Abstract

The research project was conducted at the Royal Agriculture Station Inthanon, Royal Project Foundation. This project was divided in two experiments. In experiment 1, 40 non-pregnant wool ewes were used in group comparison design and ewes were randomly divided into 2 groups of different hormonal protocols. Group 1, ewes (n=20) received the intravaginal insertion of CIDR for 5 days (from day -5 to day 0) concurrent with injections of GnRH, PG and eCG (5-day CIDR+GnRH+PG+eCG-based program). Group 2, ewes (n=20) received the intravaginal insertion of CIDR for 7 days (from day -7 to day 0) concurrent with injections of GnRH, PG and eCG (7-day CIDR+GnRH+PG+eCG-based program). On day 0, rams were introduced to ewe herd in both hormonal protocols. Then rams were removed from ewe herd on day 23 of both hormonal protocols. On day 52, all ewes in 2 groups were diagnosed the pregnancy status by transrectal ultrasonography. Jugular vein blood samples (3 ml) were collected on day -7, day -5, day 0, day 23, and day 52 to determine progesterone concentration. In experiment 2, 40 ewes received the efficient hormonal protocol from experiment 1 that is the 5-day CIDR+GnRH+PG+eCG-based program. All ewes were synchronized estrus and ovulation with the 5-day CIDR+GnRH+PG+eCG-based program; however, ewes in group 1 received the new-used CIDR (n=20) while ewes in group 2 received the once-used CIDR (n=20). These results from 2 experiments were described as follows. Results from experiment 1 demonstrated that estrous rate (100% vs. 100%) and pregnancy rate (70.0% vs. 75.0%) did not differ (P>0.05) between the 5-day and the 7-day CIDR+GnRH+PG+eCG-based protocols. On day 0, ewes that received the 5-day protocol had a greater (P=0.05) concentration of progesterone compared to ewes reviving 7-day protocol (2.11 ± 0.47 ng/ml vs. 2.02 ± 0.28 ng/ml). Results from experiment 2 indicated that estrous rate (100% vs. 100%) and pregnancy rates (90.0% vs. 75.0%) of wool ewes in the 5-day CIDR+GnRH+PG+eCG-based protocol did not differ (P>0.05) between the new-used CIDR and once-used CIDR. Moreover, progesterone concentrations on day -5 (P=0.38), day 0 (P=0.66), day 23 (P=0.43) as well as day 52 (P=0.08) did not differ between ewes that received the new-used CIDR and ewes receiving the once-used CIDR. In conclusion, the efficient hormonal protocol to induce estrus and ovulation for wool ewes under a condition of the highland region could be proved by the 5-day CIDR+GnRH+PG+eCG-based protocol concurrent with the once-used CIDR.

Key words: Wool sheep, Hormonal protocol, Lamping rate, Highland region