

Impact of Breed and Physiological Status on Blood Content of Goats in Arid Conditions of Algeria

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Abstract : The Damascus breed, known for its prolificacy and milking ability, is recently imported in Algeria. Farmers tend to improve the local native herds by crossbreeding with Damascus bucks. The aim of the current investigation was to study the effects of physiological status on blood progesterone and some biochemical parameters in Shami goats and their crosses with local breed in arid conditions of Algeria. Ten does with an age range of 1.5- 3 years and BSC between 2.5 and 3.5 were used. Female goats were divided into two groups of five animals each: Damascus, and crossbred (Damascus x Arbia). All females were estrus synchronized and naturally mated. Blood samples were collected before intravaginal sponge insertion (non-pregnant), in early (30 days after sponge removal), mid (90 days), late pregnancy (130 days) and after kidding (30 days post-partum). Results demonstrate a significant effect of the reproductive stage on progesterone (P4) levels in both groups, on glycemia and cholesterolemia in crossbred does ($p < 0.05$) and on albuminemia and uremia in Damascus ones. Concentrations of triglycerides, total proteins, globulin and creatinine revealed no significant difference between physiological phases in both groups ($p > 0.05$). Breed effect was detected in early and mid-pregnancy for P4, in early pregnancy and lactation for total proteins and in lactation for globulin with lower concentrations in Damascus compared to crossbred does. Changes in P4 and biochemical profiles of both groups reflect the female goat's adaptation to increased requirement of gestation and lactation in arid conditions of Algeria.

Keywords : damascus goat, crossbred, reproductive status, progesterone, biochemical metabolites

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