

INFLUENCE OF POSTPARTUM LUTEAL ACTIVITY ON THE REPRODUCTIVE PERFORMANCE IN BULGARIAN MURRAH BUFFALOES

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Abstract. The aim of the present study was to investigate the pattern of luteal activity in Bulgarian Murrah buffaloes during the first 50 postpartum days by blood progesterone analysis and ultrasonographic corpus luteum detection and its effect on reproductive performance of animals.

The study was conducted with 15 clinically healthy Bulgarian Murrah buffaloes after normal delivery of a single foetus, reared and fed uniformly in the presence of a breeding bull.

Luteal activity was detected through enzymatic immunoassay of blood progesterone concentrations at 3-day intervals between postpartum days 1 and 50, and ultrasonographic detection of corpus luteum in one ovary. Pregnancy status was used as a criterion for reproductive performance evaluation. After birth records exploration and ultrasound pregnancy check on the 11th month after the beginning of the experiment, two groups of buffaloes were formed: group I (n=5) consisting of non-pregnant buffaloes and group II (n=10) – pregnant animals. Mean blood progesterone concentrations and the cumulative percentage of animals with corpus luteum different than the gestational one, in both groups were determined.

According to the results of the study, pregnant buffaloes showed basal blood progesterone levels by the 7th postpartum day and exhibited high luteal activity between postpartum days 19–34, characterised by ultrasonographic detection of a corpus luteum different from the gestational one and blood progesterone concentrations > 0.5 ng/ml after day 34 postpartum. Buffaloes with blood progesterone concentrations < 0.25 ng/ml until the 50th postpartum day and inadequate functional activity of the corpus luteum could remain non-pregnant for a long time after parturition.

In conclusion, the pattern of luteal activity in Bulgarian Murrah buffaloes during the first 50 postpartum days had an effect on their reproductive status. The received data could be used for improvement of the protocols for oestrus synchronization and postpartum anoestrus reduction.

Keywords: buffaloes, postpartum, luteal activity, ultrasonography.