Revenue management by changing calves feeding methods at The Development and Research Center for Cattle Breeding from Arad

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ABSTRACT

The purpose of this paper is to analyze and improve through recommendations the revenue management, in this case the turnover, applied by changing the method of feeding calves with age ranging from 0 to 6 months from the zootecchnical farm at the Development and Research Center for Cattle Breeding from Arad. This will be achieved by using an approved and certified feed substitute (milk powder) to feed the calves instead of the cow’s milk so that the milk produced by the dairy cows can be delivered to customers. The differences between the cost of buying and feeding calves with this substitute and the income from selling milk are substantial. By this method, the income of the resort and that of any zootecchnical farm will be maximized without endangering the health of the calves or the end-users. At the same time, we will disseminate the results obtained by applying this method in 2016, the results being conclusive.

Keywords: management, revenue, cattle, milk.

INTRODUCTION

The Development and Research Center for Cattle Breeding from Arad is a public institution, coordinator of tertiary credits being subordinated to the Academy of Agricultural and Forestry Sciences “Gheorghe Ionescu Şiseşti”. It belongs to the category of public institutions financed by own revenues and subventions from the state budget. Within the resort there are administrative departments, plant farms, livestock farms and the research department. Its income, primarily its main monthly income from milk sales is very important to the resort, supporting its research work on milk sales. The resort has a monthly average of 250 heads of dairy cows, with a total of about 700 animals. Male calves are not the subject of the resort’s research, the resort capitalizing on male calves by selling them. Changing their food from cow’s milk which is normally sold to customers to approved and certified food replacer (milk powder) has and had had a significant impact on revenue.

Early weaning and restricted-milk feeding programs have been widely used as strategies to reduce feeding costs of rearing young calves. This can be achieved through encouraging early intake of dry feeds that stimulates the rumen development and allows achieving satisfactory growth and good health using less milk. However, research during the last decade has shown the advantages of providing more milk replacer on improving calf growth, welfare, and future productivity (De Paula et. al. 2017)
METHODOLOGY AND DATA

The methodology used to carry out the research of this paper consisted of: collecting data on the milk consumption of each calf until the date of sale, the supplier’s invoices for the certified food replacer from all points of view both animal and meat consumer’s health, milk consumption vouchers for calves, customer’s invoices on the sold milk. All this was collected and used for the year 2016, the resort still using this revenue growth system. We also used specific techniques and tools for qualitative research, internal document analyzes, economic records and discussions with the resort’s managers. Also used were: comparative synthesis and analysis as well as data processing in IBM SPSS Statistics software leased by authors from a licensed user, all of which are useful in interpreting the results.

Table 1: Milk replacement purchase – year 2016(lei)

| Supplier Name | Date       | VAT Base | VAT  | Total    |
|---------------|------------|----------|------|----------|
| X             | 29.01.2016 | 922,5    | 77,59| 1000,09  |
| X             | 05.02.2016 | 2587,5   | 232,88| 2820,38  |
| X             | 07.03.2016 | 495      | 44,55| 539,55   |
| X             | 23.03.2016 | 2952     | 265,68| 3217,68  |
| X             | 13.04.2016 | 7390     | 665,1 | 8055,1   |
| X             | 16.05.2016 | 495      | 44,55| 539,55   |
| X             | 19.05.2016 | 7390     | 665,1 | 8055,1   |
| X             | 23.06.2016 | 7480     | 673,2 | 8153,2   |
| X             | 21.07.2016 | 7340     | 660,6 | 8000,6   |
| X             | 18.08.2016 | 7150     | 643,5 | 7793,5   |
| X             | 12.09.2016 | 7200     | 648   | 7848     |
| X             | 03.10.2016 | 2385     | 214,65| 2599,65  |
| X             | 19.10.2016 | 7200     | 648   | 7848     |
| X             | 14.11.2016 | 7420     | 667,8 | 8087,8   |
| X             | 12.12.2016 | 11025    | 992,25| 12017,25 |

The resort being registered in the VAT payers register, both the purchase of goods and their delivery are VAT-carrying, in our case the total cost with the purchase of the milk substitute is 79,432 lei.
Table 2: Milk replacer assortment centralizer – quantity and value – year 2016

| Assortment | Quantity (liters/kg) | Value excluding VAT (lei) |
|------------|----------------------|---------------------------|
| 1          | 4525                 | 32654                     |
| 2          | 5280                 | 5523                      |
| 3          | 1530                 | 1681                      |
| 4          | 300                  | 2202                      |
| 5          | 5500                 | 37372                     |
| Total      | 17135               | 79432                     |

Table 3: Commodity milk centralizer – year 2016

| Assortment | Value excluding VAT (lei) | Quantity (liters) |
|------------|---------------------------|-------------------|
| Milk sold  | 1532094                   | 2031158           |

Milk sold to customers in 2016 was 2,031,158 liters with a total value of 1,532,094 lei excluding VAT, which shows an average selling price of 1,3257 lei / liter. A calf can be fed under normal conditions per day with at least 3 liters of milk in the morning and 3 liters of milk in the evening (Dev. and research center, 2017).

RESEARCH RESULTS

Following the simplification and application of the income management processes described at The Development and Research Center for Cattle Breeding from Arad within the zootechnical farm in 2016, we found out the following: the average number of calves that should have been fed per day is 35. If they had been fed with cow’s milk – commodity milk – milk that could be sold, the minimum milk consumption per year would have been 35 x 6 liters x 365 days, meaning 76,650 liters. This translates monetarily using the average selling price of milk to 76,650 liters x 1,3257 lei/liter, meaning 101,614 lei. Since the revenue management system applied to calf feeding has been implemented, the difference earned in one year was 101,614 lei – 79,432 lei = 22,182 lei. This procedure has been verified by all Romanian state departments from the sanitary-veterinary, public health point of view and from the qualitative point of view both for the animals and for the human consumption of calf meat without any of these considerations being affected in any way. If we model these results and use them under the same economic conditions, the same number of average daily fed calves, the same purchase price of milk replacer and the same price of sold milk we can say that in 10 years the resort would have an extra income at an exchange rate of 4,5 lei / euro of about 50,000 euros. The same can be said for a farm with a capacity 10 times greater in a year. These features are also presented in the following figure:
CONCLUSIONS

In conclusion, we can say that the implementation of this modern income management system by changing the feeding of calves with age ranging from 0 to 6 months is of major interest for a large part of the private legal entities within the field of zootechnical activities and their implementation could change the income received to a large extent. Both public institutions and private legal entities of this type can benefit from applying this type of management when defining their mission, solving problems and obtaining results using these systems can only have a positive outlook. At the same time, we are looking with interest in future research in this area that should better emphasize how a change in a simple process can create considerably higher revenues for those organizations.

REFERENCES

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