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ENHANCING THE ADDED VALUE OF STRAWBERRY FRUITS IN TARTOUS/SYRIA

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Abstract. *The research was conducted in Tartous Governorate for the agricultural season 2020-2021 with the aim of estimating the added value of the fresh and processed strawberry crop, and comparing them, to show the effect of the processing process on enhancing the added value of strawberry fruits .The results showed that the process of processing strawberry fruits, whether at the domestic or commercial level, contributed to enhancing the added value of strawberry fruits, including increasing the financial return, and the manufacturing process also contributed to absorbing the surplus from production. And reduce as much as possible the rate of loss.*

Keywords :*Strawberry fruits, Tartous Governorate, added value, fresh Strawberry Processed strawberry fruits, rate of loss.*

Introduction: The agricultural sector in Syria is considered a vital and important sector for other economic sectors, and an engine and generator for many agricultural industries, such as the manufacture of fodder, leather, oils, soap, wood, paper and other industries for which agricultural products represent basic inputs . On the other hand, agricultural industries work to extend the shelf life of these products and turn them into manufactured products, which increase the demand for them in the internal and external markets, and provide farmers with opportunities to sell and export their products, and avoid them from the crises of increased production and low prices, which leads to increased production and improvement of its quality, and enhances food security, and increases the volume of exports and added value [4].

However, the marketing operations that take place on agricultural products in general, and on strawberries in particular, in Syria are still traditional and lack experience. It also fails in many cases to satisfy the tastes of consumers, and in its primitiveness reflects a state of poor communication between producers on the one hand, and final consumers on the other. The weaker the marketing operations, the less added value achieved by marketing, and vice versa, as in most countries of the world, effective marketing of agricultural products is relied upon to create added value, expand existing markets, and penetrate new markets [1]

Therefore, many modern methods have been developed to evaluate the performance of economic establishments that have been able to address some of the weaknesses taken on the traditional methods, such as taking into account the issue of growth, the sustainability of results and indicators, and not being satisfied with accounting indicators that deal with numbers for a specific period, and among the most important methods and tools is the economic added value [2].

The main problem in this research, that vegetables and fruits in general, including strawberries, are among the vegetable crops most vulnerable to damage and spoilage, especially at the end of the season, as statistics indicate that about 10-15% of fresh fruits wither and become unusable at the end of the season, which leads to It effectively affects marketing efficiency and achieved profit, in addition to the fact that production takes place during specific periods during the year, while consumption takes place throughout the year.

Which in turn leads to an imbalance between the quantities offered and required, which in turn leads to price distortions, which highlighted the need to search for more effective ways to increase the added value of this fruit for long-term use, and reduce loss and spoilage, such as improving processing and preservation techniques after harvest through processes manufacturing and processing into various products such as jams, canned strawberries, jellies, frozen strawberries and dried slices. This reduces price fluctuations, makes manufactured products available, and improves their quality and production specifications in line with the needs of the local market [3]. Which created the need to conduct a

scientific study showing the impact of the processing process on enhancing the added value of the strawberry fruit in the coastal region of Syria.

And The importance of the research is highlighted by shedding light on the agricultural industrialization process, as one of the solutions to absorb the surplus quantities of production, and thus enhance the added value of the strawberry fruit in the studied area

While The number of strawberry farmers in Tartous governorate reached 1,360 farmers, cultivating 4,854 houses, distributed in the areas of Tartous governorate, especially in the Tartous region (villages belonging to the Tartous administrative region), in which 65.44% of strawberry farmers are concentrated, and in the Safita region, in which about 34.26% of farmers, and the Banias region, in which only 0.3% of farmers are concentrated [6], and the sample size is estimated by the following Stephen-Thompson equation [5].

$$n=(N \times P(1-P))/(\{N-1 \times (d\text{^}2 \div Z\text{^}2\ )\}+P(1-P))$$

Where: n* :Sample Volume * P :The percentage of availability of the property and the neutral, which is equal to (0.5).

N* :The size of the studied community* d :Standard error (accuracy level) = 0.05

Z* :Standard score = 1.96 with a standard error of 0.05.

And from the previous equation, it was found that the sample size was about 300 strawberry farmers in Tartous governorate, who were distributed among the villages belonging to the regions of Tartous and Safita (they constitute about 99.7% of the number of strawberry farmers in Tartous governorate), according to the percentage of each region to the total number. For strawberry farmers in the governorate, and in the open cultivation, the number of farmers reached about 60, who were approved as a sample for open cultivation, and thus the size of the sample in Tartous governorate is 360 farmers.

The research relied on else the descriptive analytical approach in calculating the economic efficiency index of the strawberry crop in the coastal region of Syria, through the use of the following economic indicators:

Value Added = Sales Revenue - (Total Values of Production Inputs + Investments + Transfers Abroad)

Results: The added value of strawberries grown according to the protected and open cultivation system in Tartous governorate was calculated based on the study questionnaire data. The results showed that the added value of fresh strawberries produced under protected and open cultivation conditions in Tartous governorate amounted to about 369 and 1253 sp/kg. And added value rate of about 1.20 and 2.32, as shown in Table (1).

The added value of strawberry fruits grown according to the protected and open cultivation system in Tartous governorate Table (1).

Table 1

Input value sp/kg		Input
open cultivation	protected	

	cultivation	
947	1831	total input
2200	2200	Production value of fresh fruits at the end of the year | Outputs
1253	369	The added value achieved from producing one kilogram of fresh strawberries (The added value was calculated by subtracting the output value from the output value)
2.32	1.20	value added rate (calculated by dividing the total value of the output by the total value of the input)

And the Strawberry fruits are processed in the study area, and converted into jam on two levels, the first is the home level, and the second is the commercial level, and to calculate the added value, the value of the inputs required to produce an average of 1 kg of strawberry jam was calculated at the home level, and the commercial side as well. Table (2) shows the added value of producing 1 kg of strawberry jam at the home level, and the commercial level. The inputs included the supplies, raw and intermediate materials used in the jam industry, which are fresh strawberries (every 1 kg of fresh strawberries gives 1.5 kg of strawberry jam), and sugar (Every 1 kg of fresh strawberry fruits requires 1 kg of sugar), preservatives, depreciation of fixed assets, i.e. machines and equipment used in the production of strawberry jam, fuel, electricity and water used for the production of strawberry jam, while the output was strawberry jam resulting from the process Processing, the added value achieved from the production of one kilogram of strawberry jam was about 700 and 3275 sp/kg, while the average value added was about 1.13 and 1.77, which is a good indicator that is greater than the correct on, as shown in Table (2).

The added value of strawberry fruits grown according to the protected and open cultivation system in Tartous governorate Table (2).

Table 2

Input value sp/kg for strawberry jam production commercially	Input value sp/kg for strawberry jam production at home	Inputs	
1000	1000	One kilogram of strawberry fruits	elements of the added value calculation
2000	4000	One kilogram of sugar	
500	100	Depreciation of fixed assets	
20	200	Fuel, electricity and water	
600	-	Workers' wages	

25	-	Labels	
30	-	publicity and announcement	
50	-	Transport	
4225	5300	total input	
7500	6000	1.5 kilograms of strawberry jam, the price of one kilogram is 4000-5000 SP	outputs
3275	700	The added value achieved from producing one kilogram of strawberry jam (the added value was calculated by subtracting the output value from the output value)	
1.77	1.13	value added rate (Calculated by dividing the total value of the output by the total value of the input)	

Conclusions:

4. When comparing the added value of fresh and processed strawberries to jam at the home level and the commercial level, it was noted that the manufacturing process has enhanced the added value of the strawberry crop, as the added value of the strawberry crop increased from 369 and 1253 sp/kg under protected and open cultivation conditions in Tartous governorate, respectively to 700 and 3275 sp/kg in the case of processing strawberries into homemade and commercially jam.

5. The process of processing strawberry fruits, whether at the home or commercial level, has contributed to enhancing the added value of strawberry fruits, including increasing the financial return.

6. Encouraging the process of processing perishable fruits, especially strawberries, as they can be converted into different products, which contributes to absorbing surplus production quantities, and reducing as much as possible the percentage of damaged fruits.

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COMPARISON OF THE EFFECT OF BOTH OVSYNCH PROTOCOLS AND TWO INJECTIONS OF PGF2A ON PREGNANCY RATE IN HEIFERS AND DAIRY COWS.

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***Abstract.** The reproductive efficiency of milk cows is a determining factor for their productivity and economic importance in all countries of the world, so attention is focused on introducing technologies to improve the reproductive management of the herd of cows.*

This article shows the effect of application of OVSynch and two injections of PGF2α at an interval of 11 days, on pregnancy after blind artificial insemination (without the need for detection of feathers) in heifers and Holstein-Friesian dairy cows.

OVSynch was applied by injecting the synthetic derivative of GnRH (buserlin acetate) at a dose of 2ml at a concentration of 0.0042mg in 1ml on the first day, and on the seventh day, she was injected with a dose of the synthetic derivative PGF2α (cloprostenol-Na) at a dose of 2ml at a concentration of 0.263mg in 1ml, and she was treated with a second dose. of buserlin acetate 56h after the dose of PGF2α and then blind artificial insemination was performed 16h after the last injection

The research clarified the recommendations necessary to raise reproductive efficiency in proportion to the cost and economic feasibility.

***Keywords**: estrus synchronization, Ovsynch, PGF2α, pregnancy rate, dairy cows, wheels, reproductive efficiency.*

Introduction: Reproductive efficiency is good and the benefit is great if it is possible to have a baby every year, and this depends on a number of reproductive