In dual-purpose subtropical goats, one hour of extra-light given from 16 to 17 h after dawn (pulse of light) in winter stimulates the milk yield

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Summary

This research paper addresses the hypothesis that in double-purpose goats the exposure to one hour of extra-light given from 16 to 17 h after dawn (pulse of light) in winter stimulates the milk yield. Twenty multiparous creole goats, which mean date of parturition was on December 25th ± 2.0 days were used. One group of goats was maintained under natural short photoperiod conditions (natural day; ND (n = 7). Another group of lactating females was submitted to an artificial long-day photoperiod consisting in 16 h light and 8 h darkness (long days; LD (n = 7). A third group of females received one hour of extra-light 16 h after the fixed dawn (light pulse; LP (n = 6). Results showed that across the study, goats from LD and PL yielded more milk than goats from ND. Milk yield did not differ between goats from LD and PL. Globally, milk yield in the LD and PL groups was about 30% higher than in the ND group throughout the lactation period. Mean percentages of fat, protein and lactose contents in milk did not differ between the 3 groups at any stage of lactation, but these components in grams/day were higher in goats from PLG than in the others two groups within the first 45 d of lactation.

It was concluded, that in double-purpose lactating goats that started their lactation during natural short days, the daily exposition to a 1-hour pulse of light is sufficient to stimulate milk yield compared to females maintained under natural short photoperiod.