	1.00	0.50	0.50	0.50	1.75	1.25	1.50
March	2	5.75	3.75	4.75	1.75	1.75	1.75	2.50	0.75	0.75	0.50	0.50	1.25	1.75	1.75
	9	7.00	5.50	7.25	4.25	1.75	1.50	2.00	0.75	1.00	0.50	1.00	1.50	1.25	1.75
	16	10.00	10.00	11.00	4.25	5.00	2.50	1.50	1.50	0.75	0.75	1.50	2.75	1.75	1.25
	23	20.50	11.25	18.50	9.50	7.00	4.00	4.50	1.25	1.50	1.50	0.50	3.75	1.50	2.25
	30	30.00	22.50	24.25	18.50	7.50	6.25	7.50	1.25	1.00	1.25	1.00	4.25	2.25	2.50
April	6	50.25	40.50	47.75	31.25	10.75	6.75	8.25	3.00	1.75	1.75	1.75	5.75	2.75	4.50
	13	59.50	58.50	60.50	41.50	19.00	9.25	14.50	4.75	2.00	2.50	2.00	10.00	4.00	8.50
	20	62.00	60.25	61.75	45.00	25.50	14.25	14.00	7.75	5.50	6.00	5.50	17.25	10.75	14.75
	27	59.75	46.75	51.00	39.50	18.50	13.50	17.25	5.25	3.75	5.25	4.00	14.25	9.00	13.00
	Mean	28.29A	23.89C	26.25B	17.23D	9.03A	5.57C	7.25B	2.55A	1.82BC	2.11B	1.70C	5.66A	3.34C	4.62B
May	4	44.25	39.75	40.75	26.25	18.25	10.75	14.25	5.00	3.50	4.00	3.00	8.50	7.25	8.00
	11	37.50	29.00	33.25	15.50	9.00	6.00	7.50	2.75	2.75	3.75	1.75	7.25	2.25	4.00
Mean	28.29A	23.89C	26.25B	17.23D	9.03A	5.57C	7.25B	2.55A	1.82BC	2.11B	1.70C	5.66A	3.34C	4.62B	

L.S.D. 0.05

Var.

0.594

0.481

0.311

0.889

leaves) on common bean varieties Novax, Kentackey Wonder and A Slin Wonder, respectively. In the second season 2008, the high densities reached 7.75, 5.50, 6.00 and 5.50 nymphs & adults/10 leaves on cucumber varieties Katia, Passandra, Nile and Asna, respectively, and (17.25, 10.75 and 14.75 nymphs & adults/10 leaves) on common bean varieties Novax, Kentackey Wonder and A Slin Wonder, respectively.

Data in Tables (3 & 4) and the corresponding figs. (1 & 2), show the monthly average numbers of *E. decipiens* on cucumber and common bean varieties during 2007 and 2008 seasons. The high average numbers (22.50, 17.50, 21.00 and 15.50 nymphs & adults/10 leaves) on cucumber varieties were counted during April on Katia, Passandara, Nile and Asna, respectively, and (62.75, 40.75 and 52.00 nymphs & adults/10 leaves) on common bean varieties Novax, Kentackey Wonder and A Slin Wonder, respectively. In the second season 2008, the high densities reached 20.75, 13.00, 15.50 and 13.25 nymphs & adults/10 leaves on cucumber varieties Katia, Passandra, Nile and Asna, respectively, during April and 47.25, 26.50 and 40.75 nymphs & adults/10 leaves were also counted during April on common

bean varieties Novax, Kentackey Wonder and A Slin Wonder, respectively.

From the abovementioned results, it may be concluded that, all cucumber and common bean varieties are suitable hosts for whitefly and leafhopper with different degrees. Cucumber varieties mounted higher numbers than common bean varieties with whitefly. On contrast common bean varieties harboured higher numbers with leafhopper than cucumber varieties. The population of the insect pests was relatively higher in 2007 than 2008 season, this result may be related to the prevailing weather conditions during 2007 than 2008. Generally, the peak number of the pests was recorded during April for both cucumber and common bean varieties during the two seasons. Therefore, the control measure of these pests must be applied before April by using the recommended and more safe insecticides to prevent pollution. These results agreed with other obtained by Rizk *et al.* (1990), Abou El-Saad (1998), Kamel *et al.* (2000), Gamieh & El-Basouny (2001), Ibrahim *et al.* (2001), El-Duweini *et al.* (2003), Abou-Attia *et al.* (2004), Omar *et al.* (2004), Taha *et al.* (2004) and Hegab *et al.* (2005).

Table(3): Monthly average numbers of the *B. tabaci* and *E. decipiens* on cucumber and common bean cultivated in greenhouse, Minia Governorate, during 2007.

Month	<i>B. tabaci</i>				Mean
	Cucumber variety				
	Katia	Passandra	Nile	Asna	
Feb.	11.75	7.25	11.25	4.00	8.56 D
March	138.25	109.75	119.25	62.50	107.44 C
April	337.50	258.50	289.00	210.00	273.75 A
May	145.50	113.25	123.50	70.25	113.13 B
Mean	158.25 A	122.19 C	135.75 B	86.69 D	
	Common bean variety				
	Novax	Kentackey Wonder	A Slin Wonder		
Feb.	3.00	1.25	2.50	2.25 D	
March	26.00	13.25	15.50	18.25 C	
April	106.75	66.75	97.75	90.42	
May	48.75	33.00	42.75	41.50 B	
Mean	46.13 A	28.56 C	39.63 B		
Month	<i>E. decipiens</i>				Mean
	Cucumber variety				
	Katia	Passandra	Nile	Asna	
Feb.	1.75	1.00	1.50	1.00	1.31 D
March	8.00	5.25	5.00	5.00	5.81 C
April	22.50	17.50	21.00	15.50	19.13 A
May	15.75	8.00	11.00	7.00	10.44 B
Mean	12.00 A	7.94 C	9.62 B	7.12 C	
	Common bean variety				
	Novax	Kentackey Wonder	A Slin Wonder		
Feb.	2.25	1.25	2.00	1.83 D	
March	14.00	9.25	9.00	10.75 C	
April	62.75	40.75	52.00	51.83 A	
May	23.00	11.75	17.50	17.42 B	
Mean	25.50 A	15.75 C	20.13 B		

L.S.D. 0.05

Var. 2.699 2.056 0.999 1.793

Month 2.699 2.374 0.999 2.071

Table(4): Monthly average numbers of the *B. tabaci* and *E. decipiens* on cucumber and common bean cultivated in greenhouse, Minia Governorate, during 2008

Month	<i>B. tabaci</i>				Mean
	Cucumber variety				
	Katia	Passandra	Nile	Asna	
Feb.	9.50	5.75	6.75	4.00	6.50 D
March	73.25	54.00	65.75	38.25	57.81 C
April	231.50	206.00	221.00	157.25	203.94 A
May	81.75	68.75	74.00	41.75	66.56 B
Mean	99.00 A	83.62 C	91.87 B	60.31 D	
	Common bean variety				
	Novax	Kentackey Wonder	A Slin Wonder		
Feb.	2.75	1.59	2.75	2.33 D	
March	23.00	16.00	18.00	19.00 C	
April	73.75	43.75	59.00	58.83 A	
May	27.25	16.75	21.75	21.92 B	
Mean	31.69 A	19.50 C	25.37 B		
Month	<i>E. decipiens</i>				Mean
	Cucumber variety				
	Katia	Passandra	Nile	Asna	
Feb.	1.75	1.25	1.75	1.25	1.50 D
March	5.50	5.00	4.50	4.50	4.87 C
April	20.75	13.00	15.50	13.25	15.62 A
May	7.75	6.25	7.75	4.75	6.62 B
Mean	8.94 A	6.37 C	7.37 B	5.94 C	
	Common bean variety				
	Novax	Kentackey Wonder	A Slin Wonder		
Feb.	2.75	2.25	2.50	2.50 D	
March	13.50	8.50	9.50	10.50 C	
April	47.25	26.50	40.75	38.17 A	
May	15.75	9.50	12.00	12.42 B	
Mean	19.81 A	11.69 C	16.19 B		

L.S.D. 0.05

Var.	1.952	1.658	0.910	0.940
Month	1.952	1.915	0.910	1.085

2007

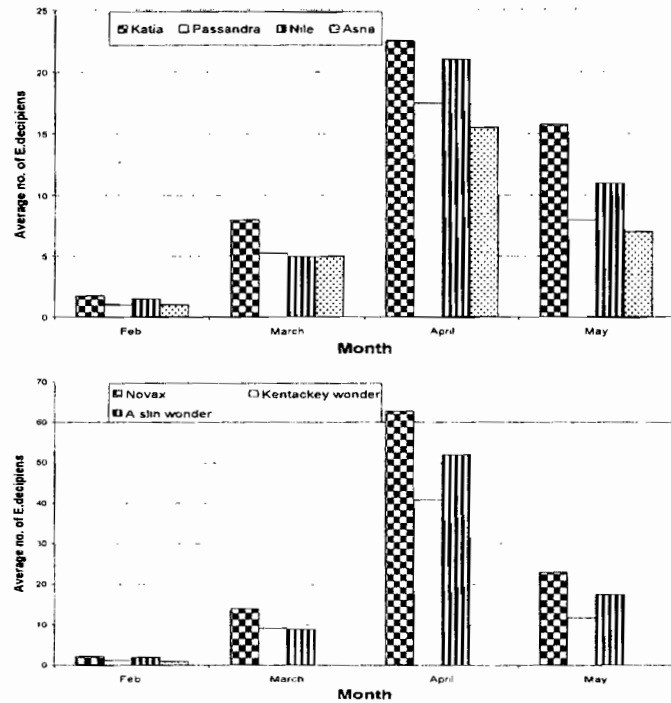
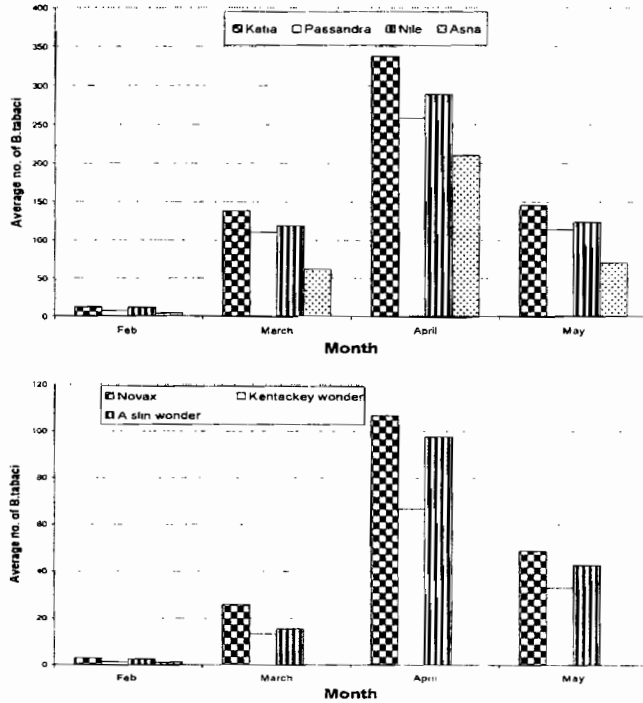


Fig. (1): Monthly fluctuations of the *B. tabaci* and *E. decipiens* on cucumber and common bean cultivated in greenhouse, Minia Governorate, during 2007.

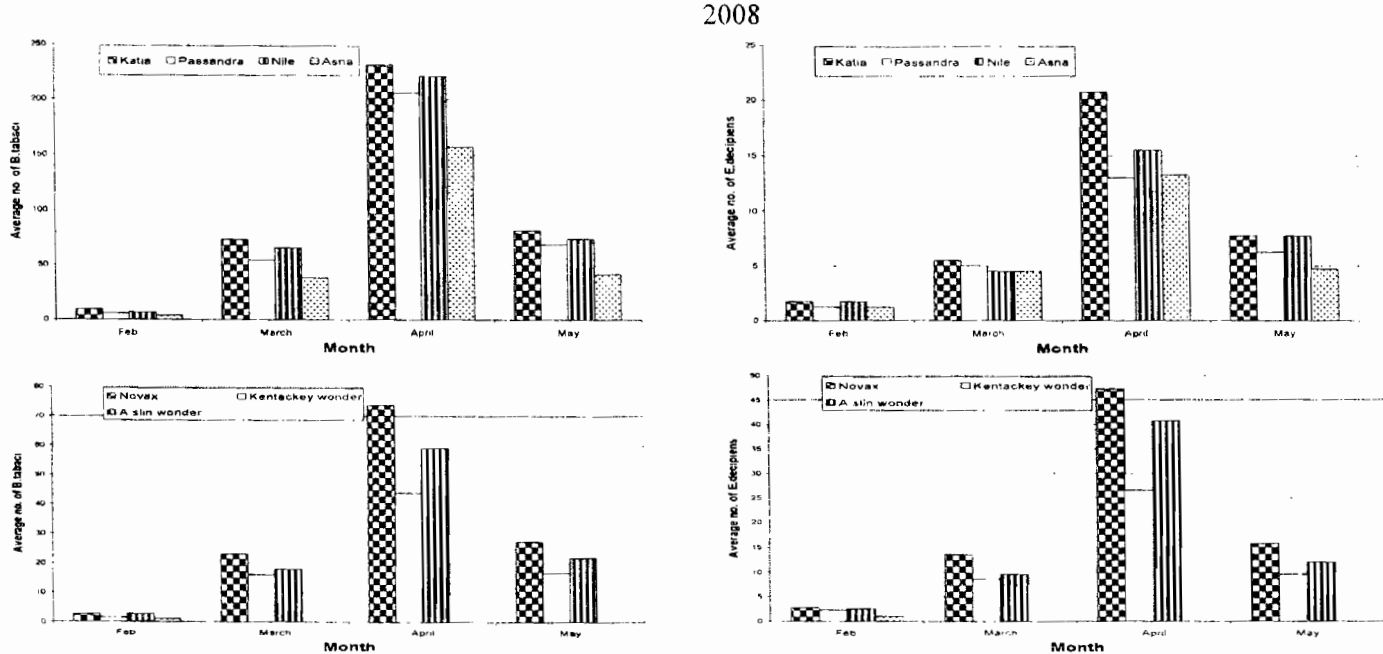


Fig. (2): Monthly fluctuations of the *B. tabaci* and *E. decipiens* on cucumber and common bean cultivated in greenhouse, Minia Governorate, during 2008.

2- Relative susceptibility of cucumber and common bean varieties:

2.1- Whitefly, *B. tabaci*:

Data of the susceptibility of the four cucumber varieties and three common bean varieties to the infestation with *B. tabaci* (nymph), are shown in Table (5). Statistical analysis revealed that the tested cucumber and common bean varieties were significantly different in their susceptibility to the infestation with *B. tabaci*. According to the levels of infestation during the two seasons 2007 & 2008, the tested cucumber and common bean varieties could be classified into three groups:

Group (1): Susceptible varieties (S): with Katia and Nile, the average numbers of *B. tabaci* were (45.21 & 38.79) and (28.29 & 26.25) and Novax average numbers of *B. tabaci* were (13.18) and (9.03) during 2007 and 2008, respectively.

Group (2): Low resistant varieties (LR): with Passnadra, the average numbers of *B. tabaci* (34.91) and (23.89), respectively, and A Slin Wonder average numbers of *B. tabaci* were (11.32) and (7.25) during 2007 and 2008, respectively.

Group (3): Moderately resistant varieties (MR): with Asna the average numbers of *B. tabaci*

were (24.77) and (17.23), respectively, and Kentackey Wonder average numbers of *B. tabaci* were (8.16) and (5.57) during 2007 and 2008, respectively.

2.2- Leafhopper, *E. decipiens*:

Data in Table (5) show the susceptibility of four cucumber varieties and three common bean varieties to the *E. decipiens* (nymph & adult).

Statistical analysis showed that the tested cucumber and common bean varieties were significantly different in their susceptibility to the infestation with *E. decipiens*. According to the levels of infestation shown during both seasons, the tested varieties could be classified into three groups:

Group (1): Susceptible varieties (S): with Katia and Nile, the average numbers of *E. decipiens* were (3.43 & 2.75) and (2.55 & 2.11), respectively, and Novax average numbers of *E. decipiens* were (7.29) and (5.66) during 2007 & 2008, respectively.

Group (2): Low resistant varieties (LR): with Passandra, the average numbers of *E. decipiens* were (2.27) and (1.82), respectively, and A Slin Wonder average numbers of *E. decipiens* were (5.75) and (4.62) during 2007 & 2008, respectively.

Table(5): Average numbers and susceptibility degree of cucumber and common bean varieties to infestation with *B. tabaci* and *E. decipiens*, Minia Governorate, during 2007 and 2008 seasons.

Variety	Average numbers and susceptibility degree				Mean	Susceptibility degree
	<i>B. tabaci</i>					
	2007		2008			
Katia	45.21 A	S	28.29 A	S	36.75 A	S
Passandra	34.91 C	LR	23.89 C	LR	29.40 C	LR
Nile	38.79 B	S	26.25 B	S	32.52 B	S
Asna	24.77 D	MR	17.23 D	MR	21.00 D	MR
Mean	35.92		23.91			
Novax	13.18 A	S	9.03 A	S	11.11 A	S
Kentackey Wonder	8.16 C	MR	5.57 C	MR	6.86 C	MR
A Slin Wonder	11.32 B	LR	7.25 B	LR	9.28 B	LR
Mean	10.89		8.28			
	<i>E. decipiens</i>					
	2007		2008			
Katia	3.43 A	S	2.55 A	S	2.99 A	S
Passandra	2.27 C	LR	1.82 BC	LR	2.04 C	LR
Nile	2.75 B	S	2.11 B	S	2.43 B	S
Asna	2.04 C	MR	1.70 C	MR	1.87 D	MR
Mean	2.62		2.04			
Novax	7.29 A	S	5.66 A	S	6.47 A	S
Kentackey Wonder	4.50 C	MR	3.34 C	MR	3.92 C	MR
A Slin Wonder	5.75 B	LR	4.62 B	LR	5.18 B	LR
Mean	5.85		4.54			

Means followed by the same letter in each column are not significantly different at 0.05 level of probability.

Group (3): Moderately resistant varieties (MR): Asna variety (2.04) and (1.70), respectively, and Kentackey Wonder variety (4.50)

and (3.34) during 2007 & 2008, respectively.

In conclusion, the foregoing results indicated that all the tested

cucumber and common bean varieties were infested by *B. tabaci* and *E. decipiens* during the two successive seasons.

The varieties of cucumber and common bean revealed clear differences in their susceptibility to the pests infestation. According to Chiang and Talekar (1980), these differences may be attributed to the leaf thickness and the characters of each cucumber and common bean varieties and to the quantity and quality of the sap occupied in each one. The present results are also in agreement with those Faris *et al.* (1991), Taha *et al.* (2001), Hafez (2002), Salman *et al.* (2002), Abou El-Saad (2006) and El-Doksh (2006).

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الوفرة النسبية وحساسية بعض أصناف الخيار والفاصوليا للإصابة بذبابة القطن البيضاء ونطاط الأوراق تحت ظروف البيوت المحمية

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تم دراسة الوفرة النسبية وحساسية بعض أصناف الخيار (كاتيا - باسندرا - نايل - أسنا) والفاصوليا (نوفاكس - كنتاكي وندر - سلين وندر) للإصابة بذبابة القطن البيضاء (حوريات) ونطاط الأوراق (حوريات وحشرة كاملة) تحت ظروف البيوت المحمية بمركز البحوث الزراعية - جامعة المنيا ، مزرعة شوشة خلال الموسمين 2007 ، 2008 .

وجد من النتائج المتحصل عليها أن متوسط تعداد ذبابة القطن البيضاء كان أعلى على أصناف الخيار والفاصوليا من نطاط الأوراق خلال الموسمين . أشارت النتائج إلى أن أصناف الخيار اختلفت في درجة إصابتها بذبابة القطن البيضاء ونطاط الأوراق حيث وجد أن أكثر الأصناف حساسية هما الصنفان كاتيا ونايل يليهما باسندرا ثم الصنف أسنا ، وكذلك وجد أنه يوجد اختلافات معنوية بين أصناف الفاصوليا حيث كان الصنف نوفاكس أعلى الأصناف حساسية للإصابة بذبابة القطن البيضاء ونطاط الأوراق ثم الصنف سلين وندر ، الصنف كنتاكي وندر حيث كان متوسط الحساسية للإصابة بالآفات .

إتضح من النتائج المتحصل عليها أن أعلى تعداد لذبابة القطن البيضاء ونطاط الأوراق سجل على أصناف الخيار والفاصوليا خلال شهر أبريل في كل من الموسمين 2007 ، 2008 . كانت أيضا الكثافة العددية لذبابة القطن البيضاء ونطاط الأوراق خلال 2007 أعلى من 2008 على أصناف الخيار والفاصوليا . ومن خلال النتائج المتحصل عليها وجد أن أصناف الخيار سجلت أعلى متوسط تعداد من أصناف الفاصوليا للإصابة بذبابة القطن البيضاء ، على العكس كانت أصناف الفاصوليا أعلى متوسط تعداد من أصناف الخيار للإصابة بنطاط الأوراق ، وهذا يعنى أن أصناف الخيار أكثر حساسية لذبابة القطن البيضاء ، وأن أصناف الفاصوليا كانت أكثر حساسية لنطاط الأوراق خلال الموسمين 2007 ، 2008 .