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Effect of eCG injection time on reproductive performance of Markhoz goat during the breeding season

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Abstract

The objective of this study was to determine of the appropriate time of eCG hormone injections to induce estrus in female Markhoz goats during the breeding season to ensure the most reproduction efficiency. Sixty mature does in Breeding Station of Markhoz Goat in Sanandaj, inserted sponges for 14 days out of breeding season (6th September until 21th November 2017), and then were divided randomly into three treatments; eCG hormone (400IU) was injected intramuscularly in the first treatment at 48 hours, the second treatment at 24 hours and the third treatment (0 hours) before removing the sponge in all treatments. Simultaneously with removing sponges, introducing rams. Data on parturition date, the number and weight of borned and weaned kids were recorded. Pregnancy rate, twinning or prolificacy rate, litter size, fecundity rate, borned kid crop and weaned kid crop and viability rate were calculated. Data analysis was performed with using SAS software. The pregnancy rate of does in 48h, 24h, 0h before sponge removing was 0.75, 1.0 and 0.95 respectively, that had significant difference ($P<0.05$). The parturition rate of does in the second and third treatments was significantly better than the first treatment. Abortion rate, twinning or prolificacy rate, litter size birth weight, sex and viability rate had no significant difference among three treatments ($P> 0.05$). Fecundity rate for injection at 48, 24 and zero, before removing sponges was 1.05, 1.85 and 1.55 respectively, that the differences among treatments were significant ($P<0.05$). A total of borned kid crop per doe, the total of weaned kid crop per doe and weaning rates in the second and third treatments was significantly more than the first treatment ($P<0.05$). The economic calculations showed that net income (thousand rials) from three treatments were are 3383, 10854 and 7245 respectively, that the second treatment was significantly better than other treatments. Net income per doe in treatments of injection at 48, 24 and zero hours prior to remove sponges, were 1691, 5427 and 3622 thousand rial, respectively. The production and reproduction efficiency of does in pregnancy rate, parturition rate, prolificacy rate, borned kid crop per doe, weaned kid crop per doe and weaning rates in second and third treatments had significantly difference with first treatment ($P<0.05$). In general, in the Markhoz does increase reproductive

efficiency during the breeding season with hormone injections eCG, 24 and Zero hours before removing sponge yielded the best results.

Key words: reproductive performance, estrous synchronization , eCG injection time, Markhoz goat.

