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The evaluation of farm's economic effectiveness through the improvement of bookkeeping methods

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Abstract.

The production of seedlings is an orienting study for all the producers of seedlings vineyard and the fruit's trees. Study aimed to drawing conclusions for the implication of the real factors in seedlings' production and also of the impacts with the objective to achieve the low cost production of seedlings [1].

The study is made at one of the most ancient places for the cultivation of the vineyard in Albania with old traditions in this field. The area where the production of seedlings is focused, it is placed in the territory of Ndroq Commune, in the south -west of Tirana, in which a part of the farmers has build their farms for the production of seedlings.

Since in the ancient time in this area, the cultivation of vineyard has been a tradition, which is being resurected rapidly.

The objective is to evaluate the production of seedlings sector and to give the necessary recommendation for: (i)

The methodology of expenses records; (ii) Cost calculation methodology; (iii) The methodology of analysing the financial indexes. This study will incite all the seedlings growers in the country and a model in their work.

Keywords: trees and vineyard, competition chain financial indexes, costs, inputs.

1. Introduction.

Recently, the system of agrobizness has undergone the chances in the growth dynamics of economical activity of farmers through undertaking in the fild of seedlings production. This activity is part of chain linked to grape cultivation farmers and wine producers[2].

Great attention is being paid for the sectors of tree yard and vineyard by the system of prioritary measures undertaken by the state. Recently, these measures have further incited and enlarged the activity of increase and strengthenning farms for seedlings production. For this reason, the attention is focused on the introduction of new methods of organizing and contemporary techniques of their cultivation in order to reduce costs of production and high quality seedlings production, be competitive in market as well as providing higher profits for farms. Programming and factorial analyze aim to including in planning of real production factors and the analyze of results will make possible of reaching to better economical outputs in this sector.

2. Materials and Methods

The methodology of study was supported on the analyze and synthese based on the estimation of real indicators gathered during the growth cicle of seedlings until to their unrouting (shkuljen). This study aimed to estimate seedlings production sectors and drawing necessary recommandations for the method of monitoring expendures and accounting the costs of products

Study was carried out at "Shesh grape variety and tree seedlings yard" Tirana. The objective was the study of all factors affecting on seedling production. Study was lasted from 2009 to 2011.

3.Data analysis

Data analyze was carried out, taking into account the main factors of production, which were:

- soil

- the work carried out by agricultural mechanique
- labour.

Kinds of inputs were :

- -rootstock.
- port-graft
- fertilizers and pesticides
- -value of monetary and materials expendures used for protecting, preparing, grafting and paraffining of grafts

These are basic factors of starting work for seedlings production

Total value of rootstock and port graf accounts for 20 % of expenditures.

Seedlings production system is of closed cycle, providing all axesories within farm. System includes maternal grapeyard for producing pieces, maternal vineyard for obtaining scions, rooms of callus formation as well as plots where grafts are planted for producing seedlands of grape tree, [3].

The most important economical and financial indicator that determines the efficiency of seedlings yards expendures is the costs of seedlings production. One of our tasks has been and continuously remains the introduction of new technologies for low cost and high quality seedlings production. In order to better understand the rate of costs, the real expendures are ilustratedly given by summary table for pieces and scions' production.

The work for producing pieces begins with setting up antifiloxeric maternal vineyars. For that, contemporary technology and necessary investments have been implemented until to the moment of obtaining pieces for grafting according to the following tables. Expendures for establishing new antifiloxeric vinyard is summarly given in the table 1.

In order to account incomes, these expendures are alocated according to years until to the time when vineyard of its products paying off itself. The period of itself paying off has lasted four years under our conditions. Evidencing and registration of all the financial actions in account book of vineyard for producing pieces have been important. Expendures for producing 200 000 pieces (rootstocks) and costs per one pieces are given in the Table 2

Table 1: Total expendures (lek)

1	*Costs of work carried out by mechanic power*	*38,000*
2	Costs of inputs	660,000
3	Labour costs	417,000
4	3 % indirect costs	33,450
	Total costs per 1 ha vineyard	1,148,450 lekë

Table 2: Expendures for producting rootstocks

1	*Costs of work carried out by mechanique*	*45,000*
2	Costs of inputs	128,000
3	Costs of labour	790,000
4	3 % indirect costs	28,890
	Total expendures per 1 ha vineyard	991,890
	Costs for one piece (rootstock)	5 lekë

As for port-graft**,** account evidence and registrations made in vineyard for stems' production, while in apparence it doesn't have any special investment because main vineyard directon is grape production, expendures and cost per one one-year stem and one scion used as port-graft are summarly given in table 3 and cost per one one-year stem and one scion used as port-graft

Table 3: Expendures for and cost per one one-year stem and one scion used as port-graft

1	*Costs of work carried out by mechanic power*	*5,000*
2	Costs of inputs	4,000
3	Costs of labour	96,000
4	3 % indirect costs	3,150
	Total costs per 1 ha vineyard	108,150
	Costs for one stem	3 lekë
	Costs for one scion	0.3 lekë

3. Analysis of costs for seedlings' production through different methods of callusing

50 000 grafts were included in study, which were assigned in three variants with the expectable production of 25 000 first class seedlings. Costs of seedlings were accounted for three variants. Costs for each variant is given in table 4

Table 4,The costs for callused seedlings production in rooms and green houses of warming

No	*Item*	*unit*	*Volume*	*rate*	*Total rates*	*Value rate/unit*	*Total value*
I	value of rootstocks	**piece**	**50,000**			**5**	**250,000**
II	Value of port-grafs	**piece**	**50,000**			**05**	**25,000**
III	work carried out by mechanic power						
1	Deep ploughing	ha	1	1	1	20,000	20,000
2	Milling, livelling	ha	1	1	1	10,000	10,000
3	Transport by mechaniques	ton	40	10	4	2,000	8,000
	Total						**38,000**
IV	**Materials**						
1	boxes	piece	80			1,300	104,000
2	Saw dust	m^3	2			1,500	3,000
3	Paraffin	kg	120			180	21,600
4	Collofan 3 %	kg	4			1,000	3,600
5	Fire woods	mst	30			2,500	75,000
6	fertilisers	kv	10			3,500	35,000
7	Pesticids	kg	15			1,000	15,000
8	Electric power	kw	1,000				15,000
	Total						**272,200**
V	**Grafting**						
1	Preparation of rootstocks	piece	50,000	3,000	17	1,000	17,000
2	Preparation of port-grafts	piece	50,000	5,000	10	1,000	10,000
3	Grafting by machine	piece	50,000			2	100,000
4	Preparation of paraffin	l	10		1	1,000	1,000
5	Paraffining of graft	piece	50,000	5,000	10	1,000	10,000
6	Sand soil beding in boxes	piece	50,000	4,000	10	1,000	10,000
7	Arranging boxes in room	piece	80	20	4	1,000	4,000
8	Controll for callusing	days	15			1,000	15,000
	Total						**172,500**
VI	**Planting in plot**						
1	Kalitja of grafts	boxes	60	10	6	1,000	6,000
2	Taking out grafts from boxes	boxes	60	10	6	1,500	9,000
3	Cleaning of grafts	piece	50,000	5,000	10	1,000	10,000
4	Paraffining of grafts	piece	50,000	5,000	10	1,500	15,000
5	Pivoting with two workers	m^2	5	3	2	1,500	3,000
6	Opening chanels , rowing ,covering	piece	50,000	2,000	25	1,500	37,500

7	Irrigation by can	piece	50,000	5,000	10	1,500	15,000
8	Breaking the soil covery after irrigation	m²	5,000	300	17	1,000	16,500
9	Drying and removing of the graft in bed I-II	ml	5,000	500	20	1,000	20,000
10	Drying 5 times	ml	5,000	500	50	1,000	50,000
11	Cutting of the apex	ml	5,000	1,500	4	1,000	3,500
12	Spraying 12times	dyn	5	3	30	1,500	45,000
13	Hoeing, 20 % e surface, 4 times	dyn	1	3	13	1,500	19,500
14	hoeing , milling	dyn	5	1	25	1,000	25,000
15	Apruval saplings,	dyn	5	1	5	1,000	5,000
16	Removing the graft in bed	seedling	30,000	1,000	30	1,500	45,000
17	cleaning and selection of seedlings	seedling	25,000	2,500	10	1,000	10,000
18	linking seedlings in branches	branch	1,000	100	10	1,500	15,000
19	Sand soil bedding of seedlings	branch	1,000	500	2	1,500	3,000
20	Marketing of seedlings						50,000
	Total						**403,000**

Table 5: Summary of expendures in warming rooms

1	*Value of rootstocks*	*250,000*
2	Value of port-grafts	25,000
3	Value of workings carried out by mechanique	38,000
4	Value of materials	272,200
5	Value of grafting	172,500
6	Value of works in field	403,000
7	3 % indirect expendures	34,821
8	Different expendures	300,000
9	Total expendures per 1 ha vineyard	1,495,521 lekë
10	Costs per one seedling	59 lekë

Table 6: Summary of expendures in greenhouses

1	*Value of rootstocks*	*250,000*
2	Value of port-graft	25,000
3	Value of workingss carried out by mechanique	38,000
4	Value of materials	202,700
5	Value of grafting	187,500
6	Value of works carried out in field	403,000
7	3 % indirect expendures	32,286
8	Different expendures	25,000
	Total expendures per 1 ha vineyard	1,253,486 lekë
	Costs per one seedling	50.1 lekë

Table 7: Expendures for seedlings production callused in cool beds

No	***items***	***unit***	***Volume***	***rate***	***Total rate***	***Value rates/unit***	***Total values***
I	**Value of rootstocks**	**piece**	**50,000**			**5**	**250,000**
II	**Value of port-grafts**	**scions**	**50,000**			**05**	**25,000**
III	Value of workings carried out by mechanique						
1	Deep ploughing	ha	1	1	1	20,000	20,000
2	Milling, leveling	ha	1	1	1	10,000	10,000
3	*Transport by mechaniques*	*ton*	*40*	*10*	*4*	*2,000*	*8,000*

	Totali						***38,000***
IV	**Materialet**						
1	**River sand**	m³	**5**			10000	10.000
1	Plasmas	ml	200			250	50,000
2	Saw dust	m³	5			1,500	7,500
3	Paraffin	kg	120			250	30,000
4	Collofan 3 %	kg	4			1,000	3,600
5	Stakes and wood stripes						50,000
6	Fertilizers	kv	10			3,500	35,000
7	Pesticide	kg	15			1,000	15,000
8	Electric power	Kë	1,000				15,000
	Total						**216,100**
VI	**Grafting**						
1	Preparation of rootstocks	copë	50,000	3,000	17	1,000	17,000
2	Preparation of port-grafts	copë	50,000	5,000	10	1,000	10,000
3	Grafting by machine	copë	50,000			2	100,000
4	Preparation of paraffin parafinës	l	10		1	1,000	1,000
5	Opening bed chanal	m³	10	2	5	2,000	10,000
5	Paraffining of grafts	copë	50,000	5,000	10	1,000	10,000
6	Rowing,sand soil beding of pieces	copë	50,000	4,000	10	1,000	10,000
7	Arranging in green house	copë	60	30	2	1,000	2,000
8	Control for callusing	days	15			1,000	15,000
9	Spraying by irrigating bucket				15	1,000	15,000
	Totali						**190,000**
VI	**Planting in field**						
1	Trapianting of grafts	m²	60	10	6	1,000	6,000
2	Taking out grafts in bed	m²	60	10	6	1,500	9,000
3	Cleaning of grafts	piece	50,000	5,000	10	1,000	10,000
4	Paraffining of grafts	piece	50,000	5,000	10	1,500	15,000
5	Pivoting with two workers	m²	5	3	2	1,500	3,000
6	Opening chanal, rowing, covering	piece	50,000	2,000	25	1,500	37,500
7	Irrigation by can after planting	copë	50,000	5,000	10	1,500	15,000
8	Breaking of soil covery after irragation	m²	5,000	300	17	1,000	16,500
9	drying and removing e I-II	ml	5,000	500	20	1,000	20,000
10	Drying 5 times	ml	5,000	500	50	1,000	50,000
11	Cutting of apex	ml	5,000	1,500	4	1,000	3,500
12	Spraying 12 times	dyn	5	3	30	1,500	45,000
13	Prashitje, 20 % of surfice, 4 times	dyn	1	3	13	1,500	19,500
14	hoeing milling 5 times	dyn	5	1	25	1,000	25,000
15	Apruval saplings	dyn	5	1	5	1,000	5,000
16	Shaker of seedlings with chanal	rr	30,000	1,000	30	1,500	45,000
17	Cleaning and selection of seedlings	rr	25,000	2,500	10	1,000	10,000
18	Linking seedlings in branch	tufa	1,000	100	10	1,500	15,000

19	Sand soil beding of seedlings	tufa	1,000	500	2	1,500	3,000
20	Marketing of seedlings						50,000
	Total						**413,000**

Table 8: Summary of expendures

1	*Value of rootstocks*	*250,000*
2	Value of port-grafs	25,000
3	Value of workings carried out by mechanique	38,000
4	Value of materials	206,100
5	Value of graftings	190,000
6	Value of workings in field	413,000
7	3 % indirect expendures	33,363
8	Vineyard amortization	15,000
	Total expendures per 1 ha vineyard	1,170,463 lekë
	Costo per one seedling	47 lekë

Table 9: Total expendures are as follows:

No	**Items**	**Expendures for callusing in warming rooms**	**Expendures for callusing in green house**	**Expendures in cool beds**
1	Value of rootstocks	250,000	250,000	250,000
2	Value of port-grafs	25,000	25,000	25,000
3	Value of workings carried out by mechanique	38,000	38,000	38,000
4	Value of materials	272,200	202,700	206,100
5	Value of grafting	172,500	187,500	190,000
6	Value of working in field	403,000	403,000	413,000
7	3 % indirect expendures	34,821	32,286	33,363
8	Different expendures	300,000	25,000	15,000
9	Total expendures per 1.0 ha vineyard	1,495,521 lekë	1,253,486 lekë	1,170,463 lekë
10	Costo per one seedlings	59 lekë	50.1 lekë	47 lekë

The data shows that expendures for workings carried out by mechanique in several indices are similar to values of rootstocks and port-grafts. Differences beetwen three variants are chiefly : i) for the value of materials because in environments of warming, costs is higher due to providing heat; ii) in the labour in field, because in callusing by cool beds the rate of work difficulty is increased and the percentage of the quality of callusing and seedlings is reduced; iii) [4]. The best results in the percentage in three variants studied, reached to second variant regarding to callusing of grafts in greenhouse in the percentage of seedlings obtained after removing. Costs of seedlings is different among variants. This difference is approximately 12 lek

Conclusions

Comparing the costs of producion per one seddling for three variants, We conclude that:

1. Proper and continueous maintenance and registrations of all indicators regarding investments, labour, the work carried out by mechanique and inputs rightly orientate the level of investments for farm size and increase its sustainability to cope with momental

disturbations, unfear competition as well as the eligibility for the future, [5].

2. Analysis of costs denote that there are differences among variants in value of materials
3. In warming rooms, costs of materials are higher due to the value of boxes and fire woods for warming

Recomandations

Methods of callusing in warming greenhouse should be extented because it leads to the reduce of production costs per seedling by 14.1 lek versus callusing by warming rooms and 1.5 lekë versus callusing by cool beds.

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