ADDITION EFFECT OF PINEAPPLE AND BEETROOT JUICES ON THE MOTILITY PARAMETERS OF RAM SEMEN EXTENDER FOR CRYOPRESERVATION

EFEITO DA ADIÇÃO DE SUCOS DE ABACAXI E BETERRABA NOS PARÂMETROS DE MOTILIDADE NO DILUENTE DE SÊMEN CRIOPRESERVADO DE CARNEIRO

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Sperm motility is measured by the number of live sperm cells with progressive or non-progressive movement, which allows them to travel to the isthmus of the uterine tube where fertilization occurs. Plants such as pineapple and beetroot are rich in phytochemical compounds that can have positive effect on cellular metabolism, in addition to making the extracellular environment more suitable for the maintenance of cell function. The objective of this work was to evaluate the effects of the addition of pineapple and beetroot juice at 10 and 15% concentrations on the parameters of total motility and progressive motility in cryopreserved sheep semen. At the Institute of Zootechnics in Nova Odessa, SP, five semen collections from five rams were performed during a two-week period with the use of an artificial vagina. After collection, the semen was analyzed under a microscope following the recommendations and standards of sperm kinetics according to the CBRA. On each day, after the collection and analysis of the semen of all rams, a pool was formed to minimize influence of the individual traits of the animals. The sperm concentration was corrected to 800.10^6 sptz / ml with addition of the BotuBov® semen extender and subsequently the juices were added separately for each treatment. The pineapples and beetroots were washed with distilled water, peeled, cut into pieces and squeezed in nylon mesh to obtain the juices, which were added to the semen extender, obtaining the treatments: pineapple 10 and 15% and beetroot 10 and 15%, in addition to the control group. The samples were packed in 0.25 ml straws with a concentration of 100.10^6 sptz per straw, submitted to cryopreservation with a negative curve of -0.25 °C and stored in liquid nitrogen for further analysis. Analyses were performed at USP Pirassununga and computer-assisted sperm analysis (CASA) was used to measure the kinetic parameters of the semen. In the total motility parameter the control group, 10% beetroot and 15% beetroot were similar ($p>0.05$) with values of 23.2% ± 6.1, 31.5% ± 11.4 and 22.4% ± 9.5 respectively, whereas treatments with 10 and 15% pineapple juice were lower than the others ($p <0.05$), with values of 10.3% ± 3.2 and 6.8% ± 3.2, without differing between them ($p> 0.05$). In the case of progressive motility, the treatment with beetroot at 10% was superior to the others ($p <0.05$), with values of 12.7% ± 8.1, while treatments with 10% pineapple, 15% pineapple and control were similar ($p> 0.05$), with values of 3.1% ± 2.3, 1.6% ± 1.1 and 7.6% ± 3.6, respectively. The addition of 10% and 15% beetroot juice to the BotuBov® semen extender maintained acceptable levels of total motility and increased the number of cells in progressive movement, indicating it can be an alternative product of natural origin for the formulation of semen extenders for rams.

Keywords: ovine, phytochemicals, sperm.