Concrete and Dirt Surfaces Compared for Fattening Beef Cattle (Project 660)

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The Animal Husbandry and Agricultural Engineering departments cooperate in this project. The response of cattle with water applied as "artificial rain" on a concrete and a dirt surfaced lot is being studied. Ways to collect and handle feedlot runoff also are being studied. Two lots identical in size (42' x 92') were used. The dirt lot had a 16' x 24' concrete apron; both lots had fence-line bunks. Two trials are reported.

Procedure

In Trial 1, 10 steers averaging about 750 lbs. were placed in each of the lots and, in addition to normal rainfall, were subjected to 17.11 inches of artificial rainfall. The trial was from October 1, 1965, to April 15, 1966, which included about two months of wet and disagreeable weather.

In Trial 2, 10 heifers weighing about 540 pounds each were randomly allotted to each lot and fed from June 4, 1966, to January 3, 1967; 13.93 inches of artificial rain was administered, otherwise it was unusually dry.

Results and Discussion

Steers on the concrete surfaced lot (table10) gained slightly more, required less feed per lb. gain and had a lower feed cost. This is contrary to results published last years Feeder's Day Report, however, the differences are small.

Heifers (table11) showed little variation in weight gain, however, they consumed slightly less feed and had a lower feed cost on the concrete surface.

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Table 10

Concrete and Dirt Surfaces Compared for Fattening Steers.
October 1, 1966 to April 15, 1966 - 195 days.

	Concrete	Dirt
Lot no.	24	25
Steers per lot	9	10
Av. initial wt., lb.	755	756
Av. final wt., lbs.	1231	1218
Av. daily gain, lbs.	2.44	2.37
Av. daily ration per steer, lbs.		
Rolled sorghum	17.30	18.30
Prairie hay	3.20	3.20
Supplement	1.09	1.14
Total feed	21.59	22.64
Feed per pound of gain, lbs.		
Rolled sorghum grain	7.10	7.71
Prairie hay	1.31	1.36
Supplement	0.45	0.48
Total feed per lb., gain	8.86	9.55
Feed cost per cwt. gain,	$16.96	18.34
Av. carcass data:		
Av. carcass wt., lb.	766	740
Dressing percent	62.2	60.8
Carcass grade[1]	18.3	18.2
Marbling score[2]	7.1	6.8
Ribeye area, sq. in.	12.12	12.12
Fat thickness at 12th rib	0.98	0.92
Yield grade[3]	3.6	3.1

1. 18 = good, 19 = low choice.
2. Lower score indicates higher degree of marbling.
3. 1-5, lower score indicates more trimmed retail cuts.

Table 11

Concrete and Dirt Surfaces Compared for Fattening Heifers, June 4, 1966 to January 3, 1967 - 213 days.

	Concrete	Dirt
Lot no.	24	25
No. heifers per lot	10	10
Av. initial wt., lb.	544	538
Av. final wt., lb.	982	982
Av. daily gain, lb.	2.06	2.08
Av. daily ration per heifer, lb.:		
Rolled sorghum grain	14.51	14.90
Prairie hay	3.00	3.00
Supplement[1]	1.38	1.38
Total daily feed	18.89	19.28
Feed per lb. gain, lb.:		
Rolled sorghum grain	7.04	7.16
Prairie hay	1.45	1.44
Supplement	.67	.66
Total	9.15	9.26
Feed cost per cwt, gain	$17.92	18.12

1. Supplement composition lbs.: 150 Urea (45% N) 10 trace mineral, 100 dicalcium phosphate, 4.4 vitamin A (10,000 IU/gm), 1735.6 dehydrated alfalfa meal.