

Table 1. Criteria and indicators used to assess animal welfare in goat farms selected in the study, classified according to Welfare Quality® specifications with modifications.

Principle	Welfare criteria	Measurement	Welfare item	Range of observations	Score (points)		Indicator #	
					0	1		
Feeding	Presence/absence of prolonged hunger	Body condition score (BCS)	Animals < 1.5 in BSC scale	0-20%	< 5%	>5%	1	
		Fecundation ratio	% last year	60-90%	> 70%	< 70%	2	
		Queuing at the feed barrier	Animals queuing for feeding	1-10 animals	< 1	> 1	3	
		Pasture available	Goats per hectare pasture	0.5-11	< 2	> 2	4	
		Feed supplementation	Feed supplementation in summer season	Yes/No	No	Yes	5	
		Feed supplementation to calved goats	Yes/No	No	Yes	6		
	Presence/absence of prolonged thirst	Water provision	Goats per drinker (in pens)	0.5-15	< 2	> 2	7	
			Water points in pasture	Yes/No	No	Yes	8	
			Water point showing dirt	0-4	No	Yes	9	
		Cleanliness of water points	Spring/well water	Yes/No	Treated	Untreated	10	
Housing	Comfort around resting	Cleanliness of animals	Animals showing underbelly area covered with dirt	0-27	< 5 %	> 5%	11	
		Thermal comfort	Shivering	Animals showing shivering	0-12%	< 5%	> 5%	12
		Panting	Animals showing panting	0-33%	< 5%	> 5%	13	
		Shelter (in pasture)	Shelter in pasture	Yes/No	Yes	No	14	
	Ease of movement	Tethering of kids or goats	Animals tethered	0-26	Yes	No	15	
		Access to outdoor loafing area	Availability of outdoor loafing area	Yes/No	Yes	No	16	
		Access to pasture	Days per year kept indoor, not grazing	7-90	< 30 days	> 30 days	17	
			Hours per day on pasture	0-12	> 8 hours	< 8 hours	18	
Health	Presence/absence of injuries	Lameness	Lame animals	0-1.2%	< 3%	> 3%	19	
		Integument alteration	Animals with alterations	0-4%	< 3%	> 3%	20	
		Claw overgrowth	Animals with claw overgrowth	0-1%	< 3%	> 3%	21	
		Lesions and swellings	Animals with lesions and swellings	0-0.5%	< 3%	> 3%	22	
	Presence/absence of disease	Teat inflammation	Animals with teat inflammation	0-1.5%	< 5%	> 5%	23	
		Abscesses	Animals with abscesses	0-2%	< 3%	> 3%	24	
		Goat mortality last year	Goats dead last year	0-2%	< 3%	> 3%	25	
		Kids mortality last year	Kids dead last year	0-20%	< 5%	> 5%	26	
	Painful management procedures	Improper disbudding or dehorning	Animals with improper disbudding or dehorning	0%	< 1	> 1	27	
		Postpartum goats returning to pasture	Postpartum days returning to pasture	3-7	> 5	< 5	28	
Behaviour	Expression of social behaviour	Agonistic behaviour	Aggressive interactions per animal and hour	0-0.15	> 3	< 3	29	
		Cohesive behaviour	Intersuckling per animal and hour	0-0.1	> 5	< 5	30	
		Kids spending time without mothers	0-13	< 8 hours	>8 hours	31		
	Other behavioural expressions	Vocalization	Kids vocalizations per hour	0-42	<5	>5	32	
		Weaning	Kids weaned before 2 months	Yes/No	No	Yes	33	
		Borrowing	Cases of goat confusions or borrowing	0-5	< 5%	> 5%	34	
		Stereotyped behaviour	Animals showing any kind stereotyped behaviour	0-3	< 1	> 1	35	
	Human–animal interaction	Avoidance distance test	Animals can't be approached as closely as 100 cm	0-90%	< 50%	> 50%	36	