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**Conference Paper**

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**Provided in Cooperation with:**

The Research Institute for Agriculture Economy and Rural Development (ICEADR), Bucharest

*Suggested Citation:* Turek Rahoveanu, Petruta (2012) : Technical - economic analysis in an individual farm in Olt County, In: Agrarian Economy and Rural Development - Realities and Perspectives for Romania. 3rd Edition of the International Symposium, October 2012, Bucharest, The Research Institute for Agricultural Economy and Rural Development (ICEADR), Bucharest, pp. 366-369

This Version is available at:

<https://hdl.handle.net/10419/76828>

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# TECHNICAL - ECONOMIC ANALYSIS IN AN INDIVIDUAL FARM IN OLT COUNTY

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## Summary

*In Romania, the small subsistence farms proved to be very durable. Structural changes led to the multifunctional development of this household, to vegetable marketing, input supply, investments and agricultural works, storage of products. Gradually, the number of subsistence farms will decrease in favour of forming a viable commercial sector and economic diversification in Romanian rural area.*

**Keywords:** average production, commodity production, revenues, expenses, economic size

## INTRODUCTION

A farm of small economic size is undercapitalized, which does not ensure a high degree of mechanized technologies, growers appealing to low capacity machines or manual work. Manpower usually consists in family members and temporary staff used to meet the needs at the best time.

## MATERIALS AND METHOD

Research methodology consisted of a documenting survey conducted with a questionnaire. Farm internal records were the information sources. Inquiry was the data collection method. Structural survey based on a questionnaire was used as investigation technique, by direct interview. The questionnaire contains questions about different aspects of economic activity of the household.

## RESULTS AND DISCUSSION

The household has a mixed vegetable production, characterized by cultivation of cereals, oilseeds, pulses, vineyards. The choice for these crops is given by the need to ensure family vegetable products from its own production and to sell an important part of the products obtained.

**Table 1 Land use**

Item	Ha	% of total
Agricultural, out of which:	7.8	100
-Arable	7.7	98.7
-Vineyards	0.1	1.28

Source: author's calculations

Of the agricultural land, 98.7% is arable land and vineyards 1.28% (Table 1). The terrain consists of 5 parcels, located 3 km away from the farm. Soil type is brown chernozem with pH 6.3 to 6.7. No negative aspects were reported for environment quality. The entire surface of 7.8 ha belongs to the farm leader, who has ownership title.

**Table 2 Main technical equipment**

Item	2008	2009	2010
U-650 tractor	1	1	1
PP4-30 plow	1	1	1
GS 1,2 star-shaped harrow	1	1	1
RM-2 trailer	1	1	1

Source: author's calculations

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The equipment is maintained in good condition. Culture establishing, maintenance and mechanical harvesting are done by a third party service.

Agricultural production. There is a decrease in the share of cereals from 67.5% in 2008 to 59.7% in 2010. Wheat holds the largest share over the three years. Oilseeds (sunflower) hold 22.0 to 20.7%; in pulses (beans), the surface is 0.8 to 1.5%, so there is a slight increase in area (Table 3).

**Table 3 Agricultural area**

Item	2008		2009		2010	
	ha	%	ha	%	ha	%
Cereal total, out of which:	5.2	67.5	4.9	63.6	4.6	59.7
Wheat	3.20	41.5	2.90	37.6	2.80	36.3
Corn	2.0	25.9	2.0	25.9	1.80	23.3
Oilseeds total, out of which:	1.7	22.07	1.6	20.7	1.6	20.7
Sunflower	1.7	22.07	1.6	20.7	1.6	20.7
Pulses total, out of which:	0.8	10.3	1.2	15.5	1.5	19.4
Beans	0.8	10.3	1.2	15.5	1.5	19.4
Arable total	7.7	100	7.7	100	7.7	100

Source: author's calculations

**Table 4 Yield and production**

Item	2008		2009		2010	
	Kg/ha	tons	Kg/ha	tons	Kg/ha	tons
Wheat	1938	6.2	1690	4.9	1786	5.0
Corn	1900	3.8	2400	4.8	2611	4.7
Sunflower	1765	3.0	1875	3.0	1563	2.5
Beans	625	0.5	1250	1.5	1267	1.9
Wine grapes	6000	0.6	6000	0.6	6000	0.6

Source: author's calculations

Yields have a trend of decreasing throughout the period of three years, due to the fact that some factors had a less favourable influence. Total production follows the trend of average yields, which is a determinant element of it, coming from the cultivated area.

**Table 5 Commodity production**

Item	2008			2009			2010		
	tons	lei/kg	lei	tons	lei/kg	lei	tons	lei/kg	lei
Wheat	6.2	0.58	3596	4.9	0.46	2254	5.0	0.55	2750
Corn	3.8	0.69	2622	4.8	0.44	2112	4.7	0.54	2538
Sunflower	3.0	1.10	3300	3.0	0.80	2400	2.5	1.10	2750
Beans	0.5	1.80	1800	1.5	1.92	1920	1.9	2.01	2010
Wine grapes	0.6	0.80	480	0.6	0.85	510	0.6	0.95	570

Source: author's calculations

Of the total wheat largest share was 41.8% in 2008 compared to 31.9% in 2010; in maize production sold on market varied by 36.05% - 34.9%. Sunflower and bean yields were recovered 39.05% - 32.54% and respectively 31.4% - 35.07% of total production. Significant weights of the production are held by wheat, maize, sunflower and beans.

**Table 6 Revenues, expenditures, financial results**

Item	UM	2008	2009	2010
Total farm expenses	lei	11150	10925	13010
Total farm revenues	lei	13306	12769	15713
Profit margin on farm	lei	2156	1844	2703
Product margin / farm	lei	13306	12769	15713

Item	UM	2008	2009	2010
Total grants / farm	lei	2408	2613	3286
Standard gross margin	euro	2178	1779	2240
Economic size	category	I		
UDE	no.	1.8	1.5	1.9
Turnover	lei	13306	12769	15713
Net profit/farm	lei	1811	1549	2271
Net profit/ha	lei	232	199	291

Source: author's calculations

**Table 7 Evolution of costs, prices and profitability of products sold**

Item	UM	2008	2009	2010
Wheat	to	6.2	4.9	5.0
Average cost	RON/ton	500	390	450
Average price	RON/ton	580	460	550
Profit/ton	RON/ton	80	70	100
Profit rate	%	16.0	17.9	22.2
Corn	to	3.8	4.8	4.7
Average cost	RON/ton	600	390	490
Average price	RON/ton	690	440	540
Profit/ton	RON/ton	90	50	50
Profit rate	%	15	12.8	10.2
Sunflower	to	3.0	3.0	2.5
Average cost	RON/to	1000	720	999
Average price	RON/to	1100	800	1100
Profit/ton	RON/ton	100	80	101
Profit rate	%	10	11.1	10.1
Beans	to	0.5	1.5	1.9
Average cost	RON/ton	1560	1700	1820
Average price	RON/ton	1800	1920	2010
Profit/ton	RON/ton	240	220	190
Profit rate	%	15.4	12.9	10.4
Wine grapes	to	0.6	0.6	0.6
Average cost	RON/ton	730	760	860
Average price	RON/ton	800	850	950
Profit/ton	RON/ton	70	90	90
Profit rate	%	9.6	11.8	10.5

Source: author's calculations

All products marketed at that time, prices exceeded production costs, achieving profit; low prices for wheat and corn do not provide high rates of return; sunflower is more cost-effective, providing a distinctive competence of the farm and it is capitalized at higher prices.

Management activity is performed by the farm leader, who holds primary bookkeeping, while selling the products on the market is done by other family members. Permanent staff consists of the farm leader and his wife. When manual hoeing and harvesting of corn, wine grapes and beans are performed, 3-4 daily workers are employed.

**Table 8 Labour productivity**

Item	2008	2009	2010
Farming revenues	10898	10156	12427
Farm staff	2	2	2
Operating income per person (lei/capita)	5449	5078	6213
Dynamics of operating income per employed person (%)	100	93.19	114.02

Source: author's calculations

Operating income per full time employed person is Lei 6213 in 2010. Labour productivity is increasing, the index of operating income per employed person being 93% in 2009 and 114% in 2010.

Farm management is considering obtaining the most favourable prices for the capitalized products and to do that, periods of high demand are chosen. The sale is made by family members, without intermediaries.

There is storage room on the farm, so marketing is made when it provides the best prices. Only the quantities of wheat, corn and beans necessary for farm consumption are held.

Marketed production and price trends are highlighted within their evolution. Sale prices had a positive recovery, which allowed revenues to increase in 2010 compared with 2009.

## **CONCLUSIONS**

There is an increasing trend of revenues, profits and labour productivity in the analyzed farm. Due to good technical equipment, the structure of cereal crop is growing compared to previous years. Rates of return are higher for corn and wine grapes. Due to the existence of a single administrator, and therefore one-man decisions, issues may result when decision options are substantiated.

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