

a. S. littoralis :

The regression values of S. littoralis are given in Table (7). Figures showed that, the first and second periods were influenced negatively by maximum temperature in 1984 (P. reg. = - 0.97 and - 3.8). While influenced positively in the first and second period of 1985 (P.reg. = + 0.03 and + 4.43) and also in 1986 (+ 19.6) in Arab El-Ghadery locality.

The moths were influenced positively by minimum temperature in 1984 in the two periods (P. reg. = + 4.2 and + 0.34, respectively). But influenced negatively in the first and second periods of 1985 and 1986 (P.reg. = -4.4, - 2.6 and - 0.35, respectively).

S. littoralis was influenced negatively by relative humidity in the first period of 1984 (- 0.53) and positively in the second period (+ 1.47). And influenced positively in the first period of 1985 (+ 0.3) and negatively in the second (- 2.4), while positively in 1986 (+ 0.78).

In Kafr Shokr, S. littoralis was influenced positively by maximum temperature in the first period of 1984 and 1985 (P.reg. = + 0.35 and + 6.44, respectively). And influenced negatively in the second period of

Table (7) : Simple correlation "r" and partial regression (P.reg.) of three weather factors (Max., Min., temperature and relative humidity on the numbers of captured moths of S.littoralis during 84, 85 and 1986 seasons at Arab El-Ghadery, Kaliobia Governorate.

Year Peaks	Wear-ther factor	Earlier period From	To	Weeks	"r"	"b"	P	Reg.	S.E.	t	P
1984 1st period											
Max.	1st w.of Feb.	2nd w.of Feb.		1	+0.9405	+0.4365	0.01	-0.97	0.00743	130.6	0.01
Min.	"	"	"	I	+0.9728	+0.3136	0.01	+4.2	0.01169	219.6	0.01
to 4th June R.H.	"	"	"	I	+0.8168	+0.0876	0.01	-0.53	0.00977	54.3	0.01
2nd period											
Max.	3rd w.of July	3rd w.of July		0	+0.67381	+0.1135	0.01	-3.8	0.3429	11.1	0.01
Min.	3rd w.of May	"	"	8	+0.4967	+0.1981	0.05	+0.34	0.2014	1.7	-
to 2nd Oct.R.H.	2nd w.of April	"	"	13	+0.7013	+0.3066	0.01	+1.47	0.1129	13.3	0.01
1985 1st period											
Max.	4th w.of June	2nd w.of Feb.		2	+0.9664	+0.2654	0.01	+0.03	0.00615	4.9	0.05
to Min.	"	"	"	2	+0.9801	+0.2231	0.01	-4.4	0.01154	381.2	0.01
R.H.	4th w.of Oct.	"	"	14	+0.8579	+0.9481	0.01	+0.3	0.0028	90.6	0.01
2nd period											
Max.	4th w.of Mar.	3rd w.of June		11	+0.8346	+0.3959	0.01	+4.43	0.07030	63.1	0.01
Min.	"	"	"	11	+0.7654	+0.2185	0.01	-2.6	0.0681	38.2	0.01
to 1st Oct. R.H.	2nd w. of May	"	"	5	-0.8033	-0.1350	0.01	-2.4	0.0313	76.7	0.01
1986 1st period											
Max.	2nd w.of Decf	1st w.of Feb.		7	+0.9753	+0.0510	0.01	+19.6	0.00864	225.7	0.01
Min.	4th	"	"	5	+0.9583	+0.0372	0.01	-0.35	0.01230	28.5	0.01
R.H.	4th w.of Sept.	"	"	17	-0.8865	-0.0433	0.01	+0.78	0.00384	203.2	0.01

1984 and 1985 (P.reg. = - 27.6 and -6.8) and positively in 1986 (+ 11.3) (Table, 8).

The moth was influenced negatively in 1984 by minimum temperature in the first period and positively in 1985 (P.reg. = - 6.17 and + 4.3) and influenced negatively in the second period of 1984 (- 9.01) and positively in 1985 (+ 2.4), but negatively in 1986 (- 4.8).

The relative humidity affected the insect activity negatively in the first period of 1984 (- 1.77) and positively in 1985 (+ 1.7). Its effect was positive in the second period of both years (+ 5.4 and 6.0, respectively) and negative in 1986 (- 4.8) (Table, 8).

At Bahtim locality, maximum temperature affected the population fluctuation of S. littoralis positively in the first period of 1984 (+ 30.9) and negatively in 1985 (- 4.6), while its effect was negative in the second period of 1984 (- 50.6) and positively in 1985 (+ 6.8) and positive in 1986 (+ 36.6) (Table, 9).

Minimum temperature influenced negatively in the first period of 1984 (- 14.24) and positively in 1985 (+ 17.2). In the second period of both years, the

Table (8) : Simple correlation "r" and partial regression (P.reg.) of three weather factors (Max., Min., temperature and relative humidity on the numbers of captured moths of S. littoralis during 84, 85 and 1986 seasons at Kafr Shokr, Kaliobia Governorate.

Year Peaks	Wear-ther factor	Earlier period From	To	Weeks	"r"	"b"	P	Reg.	S.E.	t	P
1984 1st period	Max. 2nd w.of Feb.	2nd w.of Feb.	0	+0.9448	+0.2709	0.01	+0.35	0.0066	53.1	0.01	
2nd Feb. -	Min. " "	" " "	0	+0.9851	+0.1885	0.01	-6.17	0.0018	344.5	0.01	
4th May	R.H. " "	" " "	0	-0.8684	-0.0585	0.01	-1.77	0.01004	176.4	0.01	
2nd period	Max. 1st w.of July	1st w.of July	0	-0.9569	-0.0219	0.01	-27.6	0.5722	48.4	0.01	
1st July-	Min. 4th w.of June	" " "	1	+0.9218	+0.0253	0.01	-9.01	0.3969	22.7	0.01	
3rd Aug.	R.H. 1st w.of June	" " "	4	+0.9829	+0.1104	0.01	+5.4	0.1121	48.0	0.01	
1985 1st period	Max. 3rd w.of Dec.	2nd w.of Jan.	3	+0.9726	+0.0857	0.01	+6.44	0.0244	266.3	0.01	
2nd Jan. -	Min. 4th " "	" " "	2	+0.9674	+0.0746	0.01	+4.3	0.0263	163.3	0.01	
1st June	R.H. 1st w.of Oct.	" " "	13	+0.8211	+0.0460	0.01	+1.7	0.0089	188.6	0.01	
2nd period	Max. 2nd w.of June	3rd w.of June	1	-0.7512	-0.0355	0.01	-6.8	0.09187	74.0	0.01	
3rd June -	Min. 4th w.of April	" " "	7	+0.7711	+0.1023	0.01	+2.4	0.03079	78.0	0.01	
1st Sept.	R.H. 1st w.of April	" " "	10	+0.7249	+0.0404	0.01	+6.01	0.06999	85.7	0.01	
1986 4th Jan.	Max. 3rd w.of Dec.	4th w.of Jan.	5	+0.9789	+0.1731	0.01	+11.3	0.01686	670.3	0.01	
3rd July	Min. " "	" " "	5	+0.9341	+0.0538	0.01	-4.8	0.0201	237.0	0.01	
	R.H. 3rd w.of Sept.	" " "	17	-0.9563	-0.0689	0.01	-4.8	0.0091	525.2	0.01	

influence was negative (- 35.5 and - 21.2) and also in 1986 (- 14.5).

Relative humidity affected negatively in the two periods of 1984 (- 16.9 and - 0.8) and positively in 1985 (+ 0.8 and + 11.8) and also 1986 (+ 4.7).

The analysis of variance in Tables (10, 11 and 12) showed that in 1984 the explained variances were 94 % and 83 % in Arab El-Ghadery, 95 % and 99 % in Kafr Shokr and 99 %, 90 % in Bahtim of the variables studied.

In 1985, 95 % and 84 % in Arab El-Ghadery, and 95 % and 72 % in Kafr Shokr and 98 % and 99 % in Bahtim were taken under analysis. In 1986, the amount of variability were 95 % , 98 % and 67 % in three localities under investigation.

b. Agrotis epsilon :

Data in Tables (13, 14 and 15) show the partial regression values of the effect of the three weather factors on A. epsilon (Hufn.) activity in three locations.

Insect activity was influenced positively in 1985 and 1986 (P.reg. = + 2.6 and + 0.65) by the maximum temperature in Arab El-Ghadery location. While the influence was negative (P.reg. = - 3.1 and - 4.1) in

table (10) : Analysis of variance and explained variance of the effect of three weather factors Max., Min. temperature and R.H. % on Spodoptera littoralis moths captured by U.V. light trap at Arab El-Ghadery, Kaliobia Governorate during 84, 85 and 1986 seasons.

Year	Peak	Variance due to	D.F.	SS	MS	F	P	Explained variance %
1984	1st period	Regression	3	2820.2	940.0	98.3	0.01	94 %
		Error	15	180.0	12.0			
		Total error	18	3000.2	-			
	2nd period	Regression	3	123.37	41.0	13.2	0.01	83 %
		Error	8	24.9	3.1			
1985		Total error	11	148.4				
	1st period	Regression	3	7084.8	2361.6	82.6	0.01	95 %
		Error	13	371.6	28.6			
		Total error	16	7456.3	-			
	2nd period	Regression	3	1769.2	589.8	19.2	0.01	84 %
1986		Error	11	338.7	30.8			
		Total error	14	2104.9	-			
		Regression	3	243622.1	81207.4	137.4	0.01	95 %
		Error	20	11821.4	591.1			
		Total error	23	255443.5				