Abstract

The effects of Pregnant Mare Serum Gonadotropin (PMSG) were measured on synchronization (%) of estrus (PSE), interval (h) to estrus (HE), gestation rate to the first (CPS) or to the second estrus (CSS) and on the interval to the second estrus, on beef cows treated with Syncro-Mate-B implants (SMB). The study was conducted at Los Herrera ranch, located at Aldama, Tamaulipas, with Zebu (n=74), Brown Swiss × Zebu (n=97) and Charolais × Zebu (n=81) cows. All cows were first treated with SMB implants for 9 d. Later, four treatments in a complete randomized design, were assigned: 1) Control (n=68); 2) n=61; 3) n=66; 4) n=57 cows, treated with none, 125, 250 or 500 IU of PMSG. All cows were rectally palpated to determine ovarian status (CO), presence of small (<5 mm, FP), medium (>5 mm, FM) follicles or corpus luteum (CL). Body condition scores (CC) of cows were also recorded, 1=emaciated; 9=obese, as well as physiological status (TV): heifers (VQ), nursing (VC) or dry (VS) cows. After SMB removal, cows were checked for signs of estrus for 48 h and bred by artificial insemination 10 to 14 h after the initial signs of estrus were observed. Data were analyzed by the GLM procedure of SAS and Ji-square tests. The PSE observed were 72, 69, 67 and 75%, for treatments 1, 2, 3 and 4. The PSE by TV were 66, 71 and 83% for VC, VS and VQ. Cows with CL showed the lowest (p<0.05) PSE (57%) as compared to the FP ones (80%). The breed of cow affected (p<0.05) the PSE: 82, 70 and 63% for ChC, C and PSC cows. PMSG dose did not affect (p>0.05) the HE: 23 h for treatments 1, 2 and 3; 34 h for treatment 4. HE was not affected (p>0.05) by CC, TV or CO. CPS were 44, 38, 39 and 37%, for treatments 1, 2, 3 and 4. Cows with CC 4 and 7 showed the lowest (p<0.05) CPS (36 and 37%), compared to cows with CC 5 and 6 (39 and 45%). CSS was not affected (p>0.05) by PMSG dose: 67, 50, 64 and 74% for treatments 1, 2, 3 and 4. Cows with CC 5 showed the greatest CSS (74%). TV affected (p<0.05) the CSS: 68, 65 and 29% for VC, VS and VQ. CO also affected (p<0.05) the CSS: 40, 64 and 65%, for cows with CL, FM and FP. Breed of cows did not affect the CSS. Treatment with PMSG resulted in longer intervals to second estrus (p<0.05): 21, 28, 29 and 38 days, for treatments 1, 2, 3 and 4. It is concluded that the use of PMSG does not modify estrus synchronization or gestation rates in beef cows treated with SMB. However, PMSG increased intervals to second estrus.

Keywords
PMSG, synchronization of estrus, SMB, gestation rates, beef cows.