RESEARCH REGARDING UDDER CONFORMATION ON NEW DAIRY SHEEP POPULATION FORMED BY CROSSING ȚIGAIE EWE WITH AWASSI RAMS

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Abstract

Breeders have big problem with the absence of human resources from the sheep raising area, for that reason are more interested by machine milking in dairy sheep and implicitly for udder conformation and machine milk ability. The aim of this research is udder characterisation of Awassi Ro population formed in Romania by crossing of Tigaie ewe with Awassi rams. For udder conformation was evaluated ewe in the second day after lambs weaning for following traits: teat placement, teats angle in vertical plane, degree of udder suspension and udder depth using Nine-point linear scale for udder traits. The results show a good placement for teats in horizontally plane. With number of lactation increasing increase the number of asymmetric udders and pendulous udder cases. The marks for udder depth were between 4 and 8 points. The ewe with more than three lactations had before 6 points for udder depth.

Key words: Awassi Ro, udder conformation, dairy sheep

INTRODUCTION

In Romania breeders have big problem with the absence of human resources from the sheep raising area, for that reason are more interested by machine milking in dairy sheep and implicitly for udder conformation and machine milk ability. Awassi-Ro is a dairy sheep population formed by crossing Tigaie ewe with Awassi rams using recurrent backcrossing scheme. The principal character in breeding program of Awassi Ro is milk production and this is correlated with udder traits. That kind of research was made on dairy sheep in the world.

A linear method for sheep udder appraisal is used for traits scored on nine-point linear scale. It is knotweed that traits like udder depth, udder attachment, teat placement are correlated with milk production, milk ability for machine milking, mastitis incidence [1], [2], [3], [4],[5].

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MATERIAL AND METHOD

This study was made on 80 heads of Awassi Ro ewe raised in the Research Station for Sheep and Goat Farming from Bacau. In the second day after lambs weaning was evaluated udder conformation of each ewe take in study for following traits: teat placement, teats angle in vertical plane, degree of udder suspension (for udder depth appreciation) using Nine-point linear scale for udder traits [5].

Data collected was proceeding after classical methodology and related in systematic tables.

RESULTS AND DISCUSSIONS

In table 1 is presented statistical results for: teat placement, teats angle in vertical plane and udder drop.

Regardless of lactation rank we can observe that Awassi Ro sheep have a good teats placement on horizontal plane with 3 points that being optimal mark for this trait. The null value of standard deviation, variation and variability degree shows a good consolidation of this trait.

For sheep that are in the first lactation we can observe an optimal udder drop with an average of 6.17 points, which are close to

optimal value for this trait of 7 point, with limits between 4 and 7 point. This shows that udder depth has optimal value or smaller for dairy sheep. That means in average a good distance between udder cleft and the abdominal wall taking as reference point the line joining the hocks [5].

Table 1 Average values and variability estimates for udder traits on Awassi Ro sheep take in study

Features		n	$\bar{X}$	$\pm s_{\bar{x}}$	s	V%	Min	Max
Lactation 1	Teats position	30	3	0	0	0	3	3
	Udder drop	30	6.17	1.09	1.18	17.60	4	7
	Teats angle	30	6.17	1.09	1.18	17.60	5	8
Lactation 2	Teats position	25	3	0	0	0	3	3
	Udder drop	25	6.60	0.5	0.25	7.58	6	7
	Teats angle	25	6.20	1	1	16.13	5	7
Lactation 3	Teats position	14	3	0	0	0	3	3
	Udder drop	14	6	0.88	0.77	14.62	5	7
	Teats angle	14	6.07	0.83	0.69	13.65	5	7
Lactation 4	Teats position	11	3	0	0	0	3	3
	Udder drop	11	6	1	1	16.67	5	7
	Teats angle	11	4.55	0.52	0.27	11.49	4	5
Total	Teats position	80	3.00	0.00	0.00	0.00	3	3
	Udder drop	80	6.25	0.91	0.82	14.51	4	7
	Teats angle	80	5.94	1.09	1.20	18.44	4	8

We can observe that teats angle had an average of 6 points with limits between 4 and 8 point optimal value for this trait being 5 points.

Previous study for these traits showed correlations with machine milking ability, mastitis incidence and dairy sheep production [2], [3], [4].

CONCLUSION

From study results is obvious that Awassi Ro sheep has a very good placement teat on horizontal plane with an optimal 3 point for this trait. The null value of standard deviation, variation and variability degree shows a good consolidation of this trait regardless lactation rank.

Udder drop is an appreciation of udder depth that shows in average a good distance between udder cleft and the abdominal wall taking as reference point the line joining the hocks. It is normal that sheep with more lactation having an udder more drooped.

Teats angle in vertical plane has ina average value more than optimal mark for this trait that shows a reason for selection in this direction.

In generally this new kind of sheep have udder traits that are characteristic for dairy production but that can be improved by selection.

This kind of study on this population will be continue with a bigger number of sheep and appreciation for more udder traits because it is a big interest for machine milking ability in dairy sheep with decrease of mastitis incidence.

REFERENCES

[1] Dizic A., Kaps M, Bruckmaier R.M, 2004: Machine milking of Istrian dairy crossbreed ewes: udder morphology and milking characteristics, Small Ruminant Research, 55

[2] Fernandez G., Baro J.A., De la Fuente L.F., San Primitivo F., 1997: Genetic Parameters for Linear Udder Traits of Dairy Ewes, Journal of Dairy Science, Vol.80 No.3

[3] Kominakis A.P., Papavasiliou D., Rogdakis E., 2009: Relationship among udder characteristics, milk yield and non-yield traits in Frizarta dairy sheep, Small Ruminant Research, 84
[4] Ozyurek S., Turklyilmaz D., Yprak M., Esenbuga N., 2018: Determination of morphological and linear udder traits in Morkaraman, Tuj and Awassi sheep, Indian Journal of animal research, Vol. 52, Is.3
[5] Sara Casu, Pernazza I, Carta A, 2006: Feasibility of a Linear Scoring Method of Udder Morphology for the Selection Scheme of Sardinian Sheep, Journal of Dairy Science, Vol.89 No.6