

## **Financial and Accounting Decisions in a Dairy Cattle Farm**

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**Abstract.** The article is structured in four main parts: A) Introduction regarding milk, production in Romania compared to EU countries, B) The main accounting records specific for breeding dairy cattle farms, C) Financing decisions in these farms, D) Performance Indicators and Conclusions. Regarding the scientific research typology used by the author, it refers to descriptive, explanatory and applied research. In terms of novelty of the study, it can be identified as the case study based on real breeding dairy cattle, as well as the presentation of short-term financing decisions and performance indicators in these types of farms.

**Keywords:** farm, accounting records, decisions, performance indicators, working capital, economic and financial profitability

### INTRODUCTION

A recent study (4, 2011) shows that „at national level there are 850,000 breeding cattle farms – the largest in E.U. – but 90% of them are family owned farms with 1-2 animals, and moreover in 2008 only 179,000 (21%) of these farms actually sold the milk directly to milk processors; and just one out of five milk liters (approximately 20%) produced locally reach the processing industry, the rest of the production is intended for self-consumption (40%) or direct selling (36%), unlike the European countries where almost 60% of the raw milk is processed out 4.7 billion liters of milk produced annually.

The annual consumption of processed milk (liter per capita) is 6.1 liters – the lowest in the EU according to the study of the Competition Council.”

### MATERIAL AND METHODS

The structure of dairy farms is different from the family farm with 1-2 animals and also different from to farms specialized in milk production.

Below we will present the main financial and accounting decisions in a farm (study case) which has the following structure of animal categories: milk cows: 116 capita, heifers: 16 capita, heifers >18 months old: 21 capita, heifers 12-18 months old: 43 capita, heifers 6-12 months old: 20 capita, heifers 0-6 months old: 39 capita, cattle for fattening 10 capita, therefore a total of 265 capita, according to a typified document.

### RESULTS AND DISCUSSION

**Study case regarding the records in the financial accounting at a breeding dairy cattle milk farm.**

The main accounting records specific to this industry sector are as follows:

1) Records of the animal purchases based on the invoice:			
	4 cows *320Kg*5lei = 6,400 lei		
	%	=	401
361	“Animals and birds”		„Suppliers”
			<u>7,963.00 lei</u>
	4426 “deductible VAT”		6,400.00 lei
			1,536.00 lei
2) Records of the weight increase according to the standardized document “Movement of the livestock” and of weightings documents such as:			
- milk cows	650 kg * 3 lei = 1,950 lei		
- heifers	280 kg * 3 lei = 840 lei		
- heifers > 18 months	1100 kg * 3 lei = 3,300 lei		
- heifers 12-18 months	1250 kg * 3 lei = 3,750 lei		
- heifers 6-12 months	1380 kg * 3 lei = 4,140 lei		
- heifers 0 - 6 months	430 kg * 3 lei = 1.290 lei		
- calves 0 - 6 months	90 kg * 3 lei = 270 lei		
- cattle for fattening	140 kg * 3 lei = 420 lei		
	TOTAL: 5,320 kg * 3 lei = 15,960 lei		
361	=	711	<u>15,960.00 lei</u>
“Animals and birds”		“Changes in inventory”	
3) Records of the calves according to the calving act (Annex 2) – 3 capita, 110 kg – 275 lei (the price is 2.5 lei/kg, fair value/difference)			
361	=	711	<u>275.00 lei</u>
“Animals and birds”		“Changes in inventory”	
4) Switching to category according to changing documents			
361	=	361	<u>10,260.00 lei</u>
“Animals and birds”		“Animals and birds”	
5) Selling animals from own production according to the invoice – milk cows 420 kg * 3.50 lei = 1470 lei			
4111	=	%	<u>1,822.80 lei</u>
“Customers”		701	1,470.00 lei
		“Income from the sale of finished products”	
		4427	352.80 lei
		“Collected VAT”	
- Simultaneously discharge from the inventory (420 kg * 3 lei = 1,260 lei)			
711	=	361	<u>1,260.00 lei</u>
“Changes in inventory”		„Animals and birds	
6) Selling animals coming from suppliers 400 kg * 3.5 lei = 1400 lei			
4111	=	%	<u>1,736.00 lei</u>
“Customers”		707	1,400.00 lei
		“Income from selling products”	
		4427	336.00 lei
		„Collected VAT”	
- Discharge from the inventory: 400 kg * 2.5 lei = 1000 lei			
606	=	361	<u>1,000.00 lei</u>

“Expenses for animals and birds”	=	”Animals and birds”	
7) Getting farmyard manure based on the production report 1,500 kg * 1 lei = 1,500 lei			
346	=	711	<u>1,500.00 lei</u>
“Residual products”		“Changes in inventory”	
8) The use of farmyard manure for crops			
6028	=	346	<u>1,500.00 lei</u>
“Expenses regarding other consumables”		“Residual products”	
331	=	711	<u>1,500.00 lei</u>
“Products in progress”		”Changes in inventory”	
9) Material consumption for the vegetal production based on consumption bills			
6021	=	3021	<u>325.30 lei</u>
“Expenses with consumables”		“Consumable materials”	
6022	=	3022	<u>25,366.71 lei</u>
“Expenses with fuels”		”Fuels”	
6025	=	3025	<u>5,668.00 lei</u>
“Expenses regarding seeds and seeding”		”Seeds and seeding”	
331	=	711	<u>31,360.01 lei</u>
“Products in progress”		“Changes in inventory”	
10) Fodder consumption based on consumption bills			
6026	=	3026	<u>18,488.00 lei</u>
“Expenses with fodder”		”Fodder”	
11) Fodder consumption from own production			
6026	=	345	<u>28,080.00 lei</u>
“Expenses with fodder”		“Finished products”	
12) Records of the final products obtained according to cropping journal (lucerne, wheat, silo corn, corn, and barley)			
345	=	711	
“Finished goods”		“Changes in inventory”	
- Rectifying the unfinished products recorded until cropping time			
331	=	711	
“Products in progress”		“Changes in inventory”	
13) The consumption of seed from finished products			
6025	=	345	(corn)
“Expenses with seeds and seeding”		”Finished products”	
14) Recording the lease according to tenant contracts and invoice			
612	=	401	
“Dues and rental expenses”		”Suppliers”	
- Or 462 when the payment is in cash			
Notes: the rent is set at the capitalization price			
- Delivery of finished products to tenants according to the fiscal contract			

4111 = %  
 “Customers” 701  
 “Income from selling finished products”  
 4427  
 “Collected VAT”  
 - Compensation  
 401 = 411  
 “Suppliers” ”Costumers”

15) Recording the milk production according to the production report: 52,000 \* 1.48 lei = 76,960 lei

345 = 711 76,960.00 lei  
 “Finished products” ”Changes in inventory”

16) Recording operating subsidies

445 = 7411  
 “Subsidies” ”Incomes from subsidies related to the turnover”  
 5121 = 445  
 “Current bank accounts” “Subsidies”

### Case study on short-term financing decisions

We will process the balance sheet of the analyzed company at 31 December 2009 and 31 December 2010 as balance sheet equation as it follows:

Balance sheet of the analyzed company at 31 December 2009 and 31 December 2010

Tab. 1

ASSETS			LIABILITIES		
INDICATORS	2009	2010	INDICATORS	2009	2010
1.Intangible Assets	1,77,974	2,255,474	1.Equities	559,911	578,736
2.Tangible Assets	712,028	760,094	2.Debts >1 year	597,091	468,963
2.1.Stocks	230,006	494,197	3.Debts <1 year	522,396	877,605
2.2.Claims	95,113	105,441	4.Incomes in advance	812,004	1,090,264
2.3.Cash and bank accounts	386,909	160,456			
3.Expenses in advance	-	-			
TOTAL	2,491,402	3,015,568	TOTAL	2,491,402	3,015,568

In order to find out the way in which tangible assets are financed we will determine the following indicators: working capital, the need for the working capital and treasury.

*Working Capital (WC)*

Working Capital = Current Assets – Immobilized Assets

Or

Working Capital = Current Assets - Current Liabilities

Thus:

FRN<sub>2009</sub> = Current Assets – Immobilized Assets = 559,911 – 597,091 = 189,632 lei

Or

FRN<sub>2009</sub> = Current Assets – Current Liabilities = 712,028 – 522.396 = 189,632 lei

FRN<sub>2010</sub> = Current Assets – Immobilized Assets = 578,736 – 468,963 + 1,090,264 – 2,255,474 = -117,511 lei

Or

$$FRN_{2010} = \text{Current Assets} - \text{Current Liabilities} = 760,094 - 877,605 = -117,511 \text{ lei}$$

The need for working capital = Stocks + Claims – Exploitations Debts – Incomes in advance

$$NWC_{2009} = 230,006 + 95,113 - 522,396 = -197,277 \text{ lei}$$

$$NWC_{2009} = 494,197 + 105,441 - 877,605 = -277,967 \text{ lei}$$

Treasury (T) = Cash– Treasury credits

$$T_{2009} = 386,909 - 0 = 386,909 \text{ lei}$$

$$T_{2010} = 160,456 - 0 = 160,456 \text{ lei}$$

Or

Treasury (T) = WC-NWC

$$T_{2009} = 186,632 - (-197,277) = 386,909 \text{ lei}$$

$$T_{2010} = -117,511 - (-277,967) = 160,456 \text{ lei}$$

From the above presented data we can see that in the year 2010 the studied society has a negative working capital which demonstrates that it can not finance the NWC.

Both in 2009 and 2010 the treasury is positive, but it decreases in 2010.

### Profitability Indicators

In order to calculate the financial and economic profitability we will present the profit and loss account for the years 2009 and 2010 recorded in a processed form as follows:

Tab. 2

Profit and loss account for the years 2009 and 2010

INDICATORS (lei)	2009	2010
1. Exploitation incomes:	1,296,923	1,739,537
1.1. Turnover	1,069,569	1,128,691
1.2. Exploitation expenses	1,117,083	1,683,953
1.3. Exploitation profit	179,840	55,584
2. Financial incomes	14,973	39,957
3. Financial expenses	37,513	68,823
4. Financial losses	22,540	28,866
Total incomes	1,311,896	1,779,494
Total expenses	1,154,596	1,752,776
Gross profit	157,300	26,718
Tax (on profit)	25,651	7,893
Net profit	131,649	18,825

Note: for the indicators of profit and loss account we have considered:

- The average production/capita 6,800 liters/year – 305 days of normal lactations;
- Total milk production per year (2010): 585,595 liters
- Evaluated price per liter of milk: 1.29 lei – 1.48 lei
- Subsidies for milk : No
- Subsidies per capita: 415 lei/capita over 6 months in a year
- Subsidies for gas at 1 liter per declared surface
- Subsidies on terrain surface 461.54 lei/ha

Performance indicators for the year 2009 and 2010 recorded the following values:

Indicators (Lei)	Calculation formula	2009	2010
Financial profitability	$R_f = \frac{\text{Net Profit}}{\text{Own Capital}}$	$\frac{131,649}{559,911} * 100 = 23.51$	$\frac{18,825}{578,736} * 100 = 3.29$
Economic profitability	$R_e = \frac{\text{Result from exploitation}}{\text{Invested capital}}$	$\frac{179,840}{559,911 + 597,091} * 100 = 15.54$	$\frac{55,584}{578,736 + 468,963 + 1,047,699} * 100 = 5.31$

Where: Net invested Capitals = Own Capitals + Long-term debts + Short-term credits

Form analyzing these data we can conclude that rates in 2010 were much lower than in 2009 due to the higher exploitation expenses in 2010.

### CONCLUSIONS

In conclusion, as we have already demonstrated, in terms of accounting, the diary farms have a specific accounting records system such as: recording the weight gain, the purchase, the products, lease etc.

From a financial point of view we can see that this activity sector is a subsidized one and the profitability indicators decreased in 2010 compared to 2009.

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