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RESEARCH ON INTRODUCTION OF MODERN FEEDING SOLUTIONS FOR YOUNG FEMALE BOVINE INTENDED FOR REPRODUCTION

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Abstract

The main purpose of the work was to make a comparative research on the feeding of calves. The research was conducted in dairy farm Agroserv Mairut, Ialomita county. The farm has more then 1000 dairy cows that produce 35 litres per day. All there production is register in a program that help employees to manage all dairy process. The animals in the experiment belong to the Holstein breed. It was selected 30 animals and was formed two experimental groups (each group with 15 animals). The first group received a classic feeding scheme, and group 2 a scheme based on super-intensive feeding. From the statistical analysis it was observed that between groups the differences are significant, respectively 15 kg live weight.Monitoring of body weight is very important because the introduction theyoung females of reproduction is done at 70-75% of the average weight of the breed at the age of adult. On the other hand, early introduction to reproduction reduces the non-productive period of the animal.

Key words*:dairy cow, genetic, milk, breed.*

INTRODUCTION

Beside a good feeding program calves need a good genetic support in a farm depende by a good selection of females from first weeks of life. Females are the future of a dairy farm, calves femele need a good mother and a good sire too.Farmers need evaluate the sire after their standardised transmitting abilities and predictability. The sire age is important too, theoretically, the most rapid rate of genetic progress is achieved by using young sires (Tyler and Ensminger, 2006;Schefers and Weigel, 2011).

New super-intensive fedding program is to produce remplecement heifers that will will implement a feeding and breeding program for youngstock, and the dairy breed will excel regularly and without problems. To plan a productive winning life for dairy cows, it is necessary to reduce health problems.Each generation should represent genetic progress over the previous generation and the farmer need thing about starter of all calves and to find good solution that are fitting in dairy

The number of replacement, in the farm, each year to mantain herd size depend on the culling rate because of disease, injury, low production, or poor type. Normal turn over is over 30 percent each year. To meet this need, to allow some opportunity for culling undesirable first calf heifers, it is necesary to raise approximately one third each year. Is better to produce your own heifers than to buy one, is better when you know that your animals are in good conditions.

This are the points that are making a interes for farmers and will improve the genetic part giving better heifers who will give for dairy daughters and year by year the farm will pogress in the direction that the farmer propose it. Most of time dairy farms propose better quality and quantity of milk.

There are many factors that can influnce calves welfare in that first 2 months: calving difficulty; calving environment; quantity and quality of colostrum; how soon after birth is fed; housing; ventilation; clean and dry bedding; incidence and severity of scours and respiratory diases; the amount of milk or milk remplacer; quality and consistency of solids and nutrients; quantity and quality of water; adjustements in feeding program and housing due to temperatures outside calf's zone of

thermal neutrality (Cziszter et al., 2003; Vidu et al., 2015).

First 24 months of age the heifers will gain 780-860 grams per day and heifers on their first calving will weight around 600 kilos and 580 kilos after calving. Cows lose 11% from there weight after calving.

This percent represent the value of fluids tissues associated with calving. Next month following weaning (2 months of age), this period mean a transsion key that the body of young femalesneed be prepared.

In first two months farmers put calves in big groups, here are feedding with a starters feeding program or sometime they are putting on TMR forage, the result is gut fill, which distorts any true body wieght growth and actually often reduce it (Table 1) (Britt, 2017;Wiggans et al., 2017).

Table 1 Correlation of body weight with age

Age (months)	Body weight (kg)	% from mature body weight
0	48.75	6.5
1	72.75	9.7
2	96	12.8
3	123.75	16.5
4	151.5	20.2
5	168	24
6	207.75	27.7
7	235.5	31.4
8	262.5	35.0
9	291.75	38.9
10	318	42.4
11	347.25	46.3
12	374.25	49.9
13	402.75	53.7
14	430.5	57.4
15	458.25	61.1
16	485.25	64.7
17	513.75	68.5
18	541.5	72.2
19	570	76.0
20	597	79.6
21	624.75	83.3
22	653.25	87.1
23	681	90.8
24-precalving	705	94
24-postcalving	637.5	85

MATERIALS AND METHODS

The investigated material consisted of 30 calves (Figures 1 and 2), divided into two groups:

- *Group number 1*:15 calves, which are feeding after clasic program (Table 2);
- *Group number 2*: 15 calves, which are feeding with a super-intensive feeding program (Table 3).

Calves are raisedin the same barn and the same conditions.

The classic feeding program for group number 1 is presented in Table 2.

Table 2.Classic feeding scheme

Age of calf	Feeding scheme
0-5 days (colostrum period)	6 liters/day
6-15 days	6 liters cow milk, water and concentrate ad-libitum
16-40 days	8 liters cow milk, water and concentrate ad-libitum
41-50 days	6 liters cow milk, water and concentrate ad-libitum
51-55 days	4 liters cow milk, water and concentrate ad-libitum
56-67 days	1 liters(in the morning) cow milk, water and concentrate ad-libitum
68-77 days	Only concentrate

For the second group feeding scheme involves the use of large quantities of milk (Table 3).

Table 3.Super-intensive feeding scheme

Age of calf	Feeding scheme
0-7 days (colostrum period)	6 liters colostrum/day, water and concentrate ad-libitum
8-60 days	12 liters cow milk, water and concentrate ad-libitum
61-67 days	6 liters cow milk (in the morning), water and concentrate ad-libitum
68-77 days	only concentrate

The calves were weighed at birth and at the end of feeding milk (weaning).

The data obtained were statistically processed, and we used the Student test to compare the results.

Figure 1. Calves of experimental groups

Figure 2. Calves of experimental groups

RESULTS AND DISCUSSIONS

Applying a scientific feeding requires knowledge of basic elements such as:
- the morpho-functional features of the digestive tract in this category;
- specific feed standards;
- the feedingstuffs indicated for calves,
- the methodology and standard procedures to follow;
- the technique of feeding and watering calves.

In this period the animals are expose to many stress factors as blood test, dehorning, ear tag, and in the 60 day they are forced to eat only concentrate because milk meal is stopped.
Not only weight wasimportant, the same importance had the hight.From birth to first calving the animal need to growth more than 96 cm, this depende by genetic.
Is very important that calves to be measurethe hight and weight at birth, 2 months of age, 6 months of age, a year of age and right prior at fist calving. If the animals did not achieve the weight and the height set, it should be seen where the growth program was wrong.
In Table 4 we can see the evolution of the body weights of the cattle through the two feeding schemes.
From the analysis of the average values of the body weight of the experimental groups, group 2 achieved a higher weight to 15 kg.
The chosen animals for the comparative experiment had equal weights.
From the experiment, we can see that a feeding scheme based on a larger quantity of milk stimulates the weight gain of the calves.
The statistical differences between the two experimental groups are significant ($p<0.05$).
The quality of the youngstock is of particular importance for dairy farms, because the new generation must be genetically superior to the old one - replaced.
The duration of the experimental observations was 77 days. At the end of the period between the two experimental groups there were notable differences.
Group 1, fed with the classic scheme, achieved a mean average weight gain of 32.44 kg.
Group 2, fed with the modern scheme, achieved a mean average weight gain over the entire feeding period of 46.94 kg (Table 4).
The statistical calculation performed for group 1 shows a daily average body weight increase of 421 g and for group 2 an average daily gain of 609 g.
These average values are comparable to those in the literature, so that Georgescu et al. (2006) recommended for calves (0-3 months) with body weight between 40-60 kg, average daily gains of 400-600 g.

CONCLUSIONS

Growing youth for reproduction is an important problem on the farm. Respecting feeding procedures in the first part of life leads to healthy and fit animals to produce significant amounts of calves and quantity of milk.
Our experiment has shown that other feeding schemes for calves can also be practiced in order to ensure a harmonious and quickly growth of young females.

Table 4. Results of experimental observations

Experimental group 1			Experimental group 2		
No.	Birth weight (kg)	Weaning weight (kg)	No.	Birth weight (kg)	Weaning weight (kg)
1	50	89	1	50	102
2	32	90	2	32	75
3	55	91	3	55	105
4	45	78	4	45	92
5	43	75	5	43	90
6	42	74	6	42	91
7	41	75	7	41	84
8	40	76	8	40	82
9	39	79	9	39	81
10	43	78	10	43	87
11	45	77	11	45	107
12	46	75	12	46	110
13	44	72	13	44	91
14	43	71	14	43	93
15	42	68	15	42	99
X		**77.6**	X		**92.6***

* $p<0.05$

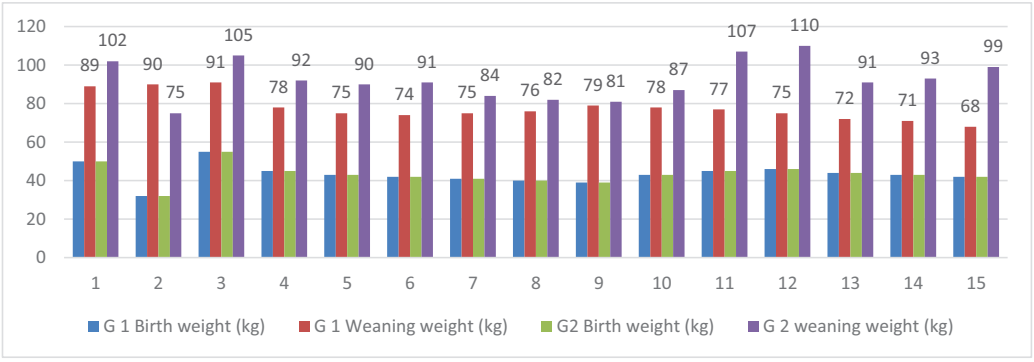

Figure 3. Weight variation between experimental groups

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