

Preliminary Results for Ways to Increase Meat Production in Cattle

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Abstract

In order to improve the quality and quantity of meat production in cattle in the ICDM Cristian institute and two private farms, Beef Technology and Artificial Insemination was applied. Artificial Insemination was performed with semen from bulls of meat breeds (Charolaise, Bleu Belge, Aberdeen Angus). The average daily gains obtained were between 0.40-1.30 kg / head / day, varying based on race, sex, technology applied, etc.

Key words: average daily gain, cattle, meat production.

1. Introduction

The problem of raising cattle is a priority in our country and is one that should not just be looked at from a short-term and medium-term perspective, but also from a long-term perspective. The current private farm operation preference for raising cattle is to raise dual-purpose breeds to produce meat-milk or milk-meat cattle. The intent is to gather evidence to prove that this mixed type of production is considered the most efficient means to achieve high milk and beef production. To achieve this objective it is necessary to know the productive potential of the animals by including officially controlled herds, herds from breeding organizations supported by county Fertility and Reproduction offices and local cattle associations, herds from breeders that follow the practice of artificial insemination with deep-frozen bull semen, herds from breeders focused on improving feed quality, upgrading barns conditions, etc. Technologies have been implemented and adapted to promote activities that lead to quantitative growth and qualitative improvement of meat production. The objective of the work aims to improve the quality and quantity

of meat production in cattle in the ICDM Cristian and two private farms, by applying Beef Technology and Artificial Insemination with semen from bulls of meat breeds.

2. Materials and methods

In order to increase meat production in cattle in the ICDM Cristian institute and two private farms, Beef Technology was implemented by mixing native Romanian Simmental breeds with bulls from specialized breeds for meat production.

The ICDM Cristian institute selected a batch of 6 breeds of Romanian Simmental cattle, in order to continue the experiment of increasing meat production by applying the Beef Technology[1]. The task consisted of selecting animals based on specific profiles corresponding to the Beef Technology: body classification and analysis, high grade nutrition program, and performance value. Attention was paid to the welfare of the animals by upgrading barn conditions, ration consumption and nutritional feed distribution. Calves were measured and weighed each month to determine the increase in body weight.

Also, to improve meat production, the ICDM Cristian institute conducted Artificial Insemination was performed in cattle breeds such as Aberdeen Angus and Charolaise using high

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quality semen from bulls specialized for meat production.

Our institute used the fattening system in order to implement the private agriculture system and promoted cattle growth using higher beef production technology. By doing so, we identified the farmers and their fattening systems and adapted their proposed technology. There were two private farms identified from which technologies and practices were implemented by our company. First, the Beef Technology and secondly, mixed breeds produced specifically for meat, respectively Charolaise and Aberdeen-Angus.

The first farm chosen had 6 cows from the Romanian Simmental breed, with a body type classified specifically for Beef Technology. The cattle were maintained in a loose housing system and calving was forecasted between February-March. The farm offered an upgraded shelter for

calves from 3 weeks old, in which additional nutritional feed was offered such as maize and wheat, and also feed that was obtained from their own produc such as, bran, alfalfa hay, salt and discretionary water. During grazing, the farmer had rented a pasture plot with an electric fence, where calves grazed with their mothers. Efforts were made to ensure that the animals had discretionary water and a bower for periods of heat at all times on the plots.

3. Results and discussion

Weight gain in calves raised using Beef Technology in the ICDM Cristian institute varied depending on period, sex, age, etc. The institute achieved increases ranging between 0.460-1.640 kg/head/day. The best increase in weight was obtained between 120-180 days.



Figure 1. Pasture lot with electric fence

In mixed breeds with Aberdeen Angus cattle, weight increase was within a range of 0.500-0.1540 kg/head/day, while in mixed breeds with Charolaise the increase was between 0.500-1.380

kg/head/day. It is irrelevant to compare the results because the Charolaise cattle were all female while Aberdeen Angus cattle were all male



Figure 2. Beef Technology

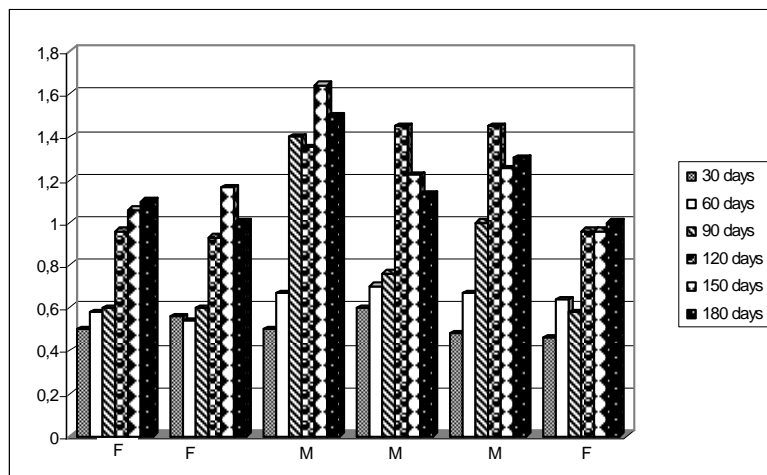


Figure 3. Average daily gain on experimental plots

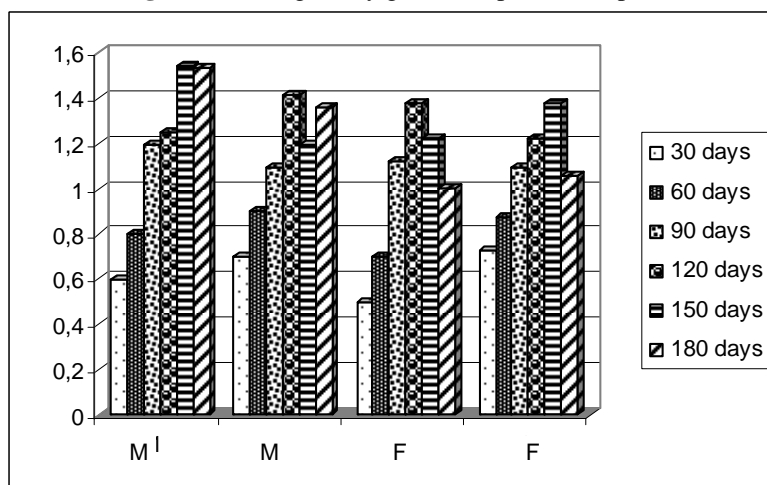


Figure 4. Average daily gain in mixed breeds

In private farms, development and weight gain of calves using Beef Technology recorded variable values, ranging between 0.400-1.300 kg/head/day.

The results obtained from ICDM Cristian institute were similar and comparable to those from other authors [2].

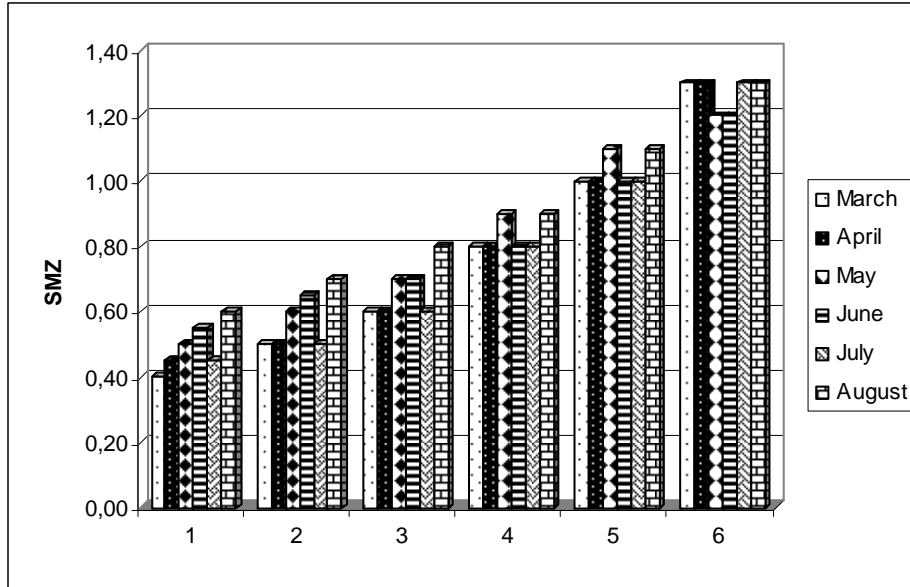


Figure 5. Implementation of Beef Technology in private farms

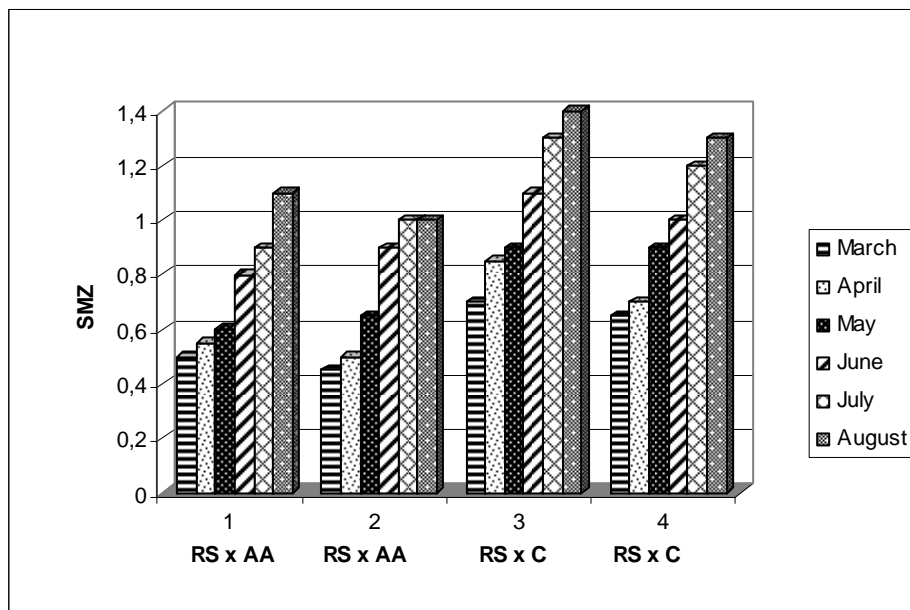


Figure 6. Average daily gain in mixed breeds in private farms

During this period, the cows were not milked making all of the milk available to calves. Calves were measured weighing between 174-189 kg, representing a profit rate of 10%. Meat production revenue was also subsidized by the Romanian Government.

The new approach in our country of increasing cattle farming production through Beef Technology is not just a matter of accepting new technology; it is more about understanding and actively participating in economic growth using this technology. This technology presents a high degree of complexity in the sense that efficiency

depends not only on the genetic potential of livestock, but also on the productive potential of the rangelands and in particular on technological discipline. Realizing the potential of Beef Technology is not just about raising and farming animals, it is about integrating the technology of superior capitalization of livestock genetics with that of the lands, especially of natural and cultivated pastures.

In the second private farm, calves produced by Artificial Insemination with bull semen from Charolaise and Aberdeen Angus breeds, had birth weights ranging between 40-45 kg and had average daily gains ranging between 0.650-1.400 kg. Calves produced from 44-Charolaise and Angus mixed breeds weighed 45 kg and had average daily gains of 0.450-1.100 kg.

4. Conclusions

Experimental data obtained within our unit that refer to growing cattle for meat production by applying Beef Technology, reveals the possibility of realizing average daily weight increases in calves of between 0.460-1.640 kg/head/day, increases that are supported by the results obtained in the mentioned reference literature.

Growing cattle on private farms using Beef Technology, resulted in average daily weight increases in calves ranging between 0.400-1.300 kg/head/day. In the ICDM Cristian institute, the calves produced by Artificial Insemination with bull semen from Aberdeen Angus and Charolaise breeds, resulted in average daily weight increases ranging between 0.500-1.540 kg/head/day for Aberdeen Angus calves and between 0.500-1.380 kg/head/day on Charolaise calves.

In private farms where calves were produced by Artificial Insemination with semen from bulls specialized in meat production, average daily weight increases were measured ranging between 0.650-1.400 kg/head/day in Charolaise calves and between 0.450-1.100 kg/head/day in Aberdeen Angus calves.

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