An economic study of Current Trends Against Some Cotton Pests

The agricultural production is the most important supports in the national production. And agricultural epidemics are the most important factors, which affect on it .The rates of loss in the exposed consumption ranged between 30-50% . Using pesticides budged in the latest years, which is increased productions' costs, polluted the ambience and upset the biological balance between the pests and its natural enemies. Therefore it imposed to develop the methods of pests control and to decrease the chemical treatments.This investigation contains :-The role of agricultural sector in the national econome. Threw lights on the economic effects of pests infestations.Economic evaluation of some control methods to chose the best method which give the highest income.Materials and methods of this work depend on analysis of data of production, yield/feddan, cultivated area and the net income of cotton. Also the use of some economic measurements to show the efficiency of production, the cost of this crop and treated area against cutworms, whitefly and bollworms on cotton. Some experiments carried out in complete Randomized Block Design and statistical analyzed by using "F" test and L. S. D. to determine the best method for controlling these three pests under tests.1 - First chapter (Review of Literature): Knowing the important results obtained by the earlier investigators in the field of pests control (cutworms, whitefly and bollworms).2-Second chapter (Control methods of agricultural epidemics):These methods are the natural and applied control methods. The last one includes , mechanical, agricultural, biological, chemical, integrated control and some new methods of pests control such as feeding obstacles and growth regulators.3 — Third chapter (epidemics control and development of treated area)In this part data showed that relatively importance of insecticides, fungicides and herbicides are about of 91 %, 4.5 % and 4.5 % of average of total amount of disinfectants used in Egypt during the period (1988-1997), respectively.Obtained data revealed that there was significant annual decrease of the amount of insecticides, fungicides and total amount of disinfectants used in cotton during the period (1980 — 1997) about 42 , 30 and 170 tons.Relatively importance of the current price of insecticides was significantly annual increased about 4.3 thousand L.E. and the actual price was increased annually about 0.69 thousand L.E.Current price of herbicides was annually decreased 0.18 thousand L.E.Current price of total disinfectants was annually decreased 0.47 thousand L.E. and the actual price was increased annually about 0.17 thousand L.E.Current price of insecticides was significantly annual increased about 1092.9 thousand L.E. and the actual price was significantly decreased about 1508 thousand L.E. during period (1988-1997). Current price of fungicides was significantly decreased about 23.08 thousand L.E. and the actual price was decreased annuallyabout 20.68 thousand L.E.Current price of herbicides was insignificantly increased about 84.8 thousand L.E. and the actual price was insignificantly increased annually about 26.19 thousand L.E.Current price of total disinfectants was insignificantly increased about 0.27 thousand L.E. and the actual price was decreased annually about 1553.8 thousand L.E. this increasing wassignificant.Study the side effects of much using chemical treatments indicated that it caused many effects such as :-1-Pollute the agricultural environment by the wastes of chemicals.2-Affect on the human health and his ability in work.3-Affect on the natural enemies of insects.4-Appearance of issues resist the insecticides.Study the multiple indicative request on the insecticides using multiple regression indicated there was significant opposite relation between the amount of insecticides and their current prices. The price

request flexibility was 0.44 which mean that the price request was not flexible .and there was apposite relation between amount of insecticides and cultivated area.There was significant opposite relation between amount of fungicides and cultivated area. The price request flexibility was about 4.9 which mean that The price request is flexible.The indicative request of the actual price of fungicides was insignificant and so The indicative request of the current and actual prices of herbicides.There was significant opposite relation between total disinfectants and their current prices and price request flexibility was 1.59.Treated area average against cotton's epidemics during period (1988 — 1997) was about 449 % of cultivated area .The relative averages of treated area with fungicides and herbicides were 6.2 % and 79.3 %, respectively.The relative averages of treated area for whitefly, cutworms and bollworms were 14.6 %, 9.5% and 75.9 % of average of total treated area, respectively.According to the relative averages of treated area for cutworms during period (1989-1997) in Egypt Dakahlia was the first (0.34 %) of average of treated area in Egypt (108.3 thousand feddan) followed by Sharkia (16.7 %) , Gharbia (11.7 %) , Sohag (10.9 %) , Beheira (8.9 %) , Menoufia (7.3 %) , Kafr-El Shaikh (6.8 %), Domiatt (3.2 %) , Menia (3 %) , Assiut (2.4 %), Bniswaif (2.1 %) , Qalubia (0.8 %) and Faiuom (0.3 %).According to the relative averages of treated area for whitefly Domiatt Governorate (36.46 %) of average of treated area in Egypt (106.7 thousand feddan) followed by Gharbia (19.2 %),Beheira (11.06 %) , Menoufia (9.75%) , Kafr- El Shaikh (6.8 %), Dakahlia (5.81 %) , Sharkia (5.44 %) , Sohag (2.91 %) , Assiut (2.91 %), Ismailia (0.75 %) , Menia (0.28 %) , Qalubia (0.09 %) , Bniswaif (0.06 %) and Faiuom (0.03 %).According to the relative averages of treated area for bollworms Beheira. Governorate (16.16 %) of average of treated area in Egypt 2797.2 thousand feddan , followed by Dakahlia (14.64 %), Kafr- El Shaikh (14.47 %), Sharkia (12.20 %) , Gharbia (11.44N, Menia (7.3 %) Bniswaif (6.01 %) , Menoufia (4.98%) , Assiut (3.78 %), Sohag (3.29 %) Faiuom (2.97 %). Domiatt (1.39 %) , Qalubia (1.25 %) and Ismailia Governorate(0.02 %).Study of development of treated area for whitefly, cutworms, bollwornus, total treated area for insects, total treated for fungus, total treated area for weeds and total treated area for epidemics during period (1988 — 1997) in Egypt, there were insignificant increase about 0.22 thousand feddan, significant increase about 0.045 thousand feddan, significant decrease about 0.229 thousand feddan, significant increase about 0.163 thousand feddan, significant decrease about 0.015 thousand feddan, significant decrease about 0.052 thousand feddan and significant decrease about 0.233 thousand feddan, respectively.4 - Fourth chapter (Economic cost of epidemics control on cotton in Egypt):Study of economic cost of epidemics control on cotton indicated that :The ratio of total cost of epidemics' control to total production cost was 25.93 % at (1980) then it trended to reduction to about18.34 % at (1986) and it trended to increase to 21.42 % (1987) then it trended to reduction to about 17.07 % (1990) and it trended to increase to about 35.95 % (1992) then it trended to reduction to about 22.56 % at (1995) and it trended to increase to 32.73 % then it trended to reduction to about 15.01 % at (1997)Study of development of the cost of the handle collection, chemical control, phormons and total epidemics control in one cotton's fed. In Egypt during period (1980 — 1997) indicated that , there were significant increasing about 1.68 L.E. annually, significant increasing about 9.25 L.E. annually, significant decreasing about 9.71 L.E. annually and significant increasing about 20.1 L.E. annually, respectively.Study of the relation between the cost of handle collection, actual cost of chemical treatment, current cost of phormons treatment and actual cost of total treatment on one feddan with yield of feddan during period (1980-1997) showed that the flexability factors were about 0.79, 0.67, 0.55 and 1.01, respectively.5 - Fifth chapter (study of the results of field experiments for some new methods of epidemics control) :Study of the results of cutworms' control methods during two successive seasons (1995/1996 and 1996/1997), indicated that Hostathion 50% treatment was the best method followed by Biofly treatment, Nimazal 350 cm3 /fed., and Nimazal 200 cm3 /fed., respectively, but from the environmental impact the treatment of Biofly and Nimazal will be the best.Study of results of whitefly control methods during two successive seasons (1995/1996 and 1996/1997) indicated that Biofly treatment was the best method in controlling insects with increasing yield of feddan and income of feddan, followed by Nimazal 350 cm3 /fed., mineral oil and Nimazal 200 cm3 /fed., respectively. But mineral oil treatment was the greatest benificial.Study of results of bollworms control methods by determine the percentage of injury by bollworms during two

periods (14/7 to 11/9/1995) and (14/7 to 11/9/1996) showed that, applying insecticides with phormons was the best treatment followed by phormons only and insecticides, respectively.Recommendation:1-Reduce the using of chemical treatments.2-Inform the farmers for the hazards of insecticides as well as how to use it because of their gravity for human and animals.3-Using the biological composite in controlling the pests especially Biofly for controlling cutworms.4-Using mineral oil and Biofly for controlling whitefly.5-Using phormons and insecticides for controlling bollworms.6-Using Traps and phormons to reduce the number of insects specially bollworms. 7-Inform the farmers about the agricultural developments by the scientific research center and agricultural guidance staffs.