

Improvement of Fertility in Artificially Inseminated Ewes Following Vaginal Treatment with Misoprostol Plus Terbutaline Sulphate

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The effect of vaginal administration of misoprostol plus terbutaline sulphate 6 h prior to artificial insemination (AI) upon the site of AI (vaginal or cervical) and fertility was studied using a total of 87 estrous synchronized Serra da Estrela ewes (control $n = 42$ and treated $n = 45$). Artificial insemination was performed using refrigerated semen at 54–55 h after sponge removal. Lambing rate (fertility) and prolificacy were compared between control and treated ewes. The effect of the site of semen deposition on fertility was also evaluated. Prolificacy rate was not different between control (1.5) and treated (1.59) ewes. The proportion of cervical AI achieved in control (45.2%) and treated (37.8%) ewes was not significantly different. Overall, fertility was significantly lower in control than in treated ewes (42.9% vs 64.4%; $p < 0.04$). Fertility following vaginal AI was significantly lower for control than treated ewes (30.4% vs 60.7%; $p < 0.03$) but the difference was smaller and not significant for cervical AI (control 57.9% vs 70.6%). It was concluded that vaginal administration of misoprostol plus terbutaline sulphate 6 h prior to artificial insemination did not affect the proportion of cervical inseminations but significantly improved the fertility of treated ewes. Although needing confirmation, it was hypothesized that drugs might have induced local secretory modifications leading to an increase of cervical ability to retain more viable spermatozoa for fertilization.