

REPRODUCTIVE PERFORMANCE IN LACTATING DAIRY COWS AFTER RESYNCHRONIZATION USING THE OVSYNCH AND HEATSYNCH PROTOCOLS

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Ultrasonography (US) allows early pregnancy diagnosis and resynchronization of nonpregnant cows. The objective of this study was to evaluate the reproductive performance of previously inseminated cows found nonpregnant at US 27 days post-breeding (Day 0), and them subjected to resynchronization. Pregnancy rate (PR) at Days 27 and 45, and pregnancy loss (PL) between Days 27 and 45 were compared in cows resynchronized using either Ovsynch or Heatsynch protocols. The effect of stage of the estrous cycle on PR was also evaluated. A total of 332 lactating dairy cows was used in the study between August and December, 2001. Cows in Ovsynch Group (n=166) received 100 µg GnRH im on Day 0, 25 mg of PGF_{2α} im on Day 7, 100 µg of GnRH on Day 9, and were time-inseminated 16 h later. Cows in Heatsynch Group (n=166) received 100 µg GnRH on Day 0, 25 mg of PGF_{2α} on Day 7, 1 mg of estradiol cypionate im on Day 8, and were time-inseminated 48 h later. Cows exhibiting estrus on Day 9 were inseminated and included in the study. On Day 0, cows were classified according to different stages of the estrous cycle using uterine and ovarian findings at rectal palpation and US as follow: diestrus (154/332, 46.4%, palpable/visible CL and a follicle > than 12 mm); metestrus (49/332, 14.8%, corpus hemorrhagicum, follicles < than 12 mm and uterine edema); proestrus (73/332, 22%, follicles > than 12 mm and uterine tonic); Cystic (47/332, 14.1%, multiple follicles > 20 mm, absence of CL and lack of uterine tonic); anestrus (9/332, 2.7%, follicles < 10 mm, absence of CL, lack of uterine tonic). PR and PL were compared by multiple logistic regression adjusting for season, parity, days in milk, inseminator and previous services (Proc Genmod, SAS). PR was evaluated for 259/332 (78%) cows on Day 27. PR on Day 27 for cows in Ovsynch and Heatsynch groups were 26% (33/127) and 25.8% (34/132) respectively. PR according to stage of the estrous cycle on Day 27 were as follow: diestrus, Ovsynch 31.2% (20/64) and Heatsynch 24.1% (14/58); metestrus, Ovsynch 15.4% (2/13) and Heatsynch 52.2% (12/23; P=0.04); proestrus, Ovsynch 19.2% (5/26) and Heatsynch 24.1% (7/29); cystic, Ovsynch 31.6% (6/19) and Heatsynch 5.3% (1/19; P=0.06). PR on Day 45 for cows in Ovsynch and Heatsynch groups were 18.1% (30/166) and 19.9% (33/166) respectively. PR according to stage of the estrous cycle on Day 45 were as follow: diestrus, Ovsynch 20.7% (17/82) and Heatsynch 16.7% (12/72); metestrus, Ovsynch 9.1% (2/22) and Heatsynch 44.4% (12/27; P=0.01); proestrus, Ovsynch 14.3% (5/35) and Heatsynch 15.8% (6/38); cystic, Ovsynch 27.3% (6/22) and Heatsynch 8% (2/25; P=0.11). Anestrus was not considered in the analysis by stage. PL between Days 27 and 45 for cows in Ovsynch 24.2% (8/33) and Heatsynch 17.6% (6/34) groups were not different. In conclusion, Ovsynch and Heatsynch achieved similar PR for resynchronization of nonpregnant cows at US 27 days post-breeding. However, Heatsynch increased PR for cows in metestrus and tended to decrease PR in cystic cows compared to Ovsynch. The use of rectal palpation and US of the genital tract to determine stage of the estrous cycle may be a valuable tool for selective resynchronization of nonpregnant cows at the time of pregnancy diagnosis.

Key words: resynchronization, timed-insemination, Ovsynch, Heatsynch