An Economical Study of Production and Marketing Loss For Some Crops in Ismailia Governorate

BY

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Summary

Waste is a global problem with economic, environmental and social dimensions. The real causes of food loss vary globally, as food loss is affected by crop production, its patterns, infrastructure, capabilities, marketing chains, distribution channels, and consumer purchasing practices. The food waste is a waste of resources used in production such as land - water - energy - inputs in addition to that billions of tons of waste lead to the release of greenhouse gases in the atmosphere. Food loss also directly affects economically on the income of farmers and consumers together because smallholders live on the margins of food insecurity, but for those consumers who suffer from food insecurity these are in the greatest need to obtain agricultural products with high nutritional value and affordable prices, It is therefore noticeable that food insecurity lies in the purchasing power and prices of food. The study problem focuses on the fact that the loss in the crop is one of the most important problems facing agricultural crops, which is in fact a waste of agricultural resources, especially land, irrigation water and capital, and it is one of the limited resources in Egyptian agriculture. In spite of that, agricultural policies did not pay enough attention to crop loss its large increase in size, as the value of the losses is estimated at more than ١٥٪ of the total value of the products of the agricultural sector.

It was possible to define the research objectives to determine the factors affecting the losses during the production and marketing processes, by: measuring the productive and marketing efficiency of the study crops. Calculating the quantitative and monetary loss during the production and marketing operations. Assessing the economic effects of the losses on the level of yield and income level Al-Mazrai: Suggested alternatives to reduce losses in the different stages of production and marketing.

The study included five main chapters. The first chapter relates to the reference review and the theoretical framework for productive and marketing losses. The second chapter deals with the development of some production indicators for wheat, tomato and strawberry crops such as area, acre productivity and total production. As it turned out that the area of the wheat crop reached a minimum of about ٢٣٤١.٨ thousand feddans in ٢٠٠١, while it reached a maximum of about ٣٥٥٣.٥ thousand feddans in ٢٠١٧, with an annual average of ٢٩٧٦.٥ thousand feddans during the study period (٢٠٠٠-٢٠١٧). The wheat productivity has reached a minimum of about ٢.٤ tons per acre in ٢٠١٠, while it reached a maximum of about ٢.٩ tons per acre in ٢٠١٦, with an average annual productivity of about ٢.٧ tons during the period (٢٠٠٠-٢٠١٧).

The area of tomato crop reached a minimum of ٤٣٠.٢ thousand feddans in ٢٠٠١, while it reached a maximum of ٥٩٩.٦ thousand feddans in ٢٠٠٩ with an annual average of ٥٠٦.١ thousand feddans during the study period (٢٠٠٠-٢٠١٧). The productivity of tomato crop reached a minimum of ١٤.٥٩ tons per acre in ٢٠٠٠, while it reached a maximum of ١٧.١٤ tons per acre in ٢٠٠٩, with an average annual productivity of about ١٦.١ tons during the study period. The total production of tomato crop reached below ٦٣٢٨.٢ thousand tons in ٢٠٠١, and it reached a maximum of ١٠٢٧٨.٣ thousand tons, with an average annual production of about ٨١٠٥.٤ thousand tons during the study period (٢٠٠٠-٢٠١٧). The level of the Republic reached the lowest of about ٥.٦ thousand feddans in ٢٠٠٢, while the maximum strawberry crop at the Republic level reached about ٢٢.٥ thousand feddans in ٢٠١٦, with an annual average of ١٢.٨ thousand feddans during the study period (٢٠٠٠-٢٠١٧). The productivity of the strawberry crop at the level of the Republic has reached the lowest by about ١٠.٦ tons per acre in ٢٠٠٢, while it reached its maximum by about ٢٠.٦ tons per acre in ٢٠١٧, with an average annual productivity of strawberry crops amounted to about ١٥.٣ tons during the study period. The production of strawberry crops at the level of the republic reached below ٥٩.٤ thousand tons in ٢٠٠١, and it reached a maximum of about ٣٧٩.٧ thousand tons, with an average annual production of strawberry production at the republic level of about ٢٠٦ thousand tons during the study period (٢٠٠٠-٢٠١٧) .

It showed an increase in the total acre costs of wheat crop from about ٥٦٧ pounds per acre in ٢٠٠٠ to about ١٤٢٢ pounds per acre in ٢٠١٧, at an average cost of ٩٥١.١ pounds. The price of the wheat crop reached below ٦٩٥ pounds / ton in ٢٠٠٠, while it reached a maximum of ٢٠٨٣ pounds / ton, with an average of about ١٣٤٩ pounds / ton. Also, data from the same table shows that the wholesale price of wheat crop reached ٧٣٤

pounds / ton in ٢٠٠١, and reached A maximum of ٢٤٣٣ pounds / ton, with an average of about ١٦٠٠.٢ pounds / ton. The retail price reached ١١٢٢ pounds / ton in ٢٠٠٠, while it reached a maximum of ٢٤٨٦ pounds / ton in ٢٠١٧, with an average of ١٧٨٠.٢ pounds / ton. The total acres of tomato crops increased from about ٢٠٦ pounds per acre in ٢٠٠٣ to about ٩٥٢ pounds per acre in ٢٠١٧, with an average cost of ٣٣٥.٣ pounds. Data show that the price of the tomato crop reached ٤١٤ pounds / ton in ٢٠٠١, while it reached a maximum of ١٧٠٨ pounds / ton, with an average of about ٩٢٥.٩ pounds / ton. Data from the same table also showed that the wholesale price of tomato crop reached ٦٤٩ pounds / ton in ٢٠٠٠, and it reached a maximum of ١٩٨٨ pounds / ton, with an average of about ١٢٩٦.٣ pounds / ton. The retail price was below ٧٣٧ pounds / ton in ٢٠٠٠, while the maximum ٣٣١٩ EGP / ton in ٢٠١٧, with an average of about ١٩٣٦,٣ EGP / ton. Increasing the total acre costs of strawberry crops from about ٦٤٨.٢ pounds per acre in ٢٠٠١ to about ٢٢٦٠.٣ pounds per acre in ٢٠١٧, with an average cost of ١٣٥٨.١ pounds. The product price for the strawberry crop reached ١٠٥٠ pounds / ton in ٢٠٠٠, while the maximum amount reached ٣٣٧٣.٣ pounds / ton, with an average of about ١٩٩١.٧ pounds / ton. The data of the same table also showed that the wholesale price of the strawberry crop reached ١١٩٢ pounds / ton in ٢٠٠٠, and reached a maximum of ٤٣٨٠ pounds / ton, with an average of ٢٤١٦.٦٢ pounds / ton. As for the retail price of a strawberry ton, it reached below ١٩٩٥ pounds / ton in ٢٠٠٠, while it reached a maximum of ٤٩٣٠ pounds / ton in ٢٠١٦, with an average of ٣١٥٧.٣ pounds / ton.

The third section was concerned with the selection and description of the study sample and the analysis models used. The proportional distribution method was chosen for the relative importance of the cultivated area of the wheat crop. The proportional distribution method for the relative importance of the cultivated area and the number of holders in the sample distribution was chosen for the most important centers of Ismailia governorate in which wheat is grown. Thus, the study sample consists of ٣ farmers from the Ismailia Center, ١٤ farmers from the Abu Swear Center, ١٢ farmers from the West Qantara Center, ٩ farmers from the Great Hill Center, ١٠ farmers from the East Qantara Center, ٨ farmers from the Qassasin Center and ٤ farmers from the Fayed Center , And that is among the total of ٦٠ individual farmers in the study sample, and the members of the sample were distributed in each center according to the relative importance of the area and the relative importance of the number of holders.

As for the tomato crop, the Big Hill Center got ٦ farmers, the West Qantara Center has ١٠ farmers, the Qassasin Center has ٦ farmers, the

Abu Sawyer Center has ٣٢ farms, the Ismailia Center has ٤ farmers, and the Fayed Center has ٢ farmers, from The total number of the study sample population is ٦٠ individuals, and the members of the sample were distributed in each center according to the relative importance of the area and the relative importance of the number of holders. The strawberry yield obtained ٦ farmers, the Abu Sawyer Center obtained ١٠ farmers, the Qantara Center West on ٣٣ farmers, and the Fayed Center ٢ , And the tall hill on the ١st, and the qassasin center on ٢٠ farmers, among other things Sponsor ٦٠ study samples. The fourth chapter is concerned with the use of field study data for the sample of farmers of studied crops (wheat, tomatoes and strawberries) during the agricultural season (٢٠١٦-٢٠١٧), and to achieve the research goals in this study, the data for the various variables were analyzed using the appropriate statistical methods through economic models consistent with the desired goals Achieved.

This section includes three chapters, the first chapter is concerned with studying the factors that affect the production of studied crops through studying the production functions and the results of the study with respect to the wheat crop showed the efficiency of using the production elements of the wheat crop in the study sample in Ismailia Governorate by the element efficiency factor (marginal product value / unit price The element (from the same table shows the high efficiency factor of the elements of human work, as it reached about ١.١٦, i.e. approaching the correct one, at which the marginal product value is equal to the unit price of the element used, which represents the maximum efficiency limit -. For the rest of the production factors, the efficiency factor for each of the municipal fertilizers, nitrogen, seeds and phosphates was estimated at ١.٨, ٧.٠٥, ٢.٩ and ٢.١٦, respectively. A better efficiency level could be achieved by increasing the quantities used from those production inputs within the limits of production elasticities. While the use of the element of the number of working hours, automatic and ground, the farmers of the sample had a lower efficiency degree, as it was less than one, as it reached ٠.٣ and ٠.٧٥, which means the necessity of reducing the quantities used from it.

With regard to the tomato crop, the high efficiency coefficient for human labor elements, pesticides, is about ١.٢, i.e., it approaches the correct one - which has the marginal product value equal to the unit price of the used component, which represents the maximum efficiency limit -. For the rest of the productive elements, the efficiency coefficient for each of the municipal fertilizer, manure, chick fertilizer, nitrogenous, phosphate, potassium, mechanical work and seedlings, the land was estimated at ١٧.٥, ٢٠.٣, ١.٧١, ١.٤, ١.٥, ٢.٢٥, respectively, and a better level of efficiency could be achieved by increasing The quantities used of these

production inputs are within the limits of the productive elasticities. It also showed from the results of the same table that there is a decrease in the efficiency of the use of automated work and land suppliers, which amounted to about ٠.٤٦٦ and ٠.٣, respectively.

Strawberries have a high efficiency factor for seedlings, reaching about ١.٢, i.e. approaching the correct one - which has the marginal product value equal to the unit price of the element used, representing the maximum efficiency limit -. For the rest of the productive elements, the efficiency factor for each of the municipal fertilizers, nitrogenous, potassium, and human work was estimated by ٣.٣, ٥.٧, ٢.٤, and ١.٧٣, respectively. A better efficiency level could be reached by increasing the quantities used from those productive inputs within the limits of productive elasticities. It also showed from the results of the same table that there is a decrease in the efficiency of the use of automated work and land suppliers, which amounted to about ٠.٧٣ and ٠.٤٧, respectively.

The second chapter also devoted to the statistical estimation of the average cost functions for wheat, tomato, and strawberry crops in Ismailia Governorate. The results showed that the optimum volume of production is the lowest cost by equating the average total cost function with the marginal cost function, at about ١٩.٩ ardeb per acre at a cost of ٥٣٧ pounds for the ardeb (equivalent to ١٠٥٦٦ Pounds per acre) The total revenue at the optimum production volume was estimated at ١١٥٤٢ pounds per acre. The net return over the total costs at the optimum production volume was ٩٧٦ pounds per acre. The volume of economic production (most of the profit) was estimated as equal to the average unit price of wheat for the sample farmers, which is estimated at about ٥٨٠ pounds for the salary and the marginal cost function MC, at about ٢١ ardb per acre at a cost of about ٥٣٢ pounds for the income (equivalent to ١١,١٨٩ pounds per acre), and the total revenue at The economic production volume of wheat crop is about ١٢١٨٠ pounds per acre, as the net acre yield over the total costs is estimated at ٩٩١ pounds per acre. The tomato crop is the optimal production volume that costs less by equating the average total cost function with the marginal cost function at about ٢٨.٨ tons per acre at a cost that is about ٨٢٣.٧ pounds per ton (equivalent to ٢٣٧٢٣ pounds per acre). The total revenue at the optimum production volume for tomato crops was estimated at ٧٤٨٨٠ pounds per acre. The net acre yield above the total costs was about ٥١١٥٧ pounds per acre. The economic production volume (the greatest profit) was estimated with average equality. The price per unit of production of tomato crop at the sample farmers, which is estimated at about ٢,٦٠٠ pounds per ton and the marginal cost function MC, and estimated the economic production

volume of about ٣٦ tons per acre at a cost of ٩٨٦.٩ pounds per ton (equivalent to ٣٥٥٢٨ pounds per acre), and the total revenue per acre at the economic production volume of the crop Tomato, about ٩٣٦٠٠ pounds Per acre, and the return over the total costs amounted to about ٥٨٠٧٢ pounds per acre. The strawberry yield is the optimal production volume that costs less by equating the average total cost function with the marginal cost function at about ٩.١ tons per acre at a cost estimated at about ٢١٣٧.٨ pounds per ton (equivalent to ٢٠,٧٣٧ pounds per acre), as well as The total revenue at the optimal production volume for the strawberry crop was about ٣٣,٩٥٠ pounds per acre, and the return over the total costs was about ١٣٢١٣ pounds per acre, and the economic production volume (the greatest profit) was estimated by equaling the average price of the production unit of the millet crop at the sample farmers, which is estimated at ٣٥٠٠ pounds per ton and D The marginal costs M.C. The economic production volume was estimated at about ١١.٢ tons per acre at a cost of about ٢٢٢٠.٤ pounds per ton (equivalent to ٢٤٨٦٩ pounds per acre), and the total revenue at the economic production volume was about ٣٩٢٠٠ pounds per acre, and the return over the total costs was about ١٤٣٣١ pounds per acre.

The third chapter is concerned with estimating the effect of some non-quantitative (sham) variables on the production and marketing losses of the study crops. The study results showed that for wheat yield, insect and fungal infections showed through the field study that insect and fungal infections of wheat crop had a significant impact on the productivity of the wheat crop in the study sample in the governorate of Ismailia, and to analyze the effect of that sham variable, the study sample was divided into two parts, the first section there are insect and fungal infections and the arbitration value took zero, and the second section there are no injuries and the arbitration value was taken one. That the average productivity per acre of first section farmers have insect and fungal infections was about ١.٨٧٦ tons per acre, and that the productivity of the second section of farmers who do not have an increase of about ١.١١٧ tons per acre and the significance of that increase statistically proven at the level of ٥٪, and the significance of the statistically estimated relationship at the level of ١٪. The study system The study system differed between the study sample farmers between the use of a traditional method study method and another using a modern study instrument. To study its effect on the acre productivity of wheat crop with the sample of the study, the traditional method of study was given to farmers using the study the arbitration value is zero, while the study users were given the arbitration value of one. Also, the average acre productivity for the first section was estimated at about ١.٩٣٤ tons per acre, and that the productivity of the second section used for a machine

The study (mechanization) increases by about ١.٠١٣ tons per acre, and the significance of that increase was statistically significant and the estimated relationship was at the level of significance of ٥٪. Storage by estimating the effect of the storage method on the productive loss of wheat crop in the study sample in Ismailia Governorate, showing that there are wide differences between the farms of the study sample, where the study sample was divided into two parts, the first section taking the arbitration value one and the users for places unfit for storage of the wheat crop. The second section is farmers who use well-ventilated and low-moisture storage areas and suitable for storage, so taking the arbitrary value is zero. The average acre productivity of wheat crop in the study sample for the first section is the section used for invalid stores amounted to about ١.٢٣ tons per acre, while the productivity of acres increases by ١.٥٠٥ tons per acre at The second section, which is related to wheat growers, used for storage areas suitable for use, the significance of that increase and the statistically estimated relationship were demonstrated at the level of significance of ١٪.

With regard to the tomato crop, insect and fungal infections, it was found through the field study that the insect and fungal infections of the tomato crop had a significant impact on the productivity of the tomato crop in the sample of the study in Ismailia Governorate. The second is for farmers who do not have an increase of about ١١.٥ tons per acre, and this increase was proven significant Statistically at the level of ١٪, and the significance of the statistically significant relationship at the level of ١٪. Collecting and Sorting The system for combining the study sample farmers differed between using the collection method for trained and untrained workers. To study its effect on the productive and marketing losses of the tomato crop in the study sample, the employees using the combined and sorting method for untrained labor were given the arbitrary value of zero, while the farmers using the workers for trained and combined labor were given the arbitration value of one. It turned out that the average productivity per acre for the first section and the employees for untrained labor was estimated at about ١٨ tons per acre, and that the productivity of the second section used for trained labor increases by about ١٨.٥ tons per acre representing an increase of ١.٣٪, and the significance of that increase was statistically proven and the estimated relationship at the level of significance of ١٪. The type of packaging by estimating the effect of the type of packaging used in the collection on the productive loss of tomato crops in the study sample in Ismailia Governorate. It was found that there are wide differences between the farms of the study sample. The study sample was divided into two parts. The first section took the arbitrary value of zero and used for the packaging packages for collecting the tomato crop. And the second section, the farmers who used carton

packages that were well-ventilated, low-moisture, and usable, so the arbitration value was taken one.

It was found that the average yield per feddan of tomato crop in the study sample for the first section, which is the section used for the jar packages, was about ١٥.٦ tons per feddan, while the productivity of the feddan increased by ١٤.٢ tons per feddan in the second and private section, using well-ventilated carton packaging for tomato farmers. The significance of that increase and the statistically estimated relationship were demonstrated at the level of significance of ١٪. Storage by estimating the effect of the storage method on the productive loss of tomato crop in the study sample in Ismailia Governorate, showing that there are wide differences between the farms of the study sample, where the study sample was divided into two parts, the first section taking the arbitrary value zero and the users for places unfit for storing the tomato crop. The second section, the farmers used for well-ventilated and low-moisture storage areas, is suitable for storage, so the arbitrary value is taken one. It turns out that the average feddan yield of tomato crop in the study sample for the first section is the section used for invalid stores amounted to about ١٧ tons per feddan, while the feddan productivity increases by ١٦.٦ tons per feddan That is, an increase of ٩٧.٧٪ for the second section of tomato cultivation, which is used for storage areas suitable for use, and the significance of that increase and the statistically estimated relationship were demonstrated at the level of significance of ١٪. The strawberry yield insect and fungal infections revealed through the field study that Insect and fungal infections of strawberry crops had a significant impact on the productivity of the strawberry crop for the study sample in Ismailia governorate, and it was found that the average acre productivity for first section farmers had insect and fungal infections of about ٥.١٢ tons per acre, and that the productivity of the second section for farmers without insect and fungal infections increased by about ٣.١ Tonnes per feddan, an increase of ١٠.٥٪, and this increase was statistically significant at the level of ١٪. The addition and sorting show that the average productivity of acres for the first section and the users of untrained labor was estimated at about ٥.٢٣ tons per acre, and that the productivity of the second section used for trained labor increases by about ٢.٩٧ tons per acre, with an increase of ٥٦.٨٪, and the significance of that increase was statistically significant and the estimated relationship was at a significant level of ١٪. The type of package and it was found that the average yield per acre of strawberry crop by the study sample for the first section, which is the section used for the jar packages, was about ٣.٨٨ tons per acre, while the productivity of an acre increased by ٤.٢٥ tons per acre in the second and private section by using well-ventilated cardboard packages for strawberry farmers. The significance of that

increase and the statistically estimated relationship were demonstrated at the level of significance of ١٪. Storage Results indicate that the average productivity of an acre of strawberry crop for the first study sample is the section used for invalid stores amounted to about ٤.٨٢ tons per acre, while the productivity of acres increases by ٤.٠٣ tons per acre at The second and strawberry cultivar section used for storage facilities suitable for use, the significance of that increase and the statistically estimated relationship were demonstrated at the level of significance of ١٪.

The fourth chapter included the analysis of the farm budget for the study crops that the total total costs per acre of wheat crop in Ismailia Governorate amounted to about ٩٥٢١ pounds per acre, and the fixed costs (rent per acre for the season) are about ٤٩٥٠ pounds per acre during the planting season, which represents about ٥٢,٠١٪ of the total The total costs, while the total variable costs amounted to about ٤,٥٦٩ pounds per acre, which represents about ٤٧,٩٩٪ of the total costs. By studying the variable costs items, it became clear that the cost of human work occupies the first rank in terms of relative importance, reaching ١٥٢٠ pounds per acre, representing about ١٥, ٩٪ of all variable costs Then, municipal fertilizer at a cost of ١٤٤٠ pounds per acre, representing about ١٥.١٢٪ of the total variable costs, followed by the relative importance of phosphate fertilizer with a value of ٥١٧ pounds per acre, where it represented ٥.٤٣٪ of the total variable costs, where it ranked third, then the cost of automated work comes Seed worth ٤٢٠ pounds per acre, ٣٦٠ pounds per acre from the variable commissioning total and takes fourth place with relative importance of ٤.٤١٪ and ٣.٧٨٪, respectively, then the cost of nitrogen fertilizer comes in the last place where relative importance is ٣.٢٧٪. The total total costs per acre of tomato crop in Ismailia Governorate amounted to about ٢١٠٧٠ pounds per acre, and the fixed costs (rent per acre for the season + depreciation of the irrigation network) are about ٧٠٨٥ pounds per acre during the planting season, which represents about ٣٣.٦٢٪ of the total total costs, while the total variable costs amounted to about ١٣٩٨٤ pounds per acre, representing about ٦٦.٤٪ of the total total costs. By studying the variable cost items, it became clear that the cost of buying seedlings occupies the first place in terms of importance Relative as ٣٨٧٤ pounds per acre, which represents about ١٨.٤٪ of the total variable costs, then human work at a cost of ٣٠٤٠ pounds per acre, representing about ١٤.٤٪ of the total variable costs, followed by the relative importance of municipal fertilizer with a value of ١٤٤٠ pounds per acre, where it represents ٦, ٨٣٪ of the total variable costs, where it ranks third, then comes cost Potassium fertilizer with a value of ١٣٣٥ pounds per acre, and pesticides at a value of ١١٢٠ pounds per acre of the variable commissioning and taking fourth place with relative importance of ٦.٣٤٪ and ٥.٣١٪ respectively, then comes the cost

of automated work that was estimated at ٩٥٢ pounds per acre where relative importance was estimated ٤,٥٢٪, followed by the cost of chick fertilizer, which was estimated at ٩١٢,٥ pounds per acre and of relative importance ٤,٣٢٪, and finally the cost of nitrogen fertilizer and phosphate fertilizer, which was estimated at ٨١٦ pounds per acre, ٤٩٥ pounds per acre, which is of relative importance ٣, ٨٧٪, ٢.٣٤٪, respectively.

The total costs per acre of strawberry crop in Ismailia Governorate amounted to about ١٧١٢٤ pounds per acre, and the fixed costs (rent per acre for the season + depreciation of the irrigation network) are about ٤٧٦٨ pounds per acre during the planting season, which represents about ٢٧.٨٤٪ of the total total costs, as for the total The variable costs amounted to about ١٢٣٥٥.٥ pounds per acre, which represents about ٧٢.١٥٪ of the total total costs. By studying the variable cost items, it became clear that the cost of buying seedlings occupies the first place in terms of relative importance, as it reached ٥٦٨٤ pounds per acre, representing about ٣٣.١٩٪ of Total variable costs, and then human work at a cost of ٢٦١٠ pounds Per acre represents about ١٥.٢٤٪ of the total variable costs, followed by the relative importance of municipal fertilizer with a value of ١٧٦٠ pounds per acre, where it represents ١٠.٣٪ of the total variable costs, where it occupies the third place, then comes the cost of potassium fertilizer with a value of ٥٤٦ pounds per acre, and pesticides with a value of ٥١٧ ٥ pounds per acre, from the variable commissioning total and takes fourth place with relative importance of ٣.١٨٪ and ٣.٠٢٪ respectively, then comes the cost of automated work that was estimated at ٥١٠ pounds per acre where relative importance is estimated at ٢,٩٧٪, and finally the cost Nitrogen fertilizer and phosphate fertilizer, which was estimated at ٤٢٠ pounds per acre, ٣٠٨ pounds per acre, which is of relative importance ٢,٤ ٥٪, ١.٧٩٪, respectively. The results shown in the same table also indicate that the total return per acre is estimated at ٢٤,٥٨٠ pounds per acre, and that the net yield per acre is estimated at ٧,٧٢٦ pounds per acre. The profitability of the invested pound for the strawberry crop in Ismailia Governorate is ٠.٤٥ A pound, and the profit per ton was estimated at ١٠٨٨ pounds, while the return to total costs amounted to about ١.٤٥, and since it is greater than the correct one, it indicates an economic efficiency in the production of strawberry crops and by estimating the amount of parity at which the total costs and total revenues are equal The point where profits or losses are not achieved, as it amounted to ٣,٨ tons per acre .

The fifth chapter included the relative importance of the productive and marketing losses of the study crops (wheat, tomatoes and strawberries) in the study sample in Ismailia Governorate. It was found from the study results that by calculating the productive and marketing losses of the wheat crop in the study sample in Ismailia Governorate, it was estimated

that it was estimated at about ٢.٣ ardebs per acre and that was estimated by the difference between the quantity Actual production and optimum production in the study sample of wheat crop, and through the results of the table it was found that insect and fungal infections came first, representing about ٢٤٪ of the volume of marketing losses estimated at ٠,٥٥٢ ardeb per acre, followed by the second order The storage method is not good to represent about ٢٣٪ to achieve a quantity of loss of about ٠,٥٢٩ ardeb per acre and came in the third order the method of harvest to represent about ٢٢٪ with a marketing loss of about ٠,٥٠٦ ardeb per acre, followed in the arrangement by each of the method of packing and transportation to represent each of them about ١٨٪, ١٣٪, with a marketing and production loss of about ٠.٤١٤, ٠,٢٩٩ ardeb for the tomato crop. The estimated productive and marketing loss for the tomato crop in the study sample in Ismailia Governorate turned out to be estimated at about ٤.٤ tons per acre. This was estimated by the difference between the actual production and optimal production in the study sample for tomato crop, and through Table results show a Its insect and fungal infections came in the first place, representing about ٣٨٪ of the marketing loss estimated at ١.٦٧ tons per acre, followed by the second arrangement of storage method to represent about ١٨٪ to achieve a loss of about ٠,٧٩٢ tons per acre, and in the third arrangement came price fluctuations to represent about ١٧.٤٪ to achieve a loss amount of about ٠,٧٦٥ tons per acre, followed in sequence by each method of collection, sorting, type of packaging used and transportation, each representing about ١٥٪, ٨.٦٪, ٣٪ with a marketing and production loss of about ٠.٦٦, ٠,٣٧٨, ٠,١٣٢ Tons per acre, respectively.

The strawberry crop, the productive and marketing losses of the strawberry crop in the study sample in Ismailia Governorate, it was estimated that it was estimated at about ٢.٦ tons per acre, and this was estimated by the difference between the actual production quantity and the optimal production of the study sample of the strawberry crop, and through the results of the table it was revealed that it came in the first place. ٦٪ of the volume of marketing losses estimated at about ٠.٧٤٣ tons per acre, followed by insect and fungal infections in the second order, representing about ٢١.٢٪ to achieve a loss of about ٠,٥٥١ tons per acre, and came in the third arrangement .

The type of packages used to represent about ١٧.٩٪ to achieve a loss amount of about ٠.٤٦٥ tons per acre, followed in order by each of the price fluctuations, storage method, and transportation, representing each of them about ١٥٪, ١٣.١٪, ٤.٢٪ to achieve an estimated marketing loss About ٠,٣٩٠, ٠,٣٤١, ٠,١٠٩ tons per acre Based on the findings of the study, **it is possible to recommend the following:**

١- Working to increase the productivity of an acre of study crops by increasing the quantities used of organic fertilizers, chemical fertilizers and human work, which have a positive impact on the productivity of crops.
٢- Increasing the efficiency of using the production elements in order to reach the acre productivity to the optimum production volume.
٣- Increasing extension services through the use of practices that reduce the amount of productive losses.