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# ANNUAL MEETING OF THE
## Southern Section, American Society of Animal Science

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Little Rock, Arkansas

Material only within the blue line box will be photocopied exactly as received. Arrange abstract in sample box before final typing here. Correct mistake by affixing correction typed on white paper over error with rubber cement or use liquid paper. Single space with no margins in the rectangle. One line space between title and abstract. Title without caps. For multiple authors designate presenter with * after name. Abbreviate only units of measure.

Authors show first (1), second, (2), and third (3) choices:

- ☐ Awards Competition (specify second and third choices)
- ☐ Breeding and Genetics
- ☐ Extension
- ☐ Meats
- ☐ Ruminant Nutrition
- ☐ Non-ruminant Nutrition
- ☐ Pastures and Forages
- ☐ Physiology and Endocrinology
- ☐ Production and Environment
- ☐ Teaching
- ☐ Withdraw paper if first section choice is not available.

Signature of presenter

EXAMPLE OF ABSTRACT HEADING AND ABSTRACT

☒ Fertility of beef females following controlled estrus cycles and ovulation. A. A. Zaied*, W. D. Humphrey, C. C. Kaltenbach, and T. G. Dunn, University of Wyoming, Laramie.

Pregnancy rates (PR) following two progestogen implant periods and breeding at either controlled ovulation or 12 hr after synchronized estrus were compared. . .

List key words at end of abstract inside blue lines.

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**ABSTRACT AND ABSTRACT HEADING (see example)**

Histological characteristics of testes from Brahman bulls fed diets containing Gossypol. C. C. Chase Jr.*, J. Arshami, J. L. Ruttle, R. D. Randel, P. Bastidas and C. R. Long. Texas Agricultural Experiment Station, Overton 75684 and New Mexico State University, Las Cruces 88003.

Thirty Brahman bulls were hemicastrated at approximately 70-d postpuberty and testes tissues processed for histological study. Bulls were weaned at 180 d and randomly assigned to 1 of 3 treatments by age. Treatment diets were: 1) soybean meal 19%, corn 36%, bermudagrass hay (hay) 39% (SBM), 2) cottonseed meal 20%, corn 35%, hay 38% (CSM) and 3) whole cottonseed 41%, corn 9%, hay 42% (WCS). Bulls were group fed (5/pen; 2 pen replicates/ treatment). Average gossypol intake for CSM ranged from 1.6 to 2.1 g/hd per d and for WCS 22.7 to 32.4 g/hd per d. Testicular tissues were fixed in 10% buffered formalin, embedded in paraffin, sectioned at 6 $\mu$ thickness and stained in hematoxylin and eosin for study. Diameter of seminiferous tubules (ST), ST wall thickness, ST lumen diameter, cell layers of ST walls, Sertoli cell size and Leydig cell size were measured by light microscopy.

| | Diet | | | | |
|---|---|---|---|---|---|
| Variable | SBM | WCS | CSM | SEa | P[b] |
| Seminiferous Tubule ($\mu$) | 183.0 | 179.5 | 181.5 | 2.0 | .46 |
| Lumen ($\mu$) | 74.2[c] | 107.8[d] | 119.2[e] | 2.3 | .0001 |
| Wall-thickness ($\mu$) | 108.8[c] | 71.8[d] | 62.9[e] | 2.0 | .0001 |
| No. of layers | 5.6[c] | 3.9[d] | 3.5[e] | .1 | .0001 |
| Sertoli-cell ($\mu$) | 8.7 | 8.7 | 8.6 | .06 | .317 |
| Leydig cell ($\mu$) | 8.3 | 8.4 | 8.3 | .07 | .593 |

[a] Standard error of mean, [b] probability value, [c,d,e] means within a row differ (P<.05).

Seminiferous tubule diameters were similar for bulls fed the 3 diets. However, bulls fed diets containing Gossypol (WCS and CSM) exhibited alteration of histological characteristics within the ST. Lumen diameters were greater (P<.05) in bulls fed WCS or CSM. This was a reflection of a reduced wall thickness due to fewer germ cell layers present. Bulls fed a Gossypol-free diet (SBM) had mean ST cell layers of 5.6 compared to 3.5 and 3.9, respectively, for CSM and WCS-fed bulls. This finding suggests an impairment of normal spermatogenesis with few cells proceeding to the secondary spermatocyte stage. Leydig and Sertoli cell sizes were similar in bulls fed the 3 diets and appeared normal. These findings support previous research showing detrimental effects of Gossypol on semen parameters.

Bulls, Gossypol, Histology

**KEY WORDS:**

Original and four copies must be received by October 2, 1989, and should be edited, ready for the printer. All data must be reported in the metric system. If withdrawal of a paper becomes necessary, the Secretary should be notified at once. Mail to: Ray W. Harvey, Department of Animal Science, North Carolina State University, 220 Polk Hall, Raleigh, NC 27695 (919/737-2763).