SUMMARY

Vegetable crops are regarded as the most important crops in Egypt .At present agriculture moves toward the safe by using clean production , known as " organic agriculture " .In Egypt, the Ministry of Agriculture has demanded for the guided use of pesticides since 1990,s and the use of altrnatives or substitues in integrative Resistance program. This has led to the freedom of trading in agricultural insputs, among them are both pesticides and chemical fertilizers. Most of the studies and researches are carried out to determine the residuals in the produced agricultural products to attain the permitted minimization, in order to become according to universal qualifications, and acceptable among consumers, in both the local and world markets .

The aim of this study was to know the influence of using pesticides on the exports of agricultural products, since misuse and the immense use of pesticides result in residuals exeeding the safe limits accepted internationally. .Thus, pesticides has an abvious influence on agricultural exportation .This has ocurred concerning some exported amounts of vegetables , in general, tomatoes and potatoes, in particular. This defames the reputation of Egyptian exports, and causes the loss of many export-markets. Consequently, the gap between Egyptain exports and imports increases .

This study aimed also to recognize the different problems facing the 2 crops, under study, analyzing and measuring the influence of using pesticides on the Egyptian Vegetable expots and its effect on both production and exporting positions, by measuring views of the study growers or the sample .

Secondary data about production, area, cultivating and exporting prices, nd amounts used for 2 crops of the study are used from its published and npublished sources. Primary field data were collected by a field questionaire om and villages of El-Beheira Governorate: El-ayon, El-mahnia, Elmalka and faml El-Zogag for tomatoe,s crop; Saft-el-Aneb, Demitowa, El-tahria and El-waf for the potatoe,s crop. The test was done at 4 districts: Kom Hamada and

Etai El-Baroud for the crop of potatoes ; Kafer El Dawar & Etai El-Baroud for the crop of tomatoes. The study dependes on the random selection of the sample growers of both tomatoes and potatoes. The total number of growers of the sample was 196; 63 growers of tomatoes and 133 of potatoes. The statitsical methods of analysis used included regression and stepwise one to test for Signifance .

The study included six chapters.The " frist chapter " reviews literature and previous studies concerned with the effect of using pesticides on the exports of the Egyptian vegetables, as well as, studies related to the 2 crops of tomatoes and potatoes .

The Second chapter presents the theoritical framework of the integrative protection for agricultural pests by studying the integrative prodection's components. It follows the effect of using pesticides on some Egyptian vegetable–exports, according to its historical development, as well as, the positive and neagtive effect of using pesticides. The negative effect of using man,s pesticides. is related to man injury and health , environmental pollution , and its effect on the wild living.On honey bees, it also has harmful effect on plants, if it is used intensively. Consequently, pesticide,s kill useful organisms in the soil and its extensive use negatively affects the plants .

By studying the developing of Egyptian imports from insecticides & herbicides during the period (1985 –2002), we rate the local movement toward minimizing use of pesticides, the annual decrease of Egyptian imports fron insecticides , herbicides were about 7 , 17 %, 2 .8,7.07 % , 78%, respectively during the study period. This has led to the annual increase of Egyptian export of tomatoes and potatoes, 5.48 % , 5.9 %, respectively . Meanwhile, the refuse amounts decreased for the 2 crops ; about 11.9 % and 33.08 %. As for th amount of pesticides consumed in Egypt during the period (1985-2002) , the was an annual decrease about, 6.3 % and the value of consumed pesticide according to current prices is increased, about , 8.65 % . The real prices a

decreased yearly about, 2.88%. It was found that the consumed pesticides.annually , increased in current prices by about 12, 11 %, but the actual prices increased yearly, about 2.96 % . The study examined the portion of used pesticides. & it was found that the yearly decrease according to soil unit, is about, 7.93 %, -8 %- 4 %, of insecticides and herbicides, respectively, during the study period. It was estimated about, 8.47 % for the total use of pesticides. for the land unit, by feddan . It is also found that the yearly international imports increased by about 4.54 % while it was found to decrease in Egypt. However, this was not statistically confirmed .

The thrid chapeter,s first Section studied the most important growing varieties of tomatoes & potatoes , developing its grown area , total production & productivity in Egypt.The area of vegetable crops was found to increase yearly by about 1.35 % . About the area cultivated by potatoes crop, it is not statstically confirmed. The total annual increase of tomatoesis about, 3.97 % .While, Potatoe's increase is not confirmed statistically . As for the averge of Feddan's yearly productions, it was found to increase about, 0.83%, 2.78 % Ton /Feddan for both potatoes and tomatoes, respectively, during the study period .

The second part of the 3rd .chapter studies costs of production for the 2 crops on the Egyptian level by the current prices ; the yearly change rate of total costs, for potatoes is about 9.27%, 7.65 % for both the summer and Nili crops , respectively . The actual prices , rate of yearly change is about , 3.84 % , 2 % for both summer & Nile Potatoes , respectively .

Farm prices showed that the rate of yearly variability of farm prices of ɔotatoes was, about, 10.4 % 7.85 % for both Summer and Nili crops espectively. Actual price's rate of yearly change is about 0.28 % for the ummer crop , and the significant decrease of Nili crops is not confirmed . The et revenues of potatoe's rate of vegetable, about 12.3 % but Nili crop's gnificance is not confrimed .

Tomatoes yearly of change in total costs is about , 8.11 % , 8.20 %, 6.96 % for summer, winter & Nili seasons , respectively .The real Prices' yearly rate of change is about 2.36 % . 2.28% for the summer & winter seasons and there was an increase for the Nile season. Studying the farm,'s prices date showed that the yearly change rate of tomatoes farm prices was about, 20 % , 7.3 % 4.28 % for the summer, winter & Nili seasons, resepectively, & the significance of the summer crop is not confirmed .The net revenue for tomatoes , reaches a yearly change rate , about , 9.6 %, 7.55 , 3.67 % , For the summer, winter & Nili crops. The summer crop significant increase and the Nile crop decrease were not confirmed .

The fourth Chapter demonstrates the studies foreign trade of the exports of Egyptain vegetables of tomatoes & Potatoes. It shows that the rate of yearly change of Egyptian exports is about , 7.76 % , whereas, national imports reaches 1.33 % .Failure in trade balance is about , 11.34 % .Agricultural export's rate of yearly change is about 8.78 %. Agricultural imports are about 9.11 % and failure in agricultural balance is about 9.16 %. Agricultural exports are about, 11.63 %, out of the national exports . As for developing international exports for potatoes, the rate of yearly change is about , 2.11% . The European exports comes " First " it is about 73 % out of the international exports ; Asia comes " Second " with relative importance about , 9.79 % but Africa comes " Fourth " with a significant rate , about 3.85 % . The rate of yearly growth is about 1.79 % and change rate is about 2.65 % .So , Egypt is the most important export country in Africa. The yearly change of international exports of Tomatoes is about , 4.05 % ; Europe comes " First " , with a rate about 53.25 % and a change rate about, 3.0 I % It is followed by North America, whose relative importance is about , 23.32 %, out of the international exports and rate of change is about, 4.24 %. Africa comes " Fourth " with proper " arate about 5.66 %, the yearly change is about 4.05% . Egypt and Morocco are the most important countries of exporting potatoes .

The Fifth chapter presents the fieldstudy of the sample, the general describing of El-Beharia Govemorate, selecting the sample, testing & stage of selecting the villages from the selected regions. It also presents the size of the sample, distributing the sample according to, types of possessions at these villages , the averge number of the family members , educational status & the number of agricultural workers.

The Sixth chapter presents the effects of using pesticides on producing & exporting potatoes & tomatoes , in three sections ; the Ist, studies production functions for the 2 crops of potatoes & tomatoes, according to the types of possesions or holdings .

I-**Tomatoes** :

The exponential function , by using the stepwise regression of the Ist type that flexibility of producing factors , shows its effect on the effective factors for crop producing of the Ist type namely, mechanical work, Redomil pesticide, Diacene. It is found that there is a positive relation between thses factors & production leading to production's increase , about , 113.4 % , 14.6 % 14.6% , 19.4 % , respectively . The effect of human labour production was negtative , about , 0.971 % .

The total flexibility is about 0.494 %. Thus, it reflects the relation of income by the deminishing capacity. It also shows production function in its exponential function by using the stepwise regression .

The factors influcing production of the 3rd type are human labor, Redomill Pesticide, and sulphur. This means that increaseing 1% of these factors increases production about 0.400%, 0.053 % , 0.131 % ton /fedddon, respectively, provided that the other factors are stable .

The determing correlative is about 0.77 % , so 77 %, of changes in the 3rd type of production are due to thses factors . The total flexibility is about 584 .It reflected the ratio of income .With the diminshing capacity, this means

incraseing used units of all thses factors about 100 % leads to increasing production rate , about 58.4% .

The production function in its exponential function by using the stepwise curve on the total level of the sample shows that it inculdes the results of the most important factor affecting producing of the crops, in terms of the total–sample level ; these are human labor, Redomill pesticides & sulphur . The production flexibility points out. The factor leading to increasing production about 0.481 % , 0.699 % , 0.120 % Ton /feddan , respectively. The total production flexibility is about 1.3, reflecting, the ratio of increasing income with capacity. This means increasing the used units of these factors about, 100 % leads to increasing production rate about , 130 % .

2- **Potatoes** :-

By estimating the relation between producing potatoes crops , ton/feddan , we know that the dependent factor , and the factors influencing production, are the independent ones . The production . function in its linear form , by using the stepwise regression shows that the most important factors influencing production in the frist type are human labor, Redomill pesticide & Diacene, Positive relationship is found between these factors & the production . By increasing these factors one unit of human work , Redomill pesticide, and Diacene leads to increasing production , about 0.I06, I.224 , 0.158 Ton/ feddan the production dimishing factor becomes about , 71.24 , 836.I , I06 . 2 Production flexibility is about , 0.002 , 0.953 , 0.II4 Egyptian pounds or L.E The total production flexibility is about , I.069 ; indicating that the functior reflects the relation of income with the increased capacity .This indicates that b increasing all the used units about 100%, this leads to incresing production rate about , I 06.9, provided that all other factors are stable .

The Production function of potatoes crop, in its linear from , by using th stepwise regression of the 2nd type , shows that the most important facto influencing the crop production are human labor, Redomill pesticid

Diacene.There is a postitive relationship between these factors & Production . Increasing the used factors one unit of human work, Redomill, pesticide, and Diacene leads to increasing production , about, 0.074, I..232, I..I22 ton / faddan. The diminishing value is about, 54.22 , 822.902 L.E. The Production flexibity of these factors is about , 0.00 I , 0.933 , 0.562, and total Production flexibility is about, I.562; and this indicates that the function reflects the relation of income with the increased capacity. This means that increasing the used units of all these factors about, 100 %, leads to increasing production rate, about, 155.6, provided that all the other factors are stable.

By estimating the relation between producing potatoes Ton / feddan , this means that the dependent factor & the factors influencing production are the independent factors. Production function , in its linear from , by using stepwise regression in the 3rd type , shows that the most important factors influencing production are: human labor, Redomill pesticide & Redilan, there is a positive relationshp between these factors & production . Increasing the used units one unit of human work , Redomill and Redilan increases production about 0.023 , I, I. 096, 0.96 Ton /feddan . The value of dimirishing production is about , 8.999 . 8.875.7 L.E.

The Production flexibility of these factors is about , 0.004 , 0.89 I , 0.814 . The total production flexibility is about , I. 709 . Thus , the function reflects he relation of income with the increased capacity. This indicates that by ncreasing all thses used units about, 100 %, leads to increasing rate of roduction about, 170.9% Ton / Feddan; provided the stability of all other actors .

Estimating the relation between producing potatoes Ton /Faddan i.e. the ependent factors & factors affecting productions, shows that these are the depndent factors. Thus, production function , in its linear from, using the epwise regression with the total sample level , shows that the most important ctors of producing the crop in the total sample are : human work, Redomill

pesticide, & Diacen .A positive relation is found between: human work, Redomill pesticide, Production; and a negative one between Diacen & prodction. Increasing the units used one unit of these factors leads to increasing production about, 0.047, 1.92, -0.372 ton / Feddan, respectively.The diminshing production value is about 36.3 , I 482 .9, - 287.3 L.E. & the total flexibility value is about , 0.00 I, 1.422, - 0.273, respectively. The total flexibility is about I.I5 & it reflects the relation of increasing income with capactity This indicates that increasing the used factors about 100 %, leads to increasing production about 115 %.

The second section (chapter) studies production cost function of the 4 types of possessions of the study sample. The total level of the sample shows that the 1st type of possesion, its optimum production is achieved, by the equality of diminishing cost with the average cost . It is found that it equals 29.2, 35.4, 31.63, 31.2 Ton/feddan. This amount is achieved among ‹ of the members of this type (classification). The 2rd type of possessing , the optimal size of production is found to equal ton /feddan . This is achieved among 33.3% among members of this type . In the 3rd type of holdings (3 Feddan or more) it equals ton /feddan and , This is attained among all membes of this type with a ratio 100% As for the total level of the study sample in El-Behaira Governrate, it is found that it equals ‹ 11.2, 10.69, 10.28, 10.06 ton /Feddan ; this is attained among 7.5 % , for the members of the sample .

The relative importance of the total items of cost for the feddan sampl production of tomatoes, of the study sample is studied at *El- Behair* Governorate for the agricultural season (2001/2002) .The items of costs ar arranged descendlingly, according to the importantce of each item: huma work, pesticides, mechamical work, azotic fertilizers , potassium ferilizers phospate fertilizers. The value of L.E, pesticides is about , 570 , 680 , 780 676.7 L.E., in level of holdings (less than one feddan),(one feddan to less th 3 feddans), (form 3 feddans to more than 3 feddans) & the total of the sampl

The relative importance is about , 15.85 % , 17.3 % , 18.7 % , 17.54 out of the total costs, respectively. As its relative importance is 57 % , 13.6%, 11.3 % , 6.8 % , 4.8 % , 2.57 % , 2.2 % , 1.6 % , repectivly . By adding the value of chemical fertilizers , items of costs are arranged thus : human work , chemical fertilizers , pesticides , mechamical work & seeds . This is according to the relative importance of each in the total of the comprehensive costs. Regarding the total costs including (fixed and changeable costs), we can arrange items as the following : human labor , rent , pesticides , mechanical work , manure & seeds , according to the relative importance of each concerning the total costs . The value of pesticides. is about , 415 , 460 , 473 , 499 L.E. for the types of holdings of potatoes crop: (less than I feddan), (about I faddan : 3 faddans) , (3 feddans : more than 3 feddans) . The relative umportance is about, 10.96 , 12.44 % , 14.34 % , 12.22 % out of the total costs , each , respectively. It was possible to arrange items of total costs distributed, for production factors according to necessities & wages . This is, according to, the importance of each item from, total of the whole costs, to seeds, human labor, mechanical work, pesticides, potassium & phosphate–fertilizers .

The study Recommendations

I- It is necessary for producers and exporters not to exceed the rates of chemical residuals for the exported crops, in general, and for crops of potatoes and tomatoes, in particular; these limits are appoved of by Food and Agriculture Organization (FAO) and world health organization (WHO). Adding to these the requirements demanded by the importing countries, concerning, the maximum limits of pesticides, for accepting the exported, as well as, the international well- known limits or rates which are issued in a book called CODEX.

2-Using seeds free from diseases or pests, especially the potatoes seeds imported from the European countries ; and not cultivating it in the soils that suffer from brown rotteness.

3- Since some growers of the sample use the chemical resistance , it is necessary to follow the integrative resistance in resisting agricultural & , not depending only on chemical resistance in resisting , in order to, attain the guided use of, pesticides, to void its being injured by pesticides

4- Using fertilizers recommended by the ministry of Agricultare &' observing the safety period for using pesticides, to avoid its residuals in the fruits .

5- Directing great attention to marketing studies, concerned with studying foreign markets, knowing of the taste of the consumers, the desired types for exportation, according to, shape , size, and, the packeges required for wrapping.

6- Providing great importance for marketing operations: sorting, wrapping, setting up freezers in storing places and preparation for exporting marketing frameworks by establishing.

7-Using guidance programs proivded by the Ministry of Agriculture, concerning the optimal use of fertilizers, pesticides, as well as, the other Agricultural processes, such as, dates of cultivting, irrigating, harvesting.

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THESIS

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