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Effects of preovulatory follicle size on estradiol concentrations, corpus luteum diameter, progesterone concentrations and subsequent pregnancy rate in buffalo cows (*Bubalus bubalis*)

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1 **Effects of preovulatory follicle size on estradiol concentrations, corpus luteum diameter,**
2 **progesterone concentrations and subsequent pregnancy rate in buffalo cows (*Bubalus***
3 ***bubalis*)**

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12 **ABSTRACT**

13 The present study was undertaken to investigate the effects of preovulatory follicle
14 (POF) size on estradiol concentrations, luteal profile (CL diameter and progesterone
15 concentration) and subsequent pregnancy rate in Murrah buffalo cows. The buffalo cows
16 (n=49) were synchronized for estrus by two doses of PGF₂ α given 11 days apart. The buffalo
17 cows were inseminated during standing estrus and again after 24 hours. Ovaries were scanned
18 at estrus and 24 h intervals until ovulation, thereafter on days 5, 12 and 16 post-ovulation to
19 examine the POF and CL diameter. Size of POF at estrus was divided into three categories; I:
20 10 to \leq 12; II: $>$ 12.0 to \leq 14.0; III: $>$ 14.0 to 16.0mm. Blood samples were collected for
21 estradiol (on day of estrus) and progesterone concentration (on days 5, 12 and 16). The
22 estradiol concentrations were greater (P < 0.05) in category II than category I with the

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