Morphology characterization, health and dairy production evaluation in native Garfagnina goat

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The study was carried out on a goat population named Garfagnina from north-west Tuscany with the aim to evaluate breeding, morphology and health status in an estimated population of 2500 animals. Data were collected from 31 farms.

Morphometric measurements revealed that the animals were homogeneous in terms of zoometric data while they shown a variability regarding coat.

Table 1 -Zoometric data of adults female and male

		Female		Male	
		Mean	SD	Mean	SD
Withers height	cm	75.60	3.851	83.50	4.579
Width of chest	cm	31.99	2.480	36.72	4.675
Depth of chest	cm	40.77	3.604	47.17	3.434
Trunk length	cm	79.74	5.433	88.67	7.806
Rump width	cm	17.94	1.478	18.83	2.065
Chest girth	cm	93.05	6.065	101.00	9.048
Fore shank girth	cm	10.00	0.951	11.71	1.404

The milk gross composition was similar to that reported in literature.
The lower average of SCC and TBC indicates good hygienic farm management and correct milking practices although milking is mainly manual.
Milk coagulation was low, this suggests that Garfagnina goat milk could be used for direct consumption.

Table 2 – Physical, chemical, health and rheological characteristics of milk [a]

		Mean	SD
DM	%	12.43	1.279
Fat	%	3.97	0.987
Protein	%	3.32	0.371
Casein	%	2.80	0.303
Lactose	%	4.38	0.140
NFDM	%	8.46	0.366
C/F		0.74	0.171
Pr/F		0.87	0.163
Ash	%	0.78	0.045
Ca	%	0.18	0.024
P	%	0.12	0.016
Ca/P		1.58	0.213
Freezing Point	°C	-0.537	0.008
TBC	cfu/mLx10^3	183.55	140.98
SCC	cells/mLx10^3	772.42	607.054
Urea	mg/dL	33.43	2.370
pH		6.53	0.049
r	min	9.95	2.150
k_{20}	min	-	-
a_{30}	mm	11.45	3.247

[a] DM: Dry Matter; NFDM: Non Fat Dry Matter; C/F: Casein/Fat; Pr/F: Protein/Fat; TBC: Total Bacterial Count; SCC: Somatic Cell Count.

The fatty acid composition confirm that C10:0, C14:0, C16:0, C18:0 and C18:1 account for more than 75% of total fatty acids in goat milk and that CLA is approximately 60% of the value in cow's and ewe's milk.

Table 3 – Most representative fatty acid (% of total fatty acids) of milk [a]

	Mean	SD
C10	9.28	1.203
C14	9.85	1.119
C16	28.09	3.462
C18	11.95	2.674
C18:1t9	1.97	0.818
C18:1c9	20.37	2.483
CLA cis9.trans11	0.60	0.175
SCFA	3.06	1.847
MCFA	25.03	4.448
LCFA	71.92	4.686
SFA	39.38	2.543
MUFA	44.93	2.425
PUFA	15.70	0.475

[a] SCFA: Short Chain Fatty Acids; MCFA: Medium Chain Fatty Acids; LCFA: Long Chain Fatty Acids; SFA: Saturated Fatty Acids; MUFA: Mono Unsaturated Fatty Acids; PUFA: Poly Unsaturated Fatty Acids;

A normal ecto-parasitism is present without sign of illness or scrape; a good fecal-score was recorded according to the low number of eimeria oocysts/g found on some single fecal sample, strongylus spp. in contrast are always present on coprocultures of mass fecal sample. According to national rules, all the tested animals were Brucellosis free. Therefore in these "rural breeding", all the animals were clinically healthy and serodiagnosis showed ($P<0.05$) 6.58% seroprevalence of CAEV, 5.26% of Paratuberculosis, 0.5% of Tularemia. The sanitary condition of the population reassures on the healthy status of the animals: sporadic positiveness seems to be correlated with wild ungulates in the same area.

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