

Follicular population at the beginning of pFSH treatment in Morada Nova ewes submitted to estrous synchronization protocols by short- (6 days), medium- (9 days) or long-term (12 days)

População folicular no início do tratamento com pFSH em ovelhas Morada Nova submetidas a protocolos de sincronização de estro de curta (6 dias), média (9 dias) ou longa duração (12 dias)

Gabriel Brun Vergani¹, Aline Matos Arrais², Marco Roberto Bourg de Mello³, Jenniffer Hauschildt Dias⁴, Marco Antonio Paula de Sousa⁵, Maria Clara da Cruz Morais^{6,*}, Heloisa Coelho Ferreira⁷, Júlia Ribeiro Bevilacqua⁸, Maria Emilia Franco Oliveira⁹, Joanna Maria Gonçalves Souza-Fabjan¹⁰, Jeferson Ferreira da Fonseca¹¹

¹Mestrando Universidade Estadual Paulista, Jaboticabal, SP, Brasil; ²Doutoranda, Universidade Federal Rural do Rio de Janeiro, Seropédica - RJ, Brasil; ³Professor associado, Universidade Federal Rural do Rio de Janeiro, Seropédica, RJ, Brasil; ⁴Doutoranda, Universidade Federal de Viçosa, Viçosa, MG, Brasil; ⁵Doutorando, Universidade Federal do Pará, Castanhal, PA, Brasil; ⁶Graduanda, Universidade Federal Fluminense, Niterói, RJ, Brasil; ^{7,8}Graduanda, Universidade Estadual Paulista, Jaboticabal, SP, Brasil; ⁹Professora substituta, Universidade Estadual Paulista, Jaboticabal, SP, Brasil; ¹⁰Professora adjunta, Universidade Federal Fluminense, Niterói, RJ, Brasil; ¹¹Pesquisador, Empresa Brasileira de Pesquisa Agropecuária, Coronel Pacheco, MG, Brasil.

*E-mail: mariaclaramorais@id.uff.br

The variability of superovulatory responses is still a limiting factor for the consolidation of commercial embryo transfer programs in small ruminants (Bartlewski et al. 2016. *Theriogenology*, 86: 130-143). Superovulation protocols are traditionally performed with prior use of progesterone devices for short- or long-term duration (Oliveira et al. 2014. *Anim Reprod Sci*, 144: 30-37) associated exogenous FSH administration. The presence of dominant follicles in the ovary at the beginning of FSH treatment is detrimental to the growth of the other follicles, in addition, a greater number of antral follicles is required to have a bigger superovulatory response (Fonseca et al., 2010 *Acta Sci Vet*, 38: 337-369). In this context, the objective of this study was to evaluate the follicular population at the beginning of pFSH treatment in Morada Nova sheep submitted to different estrous synchronization protocols (short- 6 days, medium- 9 days or long-term -12 days duration). Thirty-six Morada Nova ewes received intravaginal acetate medroxyprogesterone sponge (60 mg of MAP, Progespon[®], Zoetis, Campinas, São Paulo, Brazil), which remained for six, nine or 12 days according the three groups (G6, G9 and G12, n = 12/each group). At the time of the first pFSH injection (60 h before the MAP sponge removal), the follicular populations were assessment by B-mode transrectal ultrasonography (7.5 MHz linear transducer; M5 Vet®, Mindray, Shenzhen, China). Data were compared by the Kruskal-Wallis test, when the normality of data was not observed. For the dichotomous variable was used Fisher's exact test. All results were expressed as mean \pm standard error. The P value <0.05 was considered statistically significant. The presence of dominant follicles (≥ 5 mm) was observed in 41% (5/12), 58% (7/12) and 25% (3/12) of G6, G9 and G12 females, respectively ($P>0.05$). The number of dominant follicles (≥ 5 mm) was higher ($P=0.009$) for G6 (1.8 ± 0.12) when compared to G9 (1.0 ± 0.0) and G12 (1.0 ± 0.0). However, the number of small/medium follicles (2 - 4.9 mm) (3.5 ± 0.31 , 2.83 ± 0.36 and 4.36 ± 0.6) and the total number of follicles (6.9 ± 0.9 , 6.1 ± 0.66 and 5.5 ± 0.60) did not differ between G6, G9 and G12, respectively. It is concluded that the ovarian follicular population observed at the beginning of pFSH treatment is more satisfactory (i.e high number of small follicles and reduced or absent dominant follicles) in estrous synchronization protocols with progestogen by medium- (9 days) and long-term (12 days). It is expected that these protocols will be associated with better superovulatory responses and embryo production of Morada Nova sheep. Financial support: Embrapa (02.13.06.026.00.04) and Fapemig (CVZ-PPM 00201-17)

Keywords: progesterone, superovulation, ovarian population, ovine.

Palavras-chave: progesterona, superovulação, população ovariana, ovinos.