



Interrelationship of Endocrine and Physiological Events During the Estrous Cycle in Brahman Cattle

Research Center

TECHNICAL
REPORT

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INCREASING ARTIFICIAL
INSEMINATION CONCEPTION RATES IN BRAHMAN COWS
BY INJECTION OF HUMAN CHORIONIC GONADOTROPIN AT BREEDING

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SUMMARY

Brahman cattle have been notoriously difficult to breed using artificial insemination. This research has been done to develop a treatment increasing conception rates and the end pregnancy rate to artificial insemination in Brahman cattle. One thousand five hundred I.U. of Human Chorionic Gonadotropin (HCG) were injected at artificial insemination. The resulting conception rates were 43.7% for HCG treated and 32.4% for controls ($P < 0.05$). The increased conception rates led to pregnancy rates of 54.3% for HCG treated and 44.4% for controls. Injection of HCG at breeding gave an advantage of 11.3% in conception rate and 9.9% in overall pregnancy rates.

OBJECTIVES

The purpose of this research has been to develop a way to increase conception rates to artificial insemination in Brahman cattle. This experiment was designed to determine the affect of injecting 1500 I.U. of HCG at breeding upon conception rates in Brahman cattle.

PROCEDURE

Brahman cows at 5 ranches were randomly assigned to be controls, bred normally at artificial insemination, or HCG treated, bred normally with an injection of 1500 I.U. HCG injected intramuscularly at breeding (Table 1).

All cows were examined for pregnancy by rectal palpation 45 days after the end of the breeding season.

RESULTS

Injection of 1500 I.U. HCG at breeding significantly increased conception rates ($P < 0.05$) in Brahman cows. All ranches experienced increased conception rates as shown in Table 2.

As the primary concern of all of us in the business of producing cattle is pregnancy rate a comparison is shown in Table 3.

This data clearly shows that injection of 1500 I.U. of HCG, intramuscularly, at breeding, increased conception rates to artificial insemination in Brahman cattle. Pregnancy rates are also increased and net returns from the artificial insemination breeding season should be increased by using this technique.

TABLE 1. COW NUMBERS

RANCH	HCG	CONTROL
A	16	18
B	41	40
C	48	41
D	20	25
E	13	11
Total	138	135

TABLE 2. CONCEPTION RATES

RANCH	HCG	CONTROL	ADVANTAGE
A	9/22=40.9%	6/21=28.6%	12.3%
B	24/64=37.5%	17/55=30.9%	6.6%
C	25/48=52.1%	21/54=38.9%	13.2%
D	10/22=45.5%	10/39=25.6%	19.9%
E	8/18=44.4%	6/16=37.5%	6.9%
Total	76/174=43.7%	60/185=32.4%	11.3%

TABLE 3. PREGNANCY RATES

RANCH	HCG	CONTROL	ADVANTAGE
A	9/16=56.2%	6/18=33.3%	22.9%
B	25/41=61.0%	21/40=52.5%	8.5%
C	23/48=47.9%	17/41=41.5%	6.4%
D	10/20=50.0%	10/25=40.0%	10.0%
E	8/13=61.5%	6/11=54.5%	7.0%
Total	75/138=54.3%	60/135=44.4%	9.9%