STUDY PERFORMANCE OF HYBRID SHEEP OBTAINED FROM CROSSING OF AWASSI RAMS WITH EWE TIGAIE

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Abstract

    The purpose of the investigations was to analyze the performance of sheep milk production from crossing F1 hybrid of local sheep with Awassi rams. Milk production control was done after EU methodology, using the A4 control method. After we centralize and analyse the statistical data was evident superior productive hybrid population comparison to maternal race. Thus, while the group consisting of female Tigaie was a daily average production of 0.779 litres per lactation, the F1 hybrid females achieved higher average daily production by 30.01% or 1.013 litres/capita/day and the total lactation. Evaluation of data resulting from the checks carried out reveal that the Awassi breed positive improves milk production to the race pans. It had also been found that maximum milk production was recorded in the second month of lactation, the average monthly production was 1.300 litres/capita/ day in experimental group and 0.950 litres/capita/day in control group. To limit the influence of various factors indicated that both groups throughout the control received the same conditions of maintenance and nutrition. This study highlights the potential of higher production recorded in F1 hybrid population resulting from crossing local sheep with Awassi rams bred Tigaie.

    Key words: Tigaie, Awassi, milk

INTRODUCTION

Increasing milk production at sheep can be achieved by increasing flock of sheep, but especially by increasing the average production of individual, while providing greater efficiency and economy through lower cost. Is known the fact that increasing milk production is possible by improving the genetic potential of animals which can be achieved by selection pressure, pressure exerted by the rams used for breeding value for milk production improvement methods towards. The establishment of breeding values of rams for milk production is achieved by testing them as descendants [1].

Performance Analysis of milk production is aimed at determining the productive capacity of the animals producing milk for their improvement and to test the breeder quality of the rams used for breeding.

MATERIAL AND METHOD

The study was conducted in S.C.D.C.O.C. Secuieni-Bacău, the analysed populations being the one existed in the unit. In the study sheep formed two batches, a control one composed of existing Tigaie sheep bred in the unit and an experimental batch consisting of F1 hybrid population resulting from crosses of Awassi rams with Tigaie sheep. Productive performance of the two batches were assessed by official control of production using A4 method, four controls were performed on a total duration of lactation of 220 days. The data were statistically processed using ANOVA method (mono-factorial dispersion analysis) [4].

RESULTS AND DISCUSSIONS

Milk production was determined in both batches after 60 days of suckling, thus realizing the first official control on the fifteenth day of the separation of sheep lambs from mothers. The data obtained were statistically processed and are given in table 1 and figure 1.

Table 1
Average productions (ml. milk/sheep head/day) recorded in the official control of milk production

Batch		Official control of milk production			
		C1 15.05.2009	C2 13.06.2009	C3 18.07.2009	C4 27.09.2009
Control batch (Tigaie)	$\overline{X}$	885.00	950.00	857.00	748.00
	s	98.96	104.71	107.12	105.48
	$\pm s\overline{X}$	9.19	9.72	9.95	9.79
	V %	11.18	11.02	12.50	14.09
Experimental batch (F1 Tigaie x Awassi)	$\overline{X}$	1200.00	1300.00	1150.00	900.00
	s	144.95	131.28	142.92	150.00
	$\pm s\overline{X}$	14.87	13.47	14.66	15.39
	V %	12.08	10.10	12.43	16.67

As is apparent from the data presented in the above table we see that at the second official control of milk production, performed on May 15, which is the third month of lactation, were the highest values of milk production, control batch making a daily average production of 950 ml., while the experimental batch achieved an average daily production of 1300 ml. If we analyse the milk production dynamic could be found that the control batch recorded at the first inspection of milk production with less than 6.68%, 9.78% lower with the third control and 21.20% lower in the fourth control compared with the quantity of milk produced in the second inspection which saw the maximum amount of milk produced, while the experimental batch recorded a quantity of milk lower in the first control 7.69%, with 11, 53% at the third one, and 30.70% in the fourth control compared to the quantity of milk produced in the second official control when there was obtained the maximum quantity of milk.
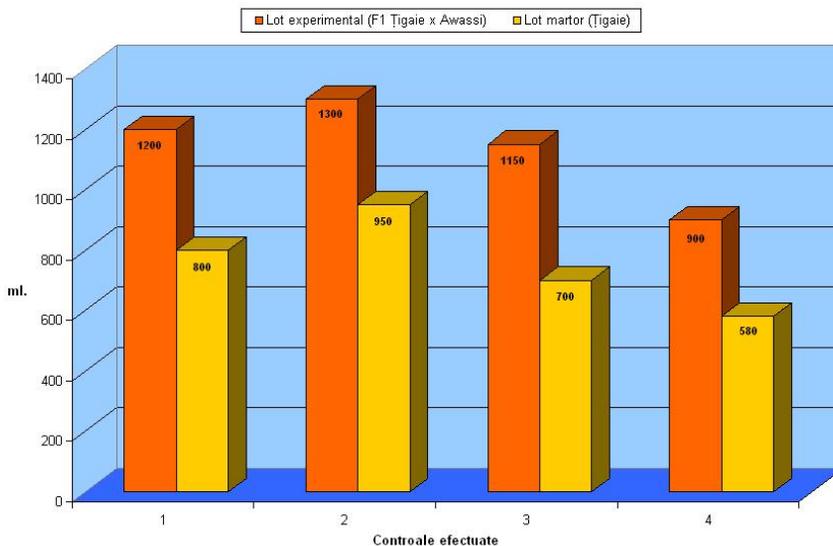

Figure 1 Average production/day control (ml. milk/sheep head/day) recorded in the official control of milk

If we consider the average milk production (reported per sheep per day for total lactation) notes that experimental batch of hybrid population (Awassi rams x Tigaie sheep) F1 has made production with 30.01% higher compared with the population control group (sheep Tigaie), as shown in figure 2.
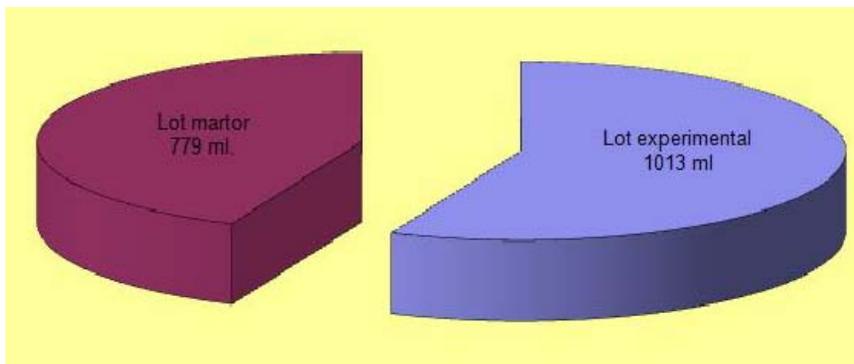

Figure 2 Average production of milk obtained from the two batches
(ml./head sheep/day/total lactation)

In table 2 is reproduced the average milk production for total lactation, calculated according to the methodology of calculation stipulated in the implementing rules of the official control of milk production, using the FLEISHMANN formula [3].

Table 2
Average production per total lactation (ml. milk/sheep head/day)

Batch		Average milk production per total lactation
Control batch (Ţigaie)	$\overline{X}$	779
	s	94.78
	$\pm s_{\overline{X}}$	8.80
	V %	12.17
Experimental batch (F1 Ţigaie x Awassi)	$\overline{X}$	1013
	s	128.74
	$\pm s_{\overline{X}}$	13.28
	V %	12.73

According to data presented in the table above the control batch achieved an average of 171.380 litres of milk while the experimental batch achieved a higher production with 30.01%, averaging 222.860 litres of milk. The two batches have close variation indexes, both control batch and experimental one having an average variance of about 12%.

As qualitatively was analysed the content of milk in dry matter, protein and fat. Comparing data from two studied batches, also here we see a qualitative superiority of the production obtained from the experimental batch as shown in table and figure 3, with higher values at all three indicators considered for study respectively milk content in dry matter, protein and fat.

Table 3
Content in dry matter, protein and fat of the milk obtained from the two studied batches

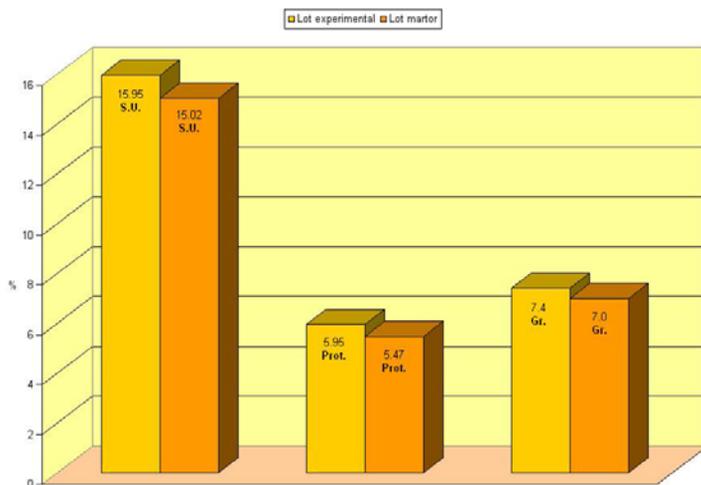| Batch	Chemical composition		
	D.M (%)	Proteins (%)	Fat (%)
Control batch (Tigaie)	15.02	5.47	7.0
Experimental batch(F1 Tigaie x Awassi)	15.95	5.95	7.4

Figure 3 Content in dry matter, protein and fat of the milk obtained from the two studied batches

It should be noted that the performance evaluation of the milk quantity was ensuring identical conditions for the both batches not to influence the production of the tested batches.

CONCLUSIONS
- Data obtained show that Awassi rams have the ability to transmit the performance of milk production, batch F1 half-breed recording higher values both quantitatively and qualitatively.
- The results indicate that these crossings can be extended, so putting is the creation of a new sheep populations specialized for milk production.

- Experimentally batch achieved an average production of 222.860 litres/total lactation, production that is above the performance of the race operated in Romania [2].

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