

\*\*

\*

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\*

\*\*

% 45.2

.%33.2

.%60.1

%54.8

13.49

15.01

21.18

1

23.56

13.496

768.49

:

Awoke)

)

.(2003،

.(2006، ويأتي بالمرتبة الثالثة بعد فول الصويا وبذور القطن (صفر ،1990). تحتوي بذور

Peanut .%45

فستق الحقل

%20 .(2001 )

butter

.(2008 )( B,A.H) %14

.(1990 )

(74)

(35.7)

(63.01)

(24)

.(2003,FAO)

(2.63)

(9)

(4328.8) 2007

.(2009 ) (1069.08)

(17) 2010

. 2011 / 11 / 14

. 2012 / 2 / 28

(10.880)  
) (7.010) (114)  
. (2010)  
:

( )

(100) .2010

. SPSS

%45.2

(1)

%54.8

**جدول 1.**

%	( )	
45.2	280603	
54.8	339707	
100	620310	

2

(2)

.2

%	( )	
33.1	92898	
20.1	56438	
19.1	53583	
11.5	32392	
7.2	20357	
6.9	19469	
1.9	5466	
100	280603	

(2)

(3)

.3

%	( )	
60.1	204063	
25.2	85620	
9.1	31015	
5.6	19009	
100	339707	

( )

(U)

(1978 Orazem John)

$$TC = b_0 + b_1Q - b_2Q^2 + b_3Q^3 + ui \text{ -----(1)}$$

$$(1) \quad L_D \quad b_0$$

-(1980 ، Quandt و Henderson)

$$TC = b_1Q - b_2Q^2 + b_3Q^3 - b_4L_DQ + b_5L_D^2 + u_i$$

$Q, L_D \geq 0$

.( ) 2010

.( )

∴  
= TC  
= Q  
= L<sub>D</sub>  
= b<sub>i</sub>  
= U<sub>i</sub>

(OLS)

-:

$$TC = 1650.236Q - 83.763Q^2 + 4.841Q^3 - 59.574L_DQ + 18.916L_D^2 \quad ..(2)$$

t (5.433) (1.965) (4.136) (2.182) (2.464)  
 $R^2 = 0.93 \quad R^2 = 0.92 \quad F = 267.140 \quad D.W = 1.927$

b1)

t

(0.01 و 0.05)

(b5,b4,b3,b2,

F

F 267.140

$R^2$

%93

0.93

%7

Durbin-Watson

(D.W)

D.W

1.927

D.W

:

D.W

(100)

%5

1.65 < 1.927 < 2.35

أي ان

du < D.W < 4 -du

.(1977، Koutsoyiannis)

Q

(

) Q<sup>3</sup>

(

) Q<sup>2</sup>

(Park)

.( 1978، Gujarati)

-:

.(1972،Johanston)

$$\text{Log}(e_i)^2 = a + b\text{Log}(Q)$$

$$= 10.674 + 0.687 \text{Log}Q$$

t (13.964) (1.760)

$R^2 = 0.034$

, D.W = 2.25

, F = 3.486

t F %5  
%5

t

$$V = Tc - 1650.236Q + 83.763Q^2 - 4.841Q^3 + 59.574L_D Q - 18.916L_D^2 = 0$$

(L<sub>D</sub>)

$$\partial V / \partial L_D = -59.574Q + 37.832L_D = 0$$

$$L_D = 59.574Q / 37.832$$

$$L_D = 1.57Q$$

(2) (L<sub>D</sub>)

-:

$$LRTC = 1650.236Q - 83.763Q^2 + 4.841Q^3 - 59.574Q(1.57Q) + 18.916(1.57Q)^2$$

$$LRTC = 1650.236Q - 83.763Q^2 + 4.841Q^3 - 93.531Q^2 + 46.626Q^2$$

: Q<sup>2</sup>

$$LRTC = 1650.236Q - 130.668Q^2 + 4.841Q^3$$

LRTC

-:

-:

: (صكب، 2005)

$$LRATC = 1650.236 - 130.668Q + 4.841Q^2$$

Q

$$\partial(LRATC) / \partial Q = -130.668 + 9.682Q = 0$$

$$Q = 130.668 / 9.682 = 13.495$$

وهي

: 2 Q

$$L_D = 1.57(Q) = 1.57(13.495) = 21.18 \text{ دونم}$$

-:

-:

: (1999 )

$LMC = Py$   
2010

1000

$\partial(LRTC)/\partial Q = LMC = 1650.236 - 261.336Q + 14.523Q^2 = 1000$

$14.523Q^2 - 261.36Q + 650.236 = 0$

$Q = \frac{-B \pm \sqrt{B^2 - 4AC}}{2A}$

$Q = \frac{(261.336) + \sqrt{(-261.336)^2 - 4(14.523)(650.236)}}{2(14.523)} = 15.011$  طن  
15.011

23.56

-: -

Ec

(2006 )

$EC = \frac{LRMC}{LRAC} = \frac{1650.236 - 261.336Q + 14.523Q^2}{1650.236 - 130.668Q + 4.841Q^2}$

13.496

(4)

4

	/	/	( )
0.75	1279.87	959.65	3.218
0.62	1113.00	699.76	5.06
0.53	886.38	477.33	8.561
0.67	797.26	536.24	11.058
1	768.49	768.49	13.496
1.23	776.10	955.19	14.75
1.4	791.28	1120.43	15.666

:

-

.(2000 )

:

$$AVC = LRATC = 1650.236 - 130.668Q + 4.841Q^2 \dots 5$$

$$\partial(LRATC)/\partial Q = -130.668 + 9.682Q = 0 \dots 6$$

5

6  
13.495

. / 768.49

(%45.2)

:

-1

(%54.8)

-2

(%5.6 , 9.1 , 25.2 , 60.1)

-3

(13.495)

-4

( 21.18)

(15.01)

-5

( 23.56)

(13.495)

(1)

-6

(768.49)

-7

, /  
:

-1

-2

.....

-3

- .2006.
- ) 2002-2001  
 . 25: . . . . . ( .  
 . 2006.
- 2003
- .22-11 : (2)37  
 .2010.
- .2001.
- . 1 : . . . . .  
 . 2009.
- .56 .(29)  
 . 1999 .
- . 450: . . . . .  
 .1990.  
 .2005.
- .2008.
- .2000.
- :(2) 13.
- .140-113
- Awoke, M. U. 2003.Production analysis of groundnut ( *Arachis hypogaea* ) in Ezeagu Local Government Area of Enugu State, Nigeria *Global Journal of Agricultural Sciences* 2(1):40 – 51.
- FAO. 2003. Food and Agriculture Organization of United Nation Oil Crops Market as Assessment. Economic and Social. , Rome , Italy , No. 4 , P. 40.
- Johanston. 1972. *Econometric Methods*. Second Edition, Mc Graw- Hill. New York.
- John, P. Dool and F. Orazem .1978. Production Economics Theory With Application. N.C, Inc.
- Henderson and Quandt. 1980 .*Microeconomic Theory*. A Mathematic (Aproach. Third Edition) , McGraw-Hill , Inc., London, pp.83-91.
- Gujarati , D. 1978. *Basic Econometrics* . McGraw-Hill Book Co. New York.



Koutsoyiannis, A. 1977. *Theory of Econometrics*. Second Edition. Mc Millan Press, Ltd. , Inc.pp:200-230.

## **ECONOMIC ANALYSIS OF THE FUNCTIONS OF PRODUCTION COSTS FOR THE PEANUT CROP IN DIYALA PROVINCE.**

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### **ABSTRACT**

The study aimed to identify the cost structure and production functions estimate costs for the peanut crop. The results showed an analysis of the cost structure of crop production variable costs accounted for approximately 45.2% of total costs accounted for work automation on the most important by 33.2%, while fixed costs are formed 54.8% of the total costs, such as family work the important by paragraphs 60.1%. By assessing the total cost function shows the formula Cube is the more significant of functions with the economic logic and standard, The results showed the size of production optimization 13.49 tons, size best can be exploited achieve this size about 21.18 dunum. estimated the size production the profit 15.01tons, the area best achieve size approximately 23.56 dunum. The estimated elasticity of costs, amounted 1 achieved the level of production13.496 tons. estimated minimum price to be accepted by farmers told of 768.49 thousand dinars / ton.

**Key Word:** the peanut. production function costs.