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## Factors Influencing Sickness at Central Bull Test Station

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### Summary

Pre-test management was studied on 351 bulls from 54 herds that were tested at the Kansas Bull Test Station at Beloit, Kansas. Charolais, Hereford, Polled Hereford, and Simmental bulls were sick more days than Angus or Limousin between delivery and start of test. Starting ages and weights correlated significantly with sickness. Bulls sick the least had been vaccinated with BVD, IBR, PI<sub>3</sub>, Pasturella, Blackleg, malignant edema, and leptospirosis before arriving for test.

### Introduction

Pre-test management and herd differences seem to influence performance of bulls at central test stations. Some bulls take-off without problem; others get sick and need treatment. Pre-delivery management that would reduce treatment needs would improve performance and reduce test costs.

### Procedure and Results

Letters were sent to breeders who had bulls in the Kansas Bull Test at Beloit, Kansas, during fall 1974 and fall 1975. Fifty-four breeders with 351 bulls responded providing the following information: number of calves weaned, percentages of calves sick at the ranch before and after weaning, percentages of bulls and cows brought into the herd each year, vaccinations given before bulls were delivered to the station, and whether or not the calves were creep fed. Health records kept for each bull while on test were obtained. Data were analyzed by least squares analyses of variance.

Sixty-five percent of the bulls required treatment sometime between arrival and the end of the test; 73.3% of the bulls were sick during the three week period between delivery and start of test, and 21.6% were sick between the start of the test and day 28 on test. The remaining 5.1% were sick after day 28 on test.

Number of sick bulls differed significantly among breeds. Simmental, Hereford, Polled Hereford, and Charolais bulls were sick more than Angus or Limousin bulls between delivery and start of test and between start of test and day 28 on test (Table 6.1).

For each percent of breeder's calves that were sick before weaning there was a 10% increase in the number of bulls sick between delivery and start of test, and a slight increase in number sick after the test.

started.

For each month older the bulls were when they started the test there was 1.3% decrease in the number of bulls sick between delivery and start of test and 0.2% decrease between 28 days and 56 days on test.

Starting weight influenced the number of bulls sick between delivery and start of test and between day 28 and day 56 on test. For every 100 pounds increase in starting weight there was 28% less sickness between delivery and start of test but 4% increase in sickness between day 28 and day 56 on test.

Vaccinations given before delivery significantly affected the amount of sickness during the test. Table 6.2 shows the average number of days that bulls given indicated vaccinations were sick.

Bulls vaccinated against either BVD, IBR, PI<sub>3</sub>, or Pasturella were sick significantly less than bulls that did not receive these vaccinations or had no vaccinations (Table 6.3).

None of the preventative treatments significantly influenced sickness after day 28 on test. Bulls that were sick the least had been vaccinated with Blackleg, malignant edema, BVD, IBR, PI<sub>3</sub>, Pasturella, or IBR, PI<sub>3</sub>, Pasturella in combination.

Table 6.1. Mean number of days sick per animal for breeds tested.

Breed	No. bulls	Delivery-start	Start-28
Hereford	44	1.76	.73
Polled Hereford	26	1.19	.69
Simmental	127	1.04	.43
Charolais	37	.89	.06
Angus	55	.28	.29
Limousin	21	.16	0

Table 6.2. Mean number of days sick per animal for each pre-test vaccination indicated.

Vaccination treatment	No. bulls	Delivery-start	Start-28
None	18	2.01	.25
Blackleg, IBR	6	1.82	1.20
Blackleg, malignant edema	110	1.55	0
Blackleg, malignant edema, IBR, leptos	24	1.44	.10
Blackleg, 4 way and 7 way	57	1.43	.29
Blackleg, malignant edema, leptos	6	1.41	.28
Blackleg, malignant, edema, IBR	5	.90	.21
4 way Blackleg, malignant edema, IBR, Pasturella and Blackleg, malignant edema, IBR, Vibrio	5	.89	1.22
Blackleg, leptos	10	.90	.31
Blackleg, malignant edema, IBR, BVD, PI <sub>3</sub> , leptos	58	.76	.02
Blackleg, malignant edema, IBR, BVD	6	.60	.24
Blackleg, malignant edema, IBR, PI <sub>3</sub> , Pasturella	7	.50	.20
7 way Blackleg, malignant edema, IBR, BVD, PI <sub>3</sub> , leptos	7	.50	0
Blackleg, BVD, leptos + Blackleg, leptos + 4 way Blackleg, IBR, leptos	6	.07	.92

Table 6.3 . Mean number of days sick per animal;  
four pre-test vaccinations with control  
(no vaccination).

Vaccination	No. of bulls	Days sick
No vaccination	18	1.92
No BYD	236	1.32
BYD	82	.88
No IBR	189	1.36
IBR	129	.88
No PI <sub>3</sub>	235	1.31
PI <sub>3</sub>	82	.76
No Pasturella	294	1.21
Pasturella	24	.98