ABSTRACT

This study investigated the hypothesis that the use of short-term synchronisation protocol following single fixed-time artificial insemination (AI) with extended cooled semen and natural mating in fertility management of dairy goats could be as good as or better than traditional long-term protocol. This was tested by designing an experiment using Toggenburg dairy goats raised under semi-intensive production system in the tropics. Twenty-eight (28) females Toggenburg dairy goats were randomly allocated to two synchronisation protocols in completely randomised design and within each synchronisation protocol the animals were further subdivided into two mating methods. Oestrus was synchronised using short (7 days) and long-term (12 days) protocols and animals mated using natural mating and AI. The onset and the duration of oestrus were monitored using two intact-aproned bucks following controlled internal drug release (CIDR) devices withdrawal. The non-return to oestrus method was used to determine conception rate. The onset and duration of oestrus, response to oestrus and conception rate were evaluated. The onset and duration of oestrus was analysed using one-way ANOVA, while response to oestrus, conception rate and kidding rate were analysed by using Chi-Square test. Generally, the two protocols realised 100 % response to oestrus. Onset and duration of oestrus in short-term protocol were 31.75 hrs and 31.70 hrs, respectively, while the corresponding values for long-term protocol were 33.33 hrs and 30.93 hrs. The two protocols did not significantly differ in onset and duration of oestrus, conception, kidding and twining rate. Similarly, the two mating methods did not differ significantly on conception, kidding and twining rates. The current study has an overall of conception rate, kidding and twinning rate of 71.42, 64.29 and 44.50 %, respectively. The short-term protocol following single fixed-time AI and natural mating therefore, can be alternative to long-term oestrous synchronisation protocol in dairy goats.