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An Economic Analysis Of The Productive Cost Functions Of Zuhdi Dates In The Holy Governorate Of Karbala During The Agricultural Season 2020 (The District Of Al-Gdualal-Garbi: A Case Study)

Sadiq Hadi Hussein[1] , Faisal Hassan Nasser[2] , Essa Swadi Aeize[3]

[1]Agriculture College, Al-Muthanna University, Iraq.

[2]Directorate of Agriculture in Baghdad Governorate, Iraq.

[3]Directorate of Agriculture in Wasit Governorate, Iraq.

Email: sadeq.hadi@mu.edu.iq

Abstract:
The research aimed to study the structure of the productive costs of date palm (Zuhdi variety) district of Al-GdualAl-Garbi of the Holy Karbala Governorate for the season 2020, To achieve the objectives of the research, it was relied on the descriptive and quantitave analysis of the primary data collected through the personal interview of the owners of palm orchards in the study region.One of the most important findings of the study is the high production costs of this important crop, due to farmers' dependence on traditional methods in the operations of serving and marketing the crop, as well as the low price of Zuhdi dates, which led to the loss of many orchard owners. and according to the prevalent farms price in AL-Gdual AL-Garbi region, the net actual farms income has decreased which amounted about (-547.522) thousand dinars comparing with estimated optimum output and maximum profit which are (1113.991, 1140.112) thousand dinars respectively. The costs elasticity of Zuhdi dates was estimated at the actual production level of about (0.652), which means that production in these orchards is subject to stage of increasing productivity. Based on the conclusions, the study recommended the need to re-work the policy of supporting Zuhdidates prices, and granting subsidies through the provision of soft loans and encouraging the private sector to establish institutions to market dates and develop public sector institutions.

Keyword: optimum product, actual product, farm price.

Introduction:

Iraq is one of the oldest palm plantations in the world. The first documented appearance of the date palm tree in the ancient world was in the historical city of Eridu in southern Iraq (about 4000 BC), which was a major area for date palm

cultivation (Al-Bakr, 2013). Palm trees occupy an advanced rank in relation to the number of fruit trees, as the number of palm trees in Iraq is about 17.36 million palm trees, including 10,751 million fruitful palm trees, and the Holy Karbala governorate occupied the third place in terms of production after Baghdad and Babylon, according to the statistics of the Central Agency. Statistics (2019). Dates are considered one of the most important national wealth along with other natural resources such as crude oil and other resources in Iraq. The Iraqi dates markets have been known for decades in Europe, the United States of America and Asian markets. In order to market Iraqi dates to the countries of the world, an institution has been established to market Iraqi dates. However, this institution did not absorb the large production of dates and did not develop storage and marketing mechanisms, then it stopped working in the recent period to be the sale of Iraqi dates by some private monopolistic companies by imposing cheap prices for dates, which caused great damage to the Iraqi economy At the same time, palm trees have suffered from neglect and lack of care as a result of the conditions that the country has experienced since the Iran-Iraq war in 1980 until now, which led to the spread of various injuries and pests, especially the Dubas bug, which had a significant impact on reducing production and productivity, and it is possible to increase interest in palm orchards To benefit from the sale of its products and to obtain the country's hard currency by raising the contribution of date exports to the GDP, as well as diversifying exports instead of relying on the export of a single commodity, which leads to achieving economic stability for the country (Adinya, 2009).

The study Problem:

The problem of the study is that despite the nutritional and economic importance of dates, this important crop still suffers from neglect and lack of interest, by not introducing any modern techniques in the field of production and marketing and relying on traditional methods and means of production, which are mostly focused on the element of human labor, which leads This led to higher production costs as well as lower prices for this important product.

Objectives of the study:

The study aims to achieve several goals, the most important of which are:

1. Knowing the most important economic and social characteristics of the study sample inof Al-GdualAl-Garbi District of the Holy Karbala Governorate**.**
2. Estimating the function of total, average and marginal costs of Zuhdidates.
3. Calculation of some economic indicators of actual, optimal, and most profitable levels of production.

Materials and working methods:

The basic cross-sectional data that serve the research was obtained by designing a questionnaire that included the largest part of the important data in the subject of the research for a random sample of owners of palm orchards (the Zuhdi class) in the district of Al-gdualAl-garbi of the Holy Karbala Governorate, which numbered 108 out of 1000 orchards in Elimination of 10% of the total orchards. Multiple models

were adopted in estimating the total cost function using three forms of cost functions: linear, quadratic, and cubic. It was found that the cubic model is the most suitable for the relationship applied in this research for its consistency with statistical, standard and economic tests. The function is based on the statistical program (SPSS).

Socio-economic characteristics of the farmers of the research sample:

1. Average ages of palm orchard owners in the research sample:

For the purpose of identifying the average ages of farmers for the research sample, the farmers were divided into five age groups, as shown in Table (1):

Table (1): The age groups of the farmers of the research sample.

Age groups (years)	average age (year)	number of farmers	Relative importance %
less than or equal to 40	38		
41-50	48	13	12.75
51-60	56	33	32.35
61-70	67	35	34.31
71 and over	81	16	15.69
Total		102	100%

Source: It was collected and calculated from the data of the research sample.

Table .1 show that the highest percentage of farmers was in the third age group, with a rate of about 34.31%, with an average age of 56 years, and the second group ranked second with a rate of 35% and an average age of 48year,the fourth category comes in third with a rate of 15.69% and an average age of 67years, and the first category ranked fourth with a rate of 12.75% and an average age of 38years.Finally, the fifth rank was given to the fifth age group, with a rate of 5.9% and an average age of 81years. It is clear from the table that the majority of farmers' ages are confined to the categories (third, second) and those aged 60years or less, as their percentage 66.66% of the total sample. It can be concluded that the youth group represents a small percentage of the total farmers, which means the reluctance of young people to practice the profession of agriculture and turn to other professions, and the reason may be due to the small horticultural holdings owned by their families, which does not encourage them to work in them and which pushes them to work in other sectors far from agriculture.

2.Educational level:

In order to identify the educational level of the research sample, farmers were divided into mother, primary, intermediate, preparatory, university education as shown in the following table:

Table (2): The educational level of the research sample.

Educational level	Number of farmers	Relative importance %
Illiterate	15	14.71
primary	27	26.47
Secondary	48	47.06
Bachelor's degree	12	11.76
Total	102	100%

Source: It was collected and calculated from the data of the research sample.

Table (2) show that the educational level of the sample members is almost close, as the highest percentage of them is for secondary graduates, and they constitute 47.06% and the number of farmers for this category is 48farmers. In the second place comes the farmers with primary education, as their number reached 27and they constitute 26.47%. In third place were farmers who did not know how to read and write (Illiterate).Their number reached about 15 farmers, and they constituted 14.71%. The farmers who obtained a university degree came in the last rank, as their number was about 12and their percentage was 11.76%. It can be concluded that the largest percentage of palm orchard owners have received education at different levels, which facilitates the transfer of information and modern technologies in the field of production and marketing and the use of the best types of pesticides to eliminate pests that affect palm orchards, especially the Dubas insect.

3.The experience of the owners of palm orchards:

For the purpose of knowing the experience of the owners of palm orchards in the study sample, the farmers were divided into five categories according to the number of years of experience, as shown in Table 3:

Table (3): shows the number of years of experience for owners of horse orchards in the study sample in Al-GdualAl-Garbi District of the Holy Karbala Governorate.

Years of Experience	Number of farmers	Relative importance %
1-20	16	15.89
21-30	38	37.15
31-40	28	27.45
41-50	14	13.73
51 and more	6	5.78
Total	102	100%

Source: It was collected and calculated from the data of the research sample.

The table shows that 64% of the farmers of the research sample have experience in servicing palm trees for more than 20 years and less than 40, and this indicates that the owners of palm orchards are owners of their orchards and are not rented and therefore do not bear the costs of rent and this is identical to the sample search.

Descriptive analysis of the production costs of Zuhdi dates for the agricultural season 2020.

1.Total costs:

The total costs of Zuhdi dates can be divided into fixed and variable. The percentage of the contribution of variable costs was about 45.88% of the total costs, while the percentage of the contribution of fixed costs was about 54.12% of the total costs, as shown in Table 4.

Table (4): the relative importance of the fixed and variable costs of the total costs of Zuhdi dates.

Total cost items	Value (thousand dinars)	Relative importance %
Variable costs	172543.5	45.88
Fixed costs	203513.29	54.12
Total costs	376057.09	100%

Source: It was collected and calculated from the data of the research sample.

2. Fixed costs:

Table 5 shows that the fixed costs were distributed among basic items, namely the costs of family work, including (cultivation, fertilization, control, irrigation, harvesting, others), interest on invested capital, maintenance, electricity and water wages, and each of them constituted a relative importance of the fixed costs, as follows :-

Table (5): The relative importance of the fixed cost items from thetotal fixed costs of Zuhdi dates for the 2020 agricultural season.

Fixed costs items	Value (thousand dinars)	Relative importance %
Family work	154937.00	76.13
Interest rate	31050.59	15.26
maintenance wages	10295.00	5.06
Electricity and water	7231.00	3.55

charges		
Total Fixed costs	203513.59	100%

Source: It was collected and calculated from the data of the research sample.

Table 5 shows that the family business constituted the largest part of the fixed costs and occupied the first rank in terms of relative importance, as it amounted to about 76.13% of the total fixed costs. 15.26%, while the percentage of the contribution of maintenance wages was about 5.06% and came in the third place, and the percentage of the contribution of the wages of water and electricity was about 3.55% and it came in the last rank.

3. Variable costs:

Variable costs include the costs of production inputs, irrigation and marketing costs. The percentage of the contribution of variable costs items from the total variable costs can be seen by looking at Table.6, which shows that the costs of production inputs have taken up the largest part of the total variable costs, as they amounted to about 74.07%, as for marketing costs, about they ranked second in terms of relative importance, amounting to 15.48% of the total total variable costs, and the contribution rate of irrigation costs reached about 10.45% and ranked third.

Table (6): The relative importance of the variable costs items from the total variable costs of Zuhdi dates for the season 2020.

Variable costs items	Value (thousand dinars)	Relative importance %
production supplies	127803.00	74.07
Marketing	26713.00	15.48
Irrigation	18027.50	10.45
Total variable costs	172543.5	100%

Source: It was collected and calculated from the data of the research sample.

As for the costs of production inputs, they were divided into: - Fertilizers, both chemical and animal, and pesticides. Table No. 7/ shows that organic fertilizers ranked first in terms of the relative importance of the costs of production requirements, then dab fertilizer, followed by nitrogen fertilizers (urea), then spider repellants, followed by the item of other pesticides, and Dubas pesticides came in the last rank.

Table (7): The relative importance of the items costs of production supplies from the total supplies costs.

Costs items	Value (thousand dinars)	Relative importance%
organic fertilizers	46663.00	36.51
Dabs fertilizer	41840.00	32.74
nitrogen fertilizer(urea)	25950.00	20.30
Pesticides spiders	5287.00	4.14
Other pesticides	4780.00	3.74
Dubas pesticide	3283.00	2.57
Total	127803.00	100%

Source: It was collected and calculated from the data of the research sample

Estimating the function of short-run production costs of Zuhdi dates in the western table district of the holy Karbala governorate for the agricultural season 2020.

The production costs function of Al-Zahdi dates has been estimated from the reality of the research sample data, in linear, square and cubic forms. It can be expressed as in Table 8.

Table (8): estimated parameters of the short-term cost function of Zuhdi dates in the holy governorate of Karbala for the agricultural season 2020

Explanatory variables	estimated parameters
C	-62.769 (-0.131)
Q	540.002 (5.217) **
Q^2	-20.118 (-3.466) **
Q^3	0.349 (4.133) **
Observations	102
R^2	0.809
R^{-2}	0.803
D.W	2.007
F	138.099

Source: Calculated based on questionnaire forms

Statistical analysis:

Based on the t-test, it was found that the estimated parameters were significant at the level of significance %1, and the F-test proved the significance of the function as a whole, and the adjusted coefficient of determination showed that 80.3% of the changes in total costs were caused by changes in the total output of dates and that 19.7% of those The changes are due to other factors that were not included in the model, and the effect of which was absorbed by the random factor.

Econometric analysis:

The model showed that there is no autocorrelation problem because the calculated D.W value is 2.007 and it is located in the acceptance region of the null hypothesis which states that there is no autocorrelation problem between the residuals. It should be noted here that Q^2 (the square of the output) and Q^3 (the cube of the output) are functionally related to the variable Qi (the output), but the relationship is not linear, and therefore such a model is fulfilled assuming that there is no linear multiple relationship between the independent variables (Multicollinearity) (9) This is because the model is not linear. In view of the reliance of the research on cross-sectional data, it is necessary to reveal the problem of the instability of Hetroscedasticity. The Park test was adopted, which includes estimating the regression equation of the square of the error as a dependent variable and the result as an independent variable, and the function estimated in logarithmic form is as follows:

$$\mathrm{Lnei}^2 = 11.264 + 0.717\mathrm{Q} \dots \dots \dots (1)$$

F=6.0482.459t

In Equation No. 1: it was found that the estimated function is significant under the 1% level according to the F test, and the calculated t value for the slope of the error regression equation is greater than the value of its tabular counterpart, which indicates the existence of the problem of instability of homogeneity of variance and that the relationship as we observe is a positive relationship, Increasing the random variable with the independent variable (production),And that this direct relationship is the common one that is supposed to exist in applied standard research (10). To address this phenomenon, several attempts have been made, including the transformation method, that is, dividing the function variables by the estimated value of TC (9), As well as trying to divide the variables by the root (Q). All results indicated that the value of (D.W) and the coefficient of determination were significantly reduced, which indicates that the treatment increased the strength of the correlation between the error limits of the independent variables, so it is necessary to search for another treatment to get rid of this problem, using the weighted least squares method (3), To address the variable that suffers from the problem of unstable variance (the production variable in our study), the short-term total costs function has been corrected, and after the treatment it was possible to estimate the short-term total costs function as in Table No .9:

Table (9): estimated parameters of the short-term cost function after performing the treatment using the weighted least squares method.

Explanatory variables	estimated parameters
C	222.829 (0.652)
Q	464.841 (4.484) **
$\mathbf{Q^2}$	-2.381 (-0.381) **
$\mathbf{Q^3}$	0.286 (2.643) **
Observations	102
$\mathbf{R^2}$	0.703
$\mathbf{R^{-2}}$	0.693
D.W	1.930
F	77.170

Source: Calculated based on questionnaire forms.

It is clear from the function of the estimated production costs that the value of the adjusted coefficient of determination amounted to about 69.3 and this means that the total production explains about 69.3% of the changes that occurred in the production costs of Zuhdi dates, while the rest of the changes, estimated at 30.7%, are attributed to other factors not included in the model. From the estimated production costs function, both marginal and average costs functions were derived and they can be expressed in the following equations:

$$TC = 222.829 + 464.841Q - 15.589Q^2 + 0.286Q^3 \dots\dots(2)$$

$$MC = 464.841 - 31.178Q + 0.858Q^2 \dots\dots(3)$$

$$ATC = \frac{222.829}{Q} + 464.841 - 15.589Q + 0.286Q^2 \dots\dots..(4)$$

In light of the current average production of farms of 10,766 tons, each of the marginal and medium production costs is estimated at 228.626, 350.857 thousand dinars, respectively, and then the cost elasticity at this level of production is estimated at about 0.652, which means that production in These orchards are subject to the stage of increasing yield, which means that when costs increase by a certain percentage, production increases by a larger percentage.

Optimal behavior of the product in the short run:

The optimal behavior of the product can be determined in the short term by adopting the short-term cost function model, and the optimal production level can be defined as the level that gives the highest net income or the lowest possible loss if the production process involves loss and not profit (Al-Samarrai, 1972.).At this level of production, the efficiency of the factors of production is as large as possible, but this optimum production is not necessarily the volume of production at which the firm achieved the

greatest amount of profit. The firm's profit does not depend on costs alone, but also depends on revenue. It is noted that production costs assume that the prices of production factors do not change with the change in the volume of production for the firm. Therefore, the change in costs resulting from a change in the volume of production depends on the efficiency with which these factors are used (Khalil, 1993).

In order to study the optimal behavior of the farmer, we assume the following:

1. The market is a perfectly competitive market and that the price of the output is fixed.
2. The goal of the producers is to minimize costs or maximize profits. The optimum size of the output that makes costs the least possible can be obtained by equating the marginal cost function with the average cost function on the one handor, on the other hand, by finding the lowest point on the average total cost curve (Jbara and Kassar, 2009).

It has been relied on to find the minimum limit of the average total costs function by making the first differentiation of function No. (4) with respect to the volume of production (Q), and then equating it to zero and as follows:

$$\frac{\partial \mathrm{ATC}}{\partial \mathrm{Q}} = -222.829\mathrm{Q}^{-2} - 15.589 + 0.572\mathrm{Q} = 0 \ \ldots\ldots (5)$$

Multiplying both sides of equation (5) by 〖-Q〗^2 gives:

$$222.829 + 15.589\mathrm{Q}^{2} - 0.572\mathrm{Q}^{3} = 0 \ \ldots\ldots (6)$$

Equation No. 6: can be solved by the method of trial and error or by Newton's method to solve nonlinear equations. Equation Nonlinear for Method newton, and then the output is estimated at the lowest point of the average total costs (optimal output rate) of 27.75905 tons. It is also clear from the economic analysis and the data in Table .6 that:

1. The marginal costs decrease with the increase in the volume of output until it reaches its lowest value of about 181,628 thousand dinars at the level of production of about 18 tons, then the marginal costs increase with the increase in the volume of output.
2. The average costs also decrease with the increase in the volume of output until it reaches its lowest value of about 260,514 thousand dinars, and then equal to the marginal costs at the optimum rate of output, which is about 27,75905 tons. This optimum rate of output is higher than the current average production for farmers, about 16,990 tons, i.e. an estimated value of 5097,915 thousand dinars, in light of the prevailing agricultural price for Al-Zahdi dates, which amounts to about 300 thousand dinars / ton in the study area in 2020.

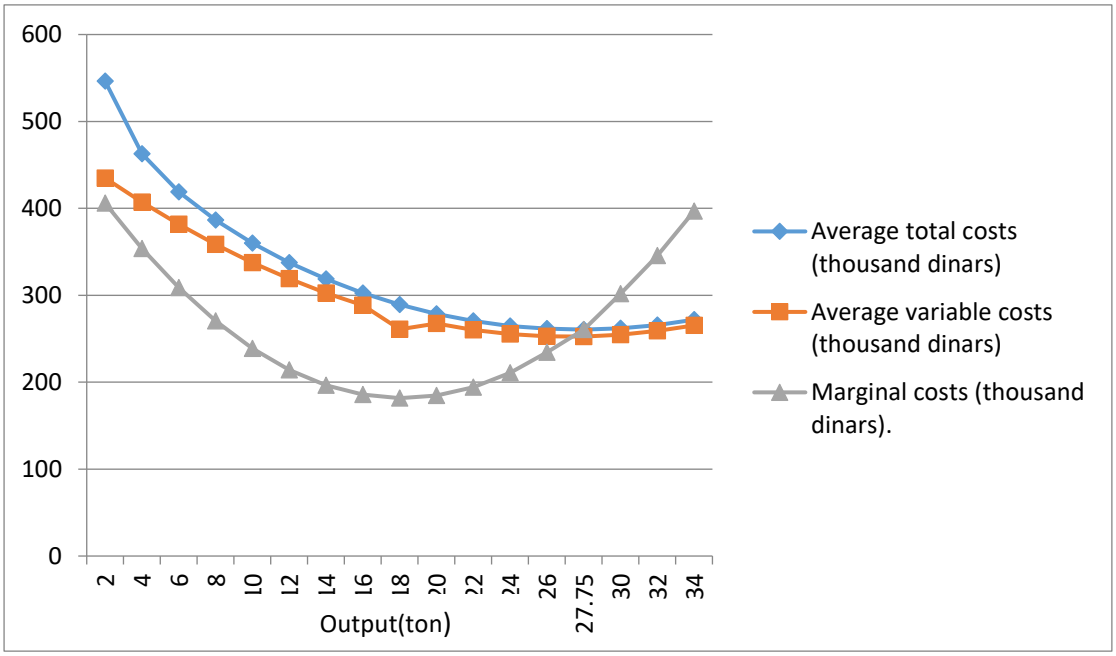

Figure (1): averages of total, variable and marginal costs.
Source: Equations (3), (4), and (20) were calculated by dependence.

Optimum production size (Profit maximization):

The level of output that achieves the maximum possible profit can be obtained by equating the marginal cost function with the prevailing agricultural price, which amounted to about 300 thousand dinars / ton in the study area in 2020 as follows:

$$MC = P \dots\dots\dots (7)$$

$$464.840 - 31.178Q + 0.858Q^2 = 300 \dots\dots\dots (8)$$

$$300 - 464.84 + 31.178Q - 0.858Q^2 = 0 \dots\dots\dots (9)$$

$$-164.84 + 31.178Q - 0.858Q^2 = 0 \dots\dots\dots (10)$$

Equation No. 10 is solved by the constitution law as follows:

$$Q = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} \dots\dots\dots (11)$$

$$Q = \frac{-31.178 \pm \sqrt{(31.178)^2 - 4(-0.858)(-164.84)}}{2(-0.858)} \dots\dots\dots (12)$$

From equation 12, it is obtained: Either Q=29.916 ton or Q=6.422 ton, in order to reach the correct value, we test the two values by substituting them separately in the profit function, as follows:

$$\pi = TR - TC \dots\dots\dots (13)$$

$$\pi = 300Q - 222.829 - 464.841Q + 15.589Q^2 - 0.286Q^3 \dots\dots\dots (14)$$

$$\pi = -164.841Q - 222.829 + 15.589Q^2 - 0.286Q^3 \dots\dots\dots (15)$$

$$\frac{\partial \pi}{\partial Q} = -164.841 + 31.178Q - 0.858Q^2 \dots\dots\dots (16)$$

$$\frac{\partial^2 \pi}{\partial Q^2} = 31.178 - 1.716Q \dots\dots\dots (17)$$

By substituting the volume of the bulk product of the profit, which is about 29,916 tons, in equation No. 17, it becomes clear that the second derivative takes a negative value, and this is the characteristic of the maximum limit of the profit function.

$$\frac{\partial^2\pi}{\partial Q^2} = 31.178 - 1.716(29.916) \rightarrow \frac{\partial^2\pi}{\partial Q^2} = -20.158 \dots\dots\dots\dots (18)$$

By estimating the net farm income at the level of both the current and the optimal output, which gives the least costs and the output which gives greatest profit, by substituting the values of these levels of production in Equation No. 15, respectively, and the sign of net farm income is negative at the current production level, which means that farmers are exposed to losses, and that the estimated net farm income in light of the current average production of farms is estimated to be less by about 1661.512, 1687.634 thousand dinars for each light of the corresponding output The optimum that gives the least costs and the most profit, respectively.

The minimum price that farmers accept to offer their production of Zuhdi dates:

In the short run, the producer sometimes tries to continue the production process even if he loses all his fixed costs, because he has to bear those costs, whether he produces or not. Therefore, the producer can accept the price that is at the lowest point on the average variable costs curve, as the lowest price in the short run (8). To determine the lowest price acceptable to the owners of the Zuhdi palm orchards to display their production (which is equal to the lowest point of the average variable costs), the following steps can be followed:

From the total costs function No. 2, we extract the total variable costs function, as follows:

$$TVC = 464.841Q - 15.589Q^2 + 0.286Q^3 \dots\dots\dots (19)$$

To extract the average variable costs function, we divide equation No. 19 by production Q, as follows:

$$AVC = 464.841 - 15.589Q + 0.286Q^2 \dots\dots\dots\dots (20)$$

It was possible to calculate the size of production at the lowest point of the average variable costs by taking the first differential of Equation No. 20 with respect to production and setting it equal to zero, as follows:

$$\frac{\partial AVC}{\partial Q} = -15.589 + 0.572Q = 0 \dots\dots\dots (21)$$

From Equation No. 21 the size of production, which lowers the average variable costs to about 27.25 tons, and by compensating in the function of average variable costs No. 20, it was possible to obtain the lowest price accepted by the owners of Al-Zahdi palm orchards, which amounted to about 252.414 thousand dinars. This value is the lowest price at which the product sells or continues to produce Zuhdi dates according to economic logic.

Some economic indicators at the actual, optimum, and profitable production level for Al-Zahdi dates in the district of Al-gdualAl-garbi of the Holy Karbala Governorate for the agricultural season 2020.

Some economic indicators were calculated, including estimating the net income for all levels of production based on the profit equation 1 at the levels of the actual production rate, the optimal production volume, and the maximum production volume for profit, which amounted to about 10,766, 27,75905, 29.916 tons, respectively. Note that the average price of one ton of Zuhdi dates amounted to about 300 thousand dinars / ton

$$\pi = 300Q - 222.829 - 464.841Q + 15.589Q^2 - 0.286Q^3 \dots\dots\dots (14)$$

By substituting the values of these levels of production in equation 14 above, we get the estimated net return at these levels, which amounted to about 547.522 - 1096.095, 1140.112 thousand dinars, respectively, as shown from Table 7 that the highest net return is achieved In the case of profit-maximizing production level, However, the optimum level of production, which lowers the costs, is characterized by the fact that it produces one ton of Al-Zahdi dates at the lowest cost compared to other levels.The cost level for the optimal production size amounted to (260,514) thousand dinars / ton, while at the level of production, the maximum profit was about 261.889 thousand dinars / ton. As for the actual production level, it amounted to about 350.857 thousand dinars / ton, as it was shown from the table that the index of the average net return achieved its highest level at the optimal production size, which amounted to about 39.486 thousand dinars / ton. And its lowest level at the actual production volume, which amounted to about 50.857 thousand dinars / ton, as it was shown from the table that the highest level of profit efficiency is achieved at the optimal production volume, which amounted to about 0.151.As for the indicator of the return of one dinar, it was found that one thousand dinars, which was spent on the optimal volume of production, achieved a relative increase of 0.151,The profitability index realized from total revenues showed that it reaches its highest level at the optimum production size, followed by the maximum profit size and the actual production size.This means that the total revenues obtained from the optimal volume of production will achieve a profit of 0.131 compared to the rest of the production levels, whose revenues have achieved profitability estimated at about 0.170 - 0.127 respectively, as shown in Figure 2.

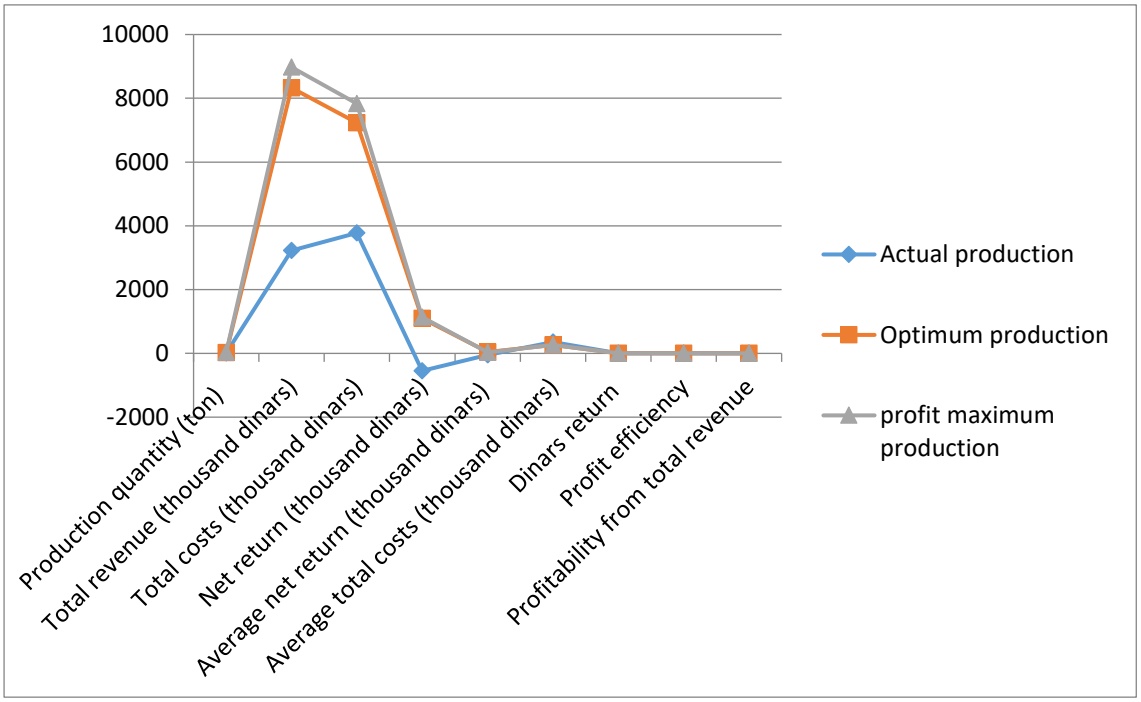

Figure (2): Economic indicators for the 2020 agricultural season for Zuhdi dates for different levels of productivity.
Source: Calculated based on the estimated cost function

Conclusions and Recommendations:

1.Through field visits, it was found that most of the owners of palm orchards depend on traditional means in the operations of serving and marketing this important crop and not introducing modern mechanization, which led to high production costs.

2. The analysis revealed that the lowest price that could be accepted by the owners of Zuhdi palm orchards amounted to about 252.414thousand dinars / ton, and at this price he will have lost all fixed costs in the short run, hoping that the prices of dates will improve in the long run, while the average The total costs at the current level of production are about 350.857thousand dinars / ton, and from it can be concluded that the prevailing price does not cover the total costs, due to the state's abandonment of the policy of supporting the outputs of palm orchards in general and Zuhdi dates in particular.

3.From observing the economic indicators of Al-Zuhdi dates, it can be concluded that the optimal level of production that gives the lowest costs was the best compared to the rest of the other production levels.

4. The reluctance of many orchard owners to continue their activities due to the futility of continuing the production process of Zuhdi dates due to the high production costs on the one hand and the low prices on the other hand.

Based on the conclusions of the study, and through what was shown by the field visits to palm farms, it was possible to suggest some recommendations that would contribute to the development of some economic policies for Al-Zahdi dates, as follows:

1. Re-working the policy of supporting dates prices in general and Zuhdi dates in particular, and encouraging the private sector to establish institutions to market dates, develop public sector institutions, and raise marketing efficiency in line with international standards to raise the competitiveness of Iraqi dates.
2. Ensuring fair economic bases in pricing dates in general and Zuhdi dates in particular, and diversifying profitable industrial products for dates and palms, which leads to encouraging farmers to take care of their orchards and not neglect them.
3. Providing subsidies to the owners of palm orchards through the provision of soft loans through the Cooperative Agricultural Bank for the purpose of establishing new palm orchards and developing old orchards.
4. The Ministry of Agriculture, represented by its agricultural institutions, must select effective, high-efficiency pesticides from sober international sources in order to eliminate the dubas bug and other pests that infect palm orchards, which leads farmers to abandon buying these pesticides from the local market at high prices.
5. Activating the role of agricultural extension, which is characterized by weakness and routine, to urge orchard owners to introduce modern mechanization commensurate with the size of their orchards, and thus reduce production costs for Zuhdi dates.

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