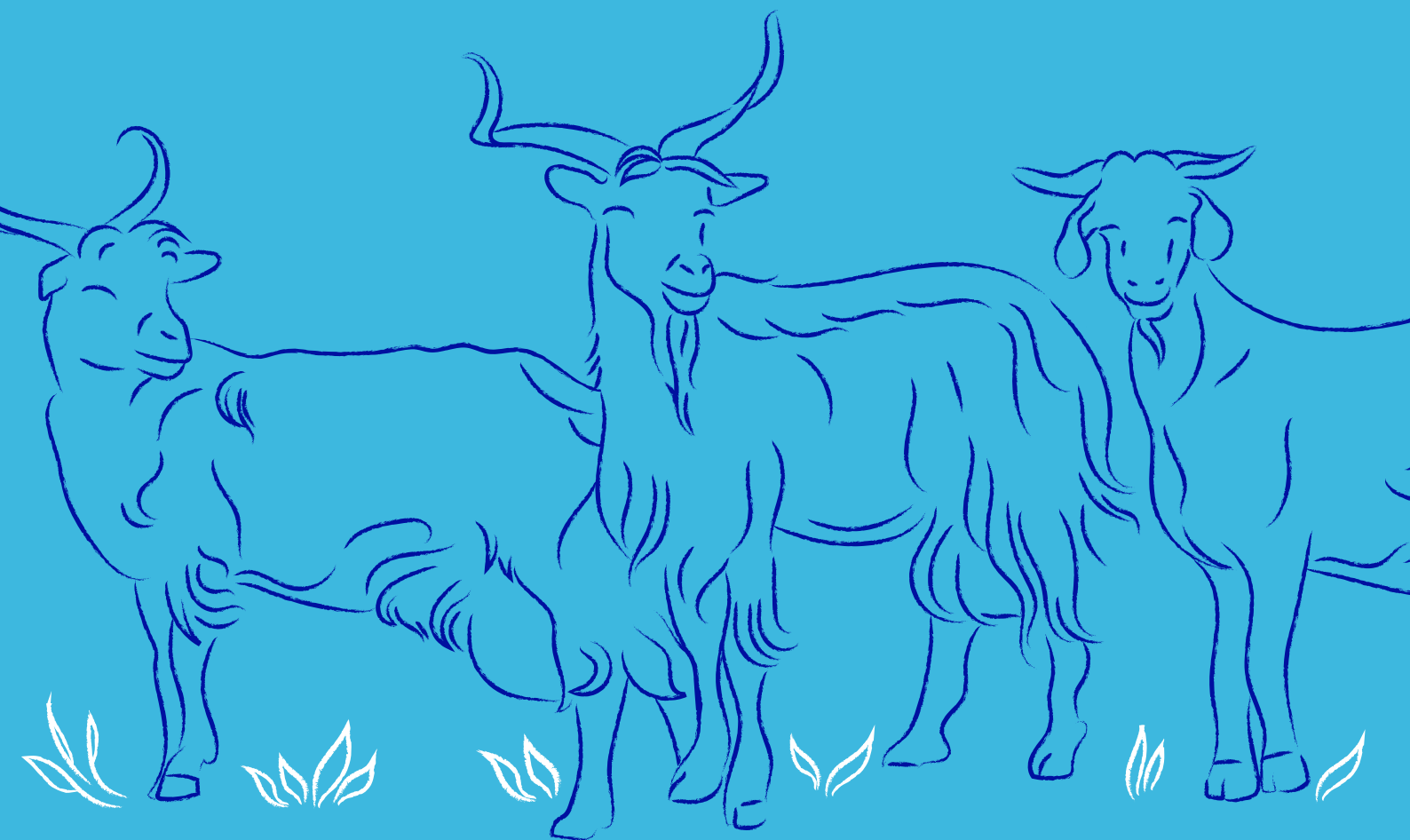


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# Small Ruminant Hoof Inspection as an Animal Welfare Indicator: A Study in Gran Canaria

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**KEY WORDS:** HOOF CONFORMATION, GOATS, SHEEP, INFRARED THERMOGRAPHY, SLAUGHTER.

Hoof conformation in small ruminants is a critical yet often overlooked factor influencing welfare and productivity. This study evaluates hoof morphology and temperature in 81 adult female sheep (n= 49) and goats (n= 32) from different farms in Gran Canaria. Parameters assessed include claw shape, claw splay, toe length, heel shape, fetlock shape, interdigital temperature, and joint temperature. Data were analyzed using Kruskal-Wallis and ANOVA tests. Significant species-related differences ( $p < 0.05$ ) were observed in claw shape, claw splay, age, and interdigital temperature. Sheep exhibited better hoof conformation than goats, with fewer twisted claws (16.3% vs. 32.8%). Animals slaughtered under Halal protocols had a better hoof structure compared to those in conventional systems ( $p < 0.01$ ), with reduced overgrowth and claw deformities. Infrared thermography revealed higher interdigital temperatures in sheep ( $T = 4.1^{\circ}\text{C}$ ) and conventionally slaughtered animals ( $T = 3.4^{\circ}\text{C}$ ), possibly suggesting the presence of inflammation. These findings underscore hoof morphology as a key welfare indicator, highlighting management and selection practices as critical factors in welfare optimization. Future research should refine scoring methodologies and explore the relationship between hoof conformation and locomotor pathology.