Av. final wt., lbs 492 492 500 532
Av. gain, lbs 132 131 140 172
Av. daily gain, lbs 1.17 1.15 1.23 1.52
Av. daily ration, lbs:
Alfalfa silage 22.72
Alfalfa hay .32
Ground shelled corn 1.45
Cottonseed meal .16
Mineral* .06
Salt .04
Feed required per 100 lbs. gain, lbs:
Alfalfa silage 1943.95 1912.65 1841.48
Alfalfa hay 32.17 472.83
Ground shelled corn 123.69 263.50 173.34 200.35
Cottonseed meal 79.68
Mineral* 5.00 5.98 4.12 3.85
Salt 3.48 3.45 2.65 2.52
Daily feed cost per head $ .18 $ .18 $ .19 $ .18
Feed cost per 100 lbs. gain 15.89 15.48 15.50 11.81

1. Contained .37 pound corn per pound of silage.
2. Fed January 2 to January 13 only.
3. Composed of two parts steamed bone meal and one part salt.

Observations
1. The greatest gains were produced by alfalfa hay plus 3.04 pounds of corn (Lot 6). These gains were statistically significant. Comparing Lot 6 with Lot 4, about 473 pounds of hay and 200 pounds of corn replaced 1913 pounds of silage and 264 pounds of corn in producing 100 pounds of winter gains. Likewise, the gains were distinctly more economical with the hay than with silage.
2. Gains and efficiency of gains on the cornmeal-preserved alfalfa silage and non-preserved silage plus corn were practically equal (Lots 3 and 4).
3. The substitution of .96 pound of cottonseed meal for an equal amount of ground shelled corn increased the average daily gains .08 pound but the difference was not statistically significant (Lots 4 and 5).

Wintering Heifers Calves To Be Fattened for The Fall Market, 1953-54.


This is a progress report on the wintering phase of this test. Following this phase, the heifers will be grazed together on bluestem until July 15, then full fed 100 days in drylot. The purpose of this test is to determine if heifers can be wintered on dry grass or a low plane of nutrition, grazed during the early summer, and produce satisfactory slaughter animals for the fall market after a short full-feeding period.

Experimental Procedure
Twenty good quality Hereford heifer calves, 10 head to a lot, were used in this study. They originated in the vicinity of Pueblo, Colo., and were delivered to Manhattan, Kan., for 18.5 cents a pound, and about one week after arrival, they were branded and vaccinated. One week later, December 17, 1953, they were started on test.

The system of management planned for each lot follows:
Lot 7—Wintered on dry bluestem pasture supplemented with 1 to 2 pounds of cottonseed meal per head daily; grazed on bluestem pasture May 1 to July 15; full fed in drylot 100 days.
Lot 8—Wintered in drylot on Atlas sorghum silage. 1 pound of cottonseed meal, and 2 pounds of milo grain per head daily; grazed on bluestem pasture May 1 to July 15; full fed in drylot 100 days.
A bone meal and salt mixture was offered free choice to all lots.
Lot 8 was fed 1 pound of cottonseed meal per head daily all winter, except during March and the first part of April, when the cake was increased to 2 pounds per head daily.

Table 9—Wintering Heifer Calves To Be Fattened for the Early Fall Market.

<table>
<thead>
<tr>
<th>Lot number</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Place of wintering</td>
<td>Dry bluestem pasture</td>
<td>Drylot</td>
</tr>
<tr>
<td>Number of heifers per lot</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Initial wt. per heifer</td>
<td>360</td>
<td>387</td>
</tr>
<tr>
<td>Final wt. per heifer</td>
<td>450</td>
<td>547</td>
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<tr>
<td>Gain per heifer</td>
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<td>190</td>
</tr>
<tr>
<td>Daily gain per heifer</td>
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<td>1.70</td>
</tr>
<tr>
<td>Daily ration per heifer (av.):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cottonseed meal or pellets</td>
<td>1.32</td>
<td>1.00</td>
</tr>
<tr>
<td>Milo</td>
<td>2.00</td>
<td></td>
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</table>