

# Postpartum progesterone levels and reproductive characteristics of Taiwan Yellow Cattle <sup>(1)</sup>

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## Abstract

This investigation was conducted to determine reproduction and progesterone profiles during the postpartum period in 13, Taiwan Yellow cows with 3 to 8-year-old. Plasma progesterone (P4) concentrations were used to illustrate ovarian activity and pregnancy. Calves were allowed to suckle ad libitum, and a fertile marker bull was maintained with the herd throughout the trial. Days from calving to conception ( $83.9 \pm 9.5$  d) and pregnancy rate (92.3%) showed that these indigenous cattle can attain a calving interval of 365 days with adequate fertility. Cows had 30.8% first short estrous cycles with 7 to 10 days. Most of the cows exhibited first estrus without previous ovarian activity, 78% of the ovulations were associated with behavioral estrus and 83% of the cows had behavioral estrus at their first ovulation. A mean transient progesterone peak with  $0.88 \pm 0.15$  ng/mL (range 0.27 to 1.50 ng/mL) was observed 3 to 4 days prior to either the first behavioral estrus or silent estrus. No pre-estrus increasing in progesterone was exhibited on cows with short estrous cycles or no progesterone increasing following estrus. Seventy-five percents of the cows with short first estrous cycles conceived at the second estrus. The pre-estrus increased in progesterone was found in cows which conceived or did not conceive in relation to the first postpartum estrus. In both cases, the resumption of estrous cycles of normal length or normal ovarian activity was proceeded by increasing in progesterone. However, if data were analyzed by the pre-estrus progesterone peak with greater or less than 1 ng/mL, no differences were found in postpartum interval and subsequent fertility. Prior to ( $P < 0.05$ ) and following ( $P < 0.005$ ) the first estrus, the plasma progesterone was higher in cows with normal first estrous cycles than those with short first estrous cycles. The magnitude of the pre-estrus progesterone peak for cows suckled heifer calves was greater ( $P < 0.05$ ) than those suckled bull calves. However no differences were observed in postpartum intervals or subsequent fertility. The results showed that reproductive performance demonstrated by Taiwan Yellow cows was adequate and similar to that found in the other beef breeds.

Key words: Taiwan Yellow cattle, Postpartum, Reproduction, Progesterone.

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