

OMITTING THE DRY OFF PERIOD IN DAIRY GOATS

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ABSTRACT

Pregnant multiparous Murciano-Granadina dairy goats (n = 17), kept under 1 kidding/year system (milk yield, 577 L in 300 d), were used to study the effects of dry off period length on performances in the subsequent lactation. Goats were assigned to 2 experimental groups according to dry off treatment: goats that were dried off 56 d before expected kidding (D56; n = 9) and goats without dry off (D0; n = 8). After kidding, colostrum samples were obtained and kids were weighed before sucking. Milk yield was recorded weekly during the preceding and subsequent lactations. Udders were biopsied at d -65 (late lactation), d -49 d (during dry off) and d 48 (early lactation) to kidding (d 0). Apoptotic and proliferating cells in mammary tissues were detected immunohistochemically. Five goats (63%) in the D0 group dried off spontaneously at 27 ± 4 d before kidding, and were considered separately (D27). The rest of the D0 goats yielded 0.86 L/d from d -56 to kidding. Goats kidded 2.25 kids/goat, but D0 kids had lesser birth weight (1.7 kg) than D27 (2.2 kg) and D56 (2.1 kg). Colostrum of D0 goats contained less IgG (5.6 mg/mL) than D27 (32.9 mg/mL) and D56 (42.4 mg/mL). In the following lactation (210 d), D0 goats produced less milk (1.78 L/d) than D27 (2.51 L/d) and D56 (2.24 L/d), with no differences between D27 and D56. Apoptosis and proliferation indices increased from 0.51 and 2.09%, at d -65, to 1.75 and 7.12% at d -49 (d 7 of dry off) in D56 goats. Despite differences in daily milk yield at early lactation (d 48) between D0, D27 and D56 groups (1.73, 2.68, and 2.53 L/d; respectively), no differences in apoptosis or proliferation indices were detected (D0, 0.65 and 2.48%; D27, 0.68 and 1.37%; and, D56, 0.71 and 2.95%), indicating that dry period length did not affect mammary cell turnover in the subsequent lactation. In conclusion, omitting the dry period between lactations reduced the quality of colostrums and had negative effects on milk yield in dairy goats. Goats dried off spontaneously for 27 d were as productive as goats dried for 56 d.