

Characteristics of the Boer goat ejaculate after refrigeration at 5°C with BotuSêmen Special and BotuSêmen Gold

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INTRODUCTION

- ❖ For the refrigeration of goat ejaculates, it is necessary to use diluting media that suit the particularities of this species. The purpose of this biotechnology is to lower the temperature enough to reduce sperm metabolism, which can be at 15 or 5°C, keeping them viable for up to 72 hours.
- ❖ Before refrigerating the semen, it is necessary to evaluate the breeder animal, which must be healthy and over seven months of age, in addition to evaluating the ejaculate for macro- and microscopic parameters, including volume, color, appearance, and microscopic evaluation, such as sperm concentration, mass movement and morphological evaluation.
- ❖ Thus, the objective was to analyze the effects of refrigeration at 5 °C on the characteristics of the Boer goat ejaculate, using two different diluents.

MATERIAL AND METHODS

- ❖ Fifteen breeders belonging to properties located in the municipality of Guarapuava, state of Paraná, and region were used, during the spring and fall months. Animals were aged between one and three years, body condition score between 2.5 and 3.5.
- ❖ The examination and measurement (length, width and thickness) of the testicles and scrotal circumference were also performed. The ejaculate was collected using an electroejaculator.
- ❖ The ejaculate was analyzed for volume (mean 1.0±0.5mL), color (white to yellowish), appearance (milky) and odor (*sui generis*) by means of direct observation, and microscopically evaluated for mass movement (mean 3.50±0.81), motility (mean 75.6±10.83%) and vigor (mean 3.60± 0.63). Later, the sperm concentration (mean 2.28±0.71x10⁹), major defects (mean 1.13±0.43%) and minor defects (mean 7.63±0.88%) were determined, and hyposmotic test (mean 97±0.33%) was performed.

MATERIAL AND METHODS

- ❖ In this experiment, two diluents were used for refrigeration, BotuSêmen Special® and BotuSêmen Gold®. In this way, samples were divided into two groups, in group 1 (G1, n=15) 100µL semen was added with 600µL BotuSêmen Special® in plastic tubes, and in G2 (n=15) 100µL semen was added with 600µL BotuSêmen Gold® in plastic tubes, and later stored at 5°C, in a box for semen transportation BotuFlex® for 24 hours. Motility, vigor parameters and hyposmotic test were evaluated after the refrigeration period.

RESULTS

- ❖ The results obtained were tabulated and tested by analysis of variance ANOVA, at 5% significance. The mean and standard deviation for G1 were 28.66±13.86%^a motility, 1.6±1.0^a vigor and 95.54±1.24%^a in the hyposmotic test; whereas in relation to G2, values were 53.33±14.90%^a motility, 3.06±0.59^a vigor and 95.87±1.06%^a in the hyposmotic test. Although no significant difference was detected between the groups (p>0.05), the sperm parameters of G2 were numerically higher compared to G1, within the normal range for refrigerated semen. The season effect was not evidenced in this study, since goat breeds native to Brazil, such as the Boer, do not suffer changes in their reproductive activity during the year.

CONCLUSION

- ❖ Based on the above, it can be concluded that the BotuSêmen Gold® dilution medium preserved better the sperm under these experimental conditions, however, more studies are needed to evaluate the fertilization capacity of processed semen under these conditions.

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