DEVELOPMENT WITH THE CATLE OF THE PASTURE LANDS IN THE MOUNTAIN AND HILL AREA

VALORIFICAREA CU TAURINELE A FONDULUI PASTORAL DIN ZONA MONTANĂ ŞI SUBMONTANĂ

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The fact that about 60% of the pastoral background of the country is situated in the mountain and sub-mountain area pleads for the real chances of reevaluating the bio-vegetal fodder by the ruminants in order to obtain products with high biological value. The technology Beef Cow represents raising and exploiting cows exclusively for the meat production. At ICDM Cristian-Sibiu there was made up an experimental group of eight cows from Romanian Spotted and Brown breeds with specific characteristics for the beef production, which have been exploited in the system of free stabling, applying strictly the Beef Cow technology. This paper represents a present solution and an offer of the research team from ICDM, for the agricultural exploitations in the mountain and sub-mountain areas, where the exploitation of the dairy cows is in a risk area.

Key words: cows, beef cow, pastoral background.

Introduction

The mountain region in Romania represents 32% of the national territory. The fact that about 60% of the pastoral background of the country is situated in the mountain and sub-mountain area, pleads for the real chances of reevaluating the vegetal biomass by the ruminants, in order to obtain products with high biological value.

The favorable pedo-climate conditions in the mountain and sub-mountain area, the increasing demand of the internal and European market for beef, as well as the difficulties of collecting and reevaluating the production of cow milk in the area require the orientation of the raisers towards the exploitation of cows for the meat production. An alternative to the production of fattening calves is the technology of beef cows (nurse cow, cow and calf).

The beef cow technology represents raising and exploiting cows exclusively for the meat production. It implies raising the cow together with her calf on the pasture and their revaluation when a maximum of meat production can be obtained under reliable conditions of economic efficiency. The whole quantity of milk of the cow is sucked by the calves. In this system the importance of the breeds with medium body development is increasing.
Materials and Methods

Within our unit there has been formed an experimental group of 8 cows from Romanian Spotted and Brown breeds with specific characteristics for the beef production bred in April - May. We had in view: the situation of animals, the medical veterinary situation, arranging the shelter, feeding, the reproduction activity, the dynamics of putting on weight in the calves, arrangement, rational exploitation and improvement of the pastures etc. The pasture used for exploitation with the cows in the experimental group was situated in the proximity of the shelter, with a possibility of ensuring permanent water, salt, supplementary fodder, shade, ways of access, enclosure etc. The grazing was done on lots delimitated with electric fence.

The calvings occurred during the period February - April, in the space for accommodation furnished with deep straw beds.

Results and Discussions

The housing of the animals in the experimental group was made in free stabling system, in a simple shelter, semi-opened, with paddock, divided for two categories of animals: adults and calves. During the night the animals stayed inside the shelter and during the daytime the animals have been kept on a pasture divided into three parts, delimited by an electric fence. The period of pregnancy for the experimental group lasted for 165 days, and the period of pasturing lasted for 200 days. The calvings occurred normally; at the heads the caretaker had a minor intervention. There have been no cases of sickness either in cows or in calves.

In order to qualitatively and quantitatively improve the pasture destined to the experimental group a series of works were needed, which consisted of: cleaning of vegetal remaining and stones, destroying the hills and leveling the soil, organic fertilization, over-seeding with mixtures of perennial grasses and legumes. Before taking out animals to graze, a test of the pasture have been made in order to find out the presence of biotopes for parasites and intermediate hosts, or the toxic plants or potentially toxic ones. Taking into account that the pasture destined to the experimental group was in the proximity of the unit and that it is a well maintained pasture there have been no problems that could have hindered a safe grazing of the animals. The animals have been gradually accustomed to the grass on the pasture, with transitory rations and moderated grazing during the first days. There has been arranged an access lane from the shelter to the pasture, so that from each lot there could get to the shelter without disturbing the other lots. The grazing took place on lots delimited by electric fences. Pasture maintenance works have been carried out during the period of grass recovering (spreading the shit, mowing the remainings etc.)

In graph No. 1 the growth in weight of the calves in the experimental group during the grazing period.
Graph No. 1. The dynamics of the average daily gain in weight of the experimental group during the period May – September 2005

The development and the growth in weight have various values, between 533-1500 g/day in males and between 533-1333 g/day in females. The harmonious development, the result of the growth in weight and of the average daily gain reveals the real biological potential of these animals.

After birth, the suckling capacity of the mothers was determined twice a month, by isolating the calves, complete milking of the cows, weighing the milk and then giving it to the calves in a bucket.

During the first 15 days of life, calves drunk on average 6-8 liters of milk per day in 3-4 portions and then the quantity increases to 10-12 liters per day. Advance in age of the calves, as well as their gain of weight during the grazing period, does not imply an increased quantity of maternal milk, but an increase of the use of concentrated feed, on average with 20-25%, at the same time with the increased consumption of green feed, emphasized by the increased number of grazing hours from 1.1 hours/day to 4-6 hours/day. During the May-August period, due to the favorable weather conditions superior productions of green mass were recorded, from the quantitative and qualitative point of view, materialized both in increasing the milk production and especially by increasing the veal production.

We consider that the tendency of the calves kept of the pasture towards an increase of the green feed during the August-October period, when the quality of the vegetal carpet changed, was determined by the quality and the freshness of the fodder. The qualitative and quantitative changes of the pasture, also, determined a decrease of
the milk production in mother cows and consequently a smaller quantity of veal during this period.

Graph No. 2. Evaluation of the capacity of suckling of the cows in the experimental group during the grazing period

Table 1

The grazing programme of the animals in the experimental group according to the quality and quantity of green fodder

<table>
<thead>
<tr>
<th>Lot</th>
<th>S ha</th>
<th>Green mass kg/ha</th>
<th>Green mass/ Lot kg</th>
<th>Determination date</th>
<th>Grazing period days</th>
<th>Remaining Green mass consumed kg</th>
<th>Average Consumption per day kg</th>
<th>Use coeff. %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.936</td>
<td>8013</td>
<td>7500</td>
<td>11.06.05</td>
<td>8</td>
<td>2450</td>
<td>5050</td>
<td>631</td>
</tr>
<tr>
<td>2</td>
<td>1.076</td>
<td>13801</td>
<td>14850</td>
<td>20.06.05</td>
<td>14</td>
<td>5701</td>
<td>9149</td>
<td>653.5</td>
</tr>
<tr>
<td>3</td>
<td>0.787</td>
<td>11450</td>
<td>9010</td>
<td>04.07.05</td>
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<td>2510</td>
<td>6500</td>
<td>650</td>
</tr>
<tr>
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<td>13234</td>
<td>12387</td>
<td>14.07.05</td>
<td>11</td>
<td>4797</td>
<td>7590</td>
<td>690</td>
</tr>
<tr>
<td>2</td>
<td>1.076</td>
<td>12752</td>
<td>13721</td>
<td>25.07.05</td>
<td>14</td>
<td>4761</td>
<td>8960</td>
<td>640</td>
</tr>
<tr>
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<td>13694</td>
<td>10774</td>
<td>08.08.05</td>
<td>12</td>
<td>2794</td>
<td>7980</td>
<td>665</td>
</tr>
<tr>
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<td>7165</td>
<td>20.08.05</td>
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<td>2650</td>
<td>4515</td>
<td>645</td>
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<td>2300</td>
<td>6450</td>
<td>645</td>
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<tr>
<td>4</td>
<td>1.600</td>
<td>9000</td>
<td>14400</td>
<td>19.09.05</td>
<td>18</td>
<td>6500</td>
<td>7900</td>
<td>440</td>
</tr>
</tbody>
</table>

605
The duration of the grazing period on a lot was established on basis of the quantity of green feed, the coefficient of use, as well as the necessity of green feed for each animal, evaluating 55 kg green feed/head for cows and 15-20 kg green feed for calves, according to their age and weight. For calves, a permanent shelter on each lot was ensured, where a supplementary concentrated feed in quantity of 1.5-2.5 kg/head/day was brought.

Table 2

<table>
<thead>
<tr>
<th>Grazing cycle</th>
<th>Lot no. 1</th>
<th>Lot no. 2</th>
<th>Lot no. 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Green feed/ha kg</td>
<td>Coefficient of use %</td>
<td>Green feed/ha kg</td>
</tr>
<tr>
<td>1</td>
<td>9168</td>
<td>65.29</td>
<td>12476</td>
</tr>
<tr>
<td>2</td>
<td>8013</td>
<td>67.33</td>
<td>13801</td>
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<tr>
<td>3</td>
<td>13234</td>
<td>61.27</td>
<td>12752</td>
</tr>
<tr>
<td>4</td>
<td>7655</td>
<td>63.01</td>
<td>10325</td>
</tr>
<tr>
<td>Total</td>
<td>38070</td>
<td>-</td>
<td>49354</td>
</tr>
</tbody>
</table>

Analyzing the economic situation of the experimental group after a year, regarding strictly the productions obtained, a profit of 290.88 RON/head in the mother cows and 118.28 RON/head for the calves was obtained. As the milk production was meant especially for the calves, the profit achieved is due to the secondary production (stable manure) and to the quantity of milk estimated to be milked until weaning. In calves, the profit is achieved by reevaluating the main product (veal), not to mention the subsidies given according to provisions of the Government Decision 64-65/I 2005. The quality of meat obtained by this method was superior by its taste.

Conclusions

The results of the daily average gain (533-1500 g) obtained in calves living with their mothers, having an average daily milk consumption of 8-10 liters/head/day, supplementary concentrated feed of 1.5-2.5 kg/head/day, having unlimited green feed, points out the biological potential of these breeds.

The native breeds Romanian Spotted, Simmental as well as Brown, and their combinations which have low milk productions (1800-2000 liters) are suitable to be used in order to obtain beef.

The necessary arrangements in order to raise animals which are suitable to the beef cow technology are simple and cheap from the economic point of view.

The use of the technology of raising and exploiting the beef cow can represent the solution of the future for the exploitations in the mountain and sub-mountain areas, where over 60% of the natural pastures of the country can be
found and where the exploitation of cows for the milk production are in risk areas due to the fact that the European regulations cannot be complied with.

The regeneration and improvement of the pastures’ quality in the mountain and sub-mountain area by applying the experimental techniques and technologies (organic fertilization, using electric fence for separation etc.) leads to an increased vegetal production, increased beef production in young cows, improving the quality of the environment and last but not the least an increased income of the peasants.

Bibliography

6. **Zalan Kinda** (2005)- *Why Should We Choose Cows which suckle (nurse cows)?*, Magazine The Farm, no. 2, page 49.

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Faptul că aproximativ 60% din fondul pastoral al ţării se află în zona montană și submontană a ţării pledează pentru șansele reale ale valorificării biomasei vegetale de către rumegătoare, pentru obținerea de produse cu valoare biologică ridicată. Tehnologia Vaca de carne reprezintă creșterea și exploatarea taurinelor în mod exclusiv pentru producția de carne. În cadrul ICDM Cristian – Sibiu a fost constituit un lot experimental format din opt capete vaci din rasa Bâlțătă Românească și Brună, cu caractere specifice pentru producția de carne, care au fost exploatate în sistem de stabulatie liberă, cu aplicarea riguroasă a tehnologiei Vaca de carne. Lucrarea reprezintă o soluție actuală și o ofertă a colectivului de cercetători din cadrul ICDM, pentru exploatațiile agricole din zona montană și submontană, unde exploatarea bovinelor pentru producția de lapte este în zonă de risc.

**Cuvinte cheie:** bovine, vaca de carne, fond pastoral.