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EFFECT OF THE METEOROLOGICAL CONDITIONS ON DAIRY SHEEP PERFORMANCE

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Thermal stress negatively affects profitability of sheep production due to the decrease in animal health and to the reduction in weight gain and milk production. The aim of this study was to investigate the variation in animal performance and adaptability in response to annual weather fluctuation. A 16 autochthonous Sardinian dairy sheep were raised in a Stall feeding system (St) and their performance was compared with 16 animals raised outdoor in a Paddock feeding system (Pd), without any shelter or shading effect. Both groups were fed with the same amount of forage and concentrate. The trial was carried out in N-W Sardinia, between July 2011 and May 2013. In both years, for each season, a 4 week measurement period was assessed. Outdoor and indoor meteorological factors were monitored continuously and analyzed weekly on hourly base; bio meteorological indices were calculated. Feed on offer and that refused, water consumption were measured daily in all groups. Body condition score, body weight, milk yield and milk composition and cortisol blood level were measured weekly. Treatments were characterized by different climate conditions. St, with more comfortable environmental conditions, showed higher milk yield and lower milk fat content than Pd only in winter, as well as body weight in winter and spring. Any difference was detected for the cortisol blood content. In comparison with the first, the second year, characterized by a more favorable weather, allowed better animal performances and an increment of cortisol level. Strategies aimed at reducing thermal stress of animal during winter would lead to improvement feed conversion efficiency for milk production.

Biography

Maria Sitzia is a researcher in animal husbandry at Research Agency in Agriculture of Sardinia (AGRIS). She has carried out research on eco-physiology of forage species, on method of estimating biomass, the evolution of the vegetal structure of grazed sward, the techniques involved in managing different types of pasture. She has more than 20 years of research experience in small ruminant farming system, forage production, livestock management, animal production and sustainability of grazing systems. She is working on low-input farming systems for dairy and meat productions and is co-author of 25 scientific articles in peer-reviewed journals and 84 posters and/or oral communications.

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