In the tropical and subtropical regions, high temperatures affect dairy cattle, reducing the metabolic activities of the animal and decreasing the blood flow to the udder. Cattle with the slick hair gene tolerate high temperatures and humidity much better than normal haired cows. The objective of the present study was to determine if the effect on lactation performance of slick hair gene cows can be simulated through hair clipping. The experiment was conducted in Zamorano University, Honduras located at 800 m.a.s.l. (average year-round temperature of 23°C). Thirty two multiparous crossbred, Holstein, Jersey and Brown Swiss lactating cows were monitored through 140 d of lactation. Cows were blocked according to their age, body condition score and milk production and assigned randomly to two different coat treatments. Treatments consisted of normal-haired (NH; n=16) and clipped-hair lactating cows (CH; n=16). Hair was clipped from the cow’s barrel, neck and legs at the beginning of the experiment and on d 60. CH and NH cows were kept under the same environmental conditions. Rectal temperature (at 1400 h) and milk yield (kg/d) were measured once weekly. All data were analyzed according to a randomized complete block design with repeated measures using the MIXED procedure of SAS. NH cows had lower temperatures (35.2 vs. 36.4°C ± 0.58; \( P = 0.01 \)). There was a significant interaction effect between time and treatment \( (P = 0.05) \) that was maintained consistently throughout the experiment. Milk yield (kg/day) was higher when cows were clipped \( (13.4 \text{ vs. } 10.8 ± 0.26; \ P = 0.003) \). The decrease in rectal temperature and increase in milk production reflects the capacity of CH cows to mimic lactation performance of slick-haired gene cows resulting in an enhanced lactation performance.

**Key Words:** slick hair gene, clipped-haired cows, lactation performance