

# Livestock Research Briefs and Cattle Growers' Short Course



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**Agricultural Experiment Station  
Cooperative Extension Service  
College of Agriculture and Home Economics  
and the New Mexico Cattle Growers' Association**

HISTOLOGICAL CHARACTERISTICS OF TESTES FROM  
BRAHMAN BULLS FED DIETS CONTAINING GOSSYPOL

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(Key Words: Bulls, Histology, Gossypol)

Testes from 30 Brahman bulls fed diets containing gossypol from weaning to 70 days post-puberty were studied for histological differences. Comparisons were made to bulls fed diets using soybean meal as the major protein source. Alteration of spermatogenic tissues was observed in bulls fed diets containing gossypol. Diameter of the seminiferous tubule lumen was greater in bulls fed whole cottonseed and cottonseed meal, indicating a reduction in cell layers. This finding was supported by actual count of cell layers which were 5.6 for soybean meal-fed bulls, 3.5 and 3.9 for cottonseed meal and whole cottonseed-fed bulls, respectively. This finding indicates an impairment of normal spermatogenesis with few cells proceeding to the secondary spermatocyte stage.

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REPRODUCTIVE DEVELOPMENT, GROWTH AND SEMEN PARAMETERS  
OF BRAHMAN BULLS FED DIETS CONTAINING GOSSYPOL

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(Key Words: Bulls, Reproduction, Gossypol)

Thirty pre-pubertal Brahman bulls were fed diets containing gossypol from weaning (6 mo) through puberty. Testicular measurements, body weight and semen parameters were measured each 28 days. Appearance of first sperm, number of sperm per ejaculate, gross sperm motility, percent motile and percent live sperm were reduced in bulls fed whole cottonseed. No difference was observed in bulls fed cottonseed meal or soybean meal as the major protein source. Growth, as measured by body weight, was reduced in bulls fed whole cottonseed through 196 days post-weaning. Bulls fed whole cottonseed were delayed in puberty (first sperm) by one month when compared to bulls fed cottonseed meal, these ages being 386 days and 357 days, respectively. Scrotal circumference was not affected by diet.

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