

ASSISTED REPRODUCTION: *DATURA STRAMONIUM* EXTRACT AS APHRODISIAC IN THE GOAT BUCK

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ABSTRACT

This study explored the potential of *Datura* extract as aphrodisiac in the goat buck. Study involved 25 West African dwarf goat bucks comprising one control and four treatment groups. *Datura* seeds were leached in water. The extract was administered to the goat bucks in increasing dosages. Semen was harvested and quality determined using established procedures. Quality assessment included volume of ejaculate, mass activity, mass motility, ejaculate colour, sperm concentration and semen pH. Mass activity increased ($P < 0.50$) at ($\text{ml kg}^{-1}\text{BW}$) 0.04, 0.06 and 0.08; highest value being at 0.06 dosage. Mass motility and Sperm concentration were highest at ($\text{ml kg}^{-1}\text{BW}$) 0.06. Semen pH was not affected by the extract. Extract evoked increased semen mass activity, semen mass motility and sperm concentration but reduced semen ejaculate volume in the goat buck. The dose of 0.06ml/kgBW is suggested for the goat buck. Without reducing the quality of the semen, the extract of *Datura stramonium* can be useful in enhancing the sexual/breeding capabilities of genetically proven goat bucks especially in conditions of old age and/or weak erectile function; and/or increased demand for the service of the buck in goat production enterprise.

Keywords: Goat, *Datura stramonium*, Assisted Reproduction, Ethnoveterinary practice, Semen.

INTRODUCTION

Penile erection and sustained erection are necessities for successful sexual activity in the male animal. The conditions involve the integration of complex physiologic process that touches the central nervous system, peripheral nervous system, hormonal and vascular systems (Feldman *et al.*, 1994). Abnormality in any of these systems causes significant effect on the male's ability to develop and maintain erection and ejaculation (Gopumadhavan *et al.*, 2003). The corporal cavernosa is filled with blood being influenced by the neural and hormonal

mechanisms which operate at various levels of the neural axis (Adaikan *et al.*, 2000). Full erection is achieved and maintained at the integrity of the peripheral nerves, the vascular supply and biochemical events within the corporal cavernosa (Adimoelja, 2000). There have been attempts (Chemineau *et al.*, 1996; Daas *et al.*, 2000; and Greyling and Vander Nest, 2000) to improve the reproductive efficacy of ruminant animals using different drug treatments all of which have yielded varying results due to influencing factors such as reproductive age, method of administration and others. Extracts