of the lambs in all lots were vaccinated against overeating disease, and one of the lots being fed free choice was given soda.

A portion of the sorghum stover was replaced by sorghum silage in one lot, the grain was ground for another lot, and the lambs in another lot received no salt.

One-half of the lambs in all lots were drenched and their gains compared with those of the undrenched lambs.

**Feed Prices:**

- Westland milo $2.50 per cwt.
- Ground milo $2.60 per cwt.
- Soybean pellets 101.45 per ton
- Axtell stover 7.50 per ton
- Alfalfa hay 40.00 per ton
- Limestone 1.00 per cwt.
- Salt .90 per cwt.
- Soda 4.85 per cwt.
- Sorghum stubble .61 per head per day
- Axtell silage 8.60 per ton

**TABLE 1.—Feedlot Tests with Fattening Lambs. November 19, 1951, to February 21, 1952**

<table>
<thead>
<tr>
<th>Lot number</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ration fed</td>
<td>Mile</td>
<td>Axtell</td>
<td>Milo</td>
<td>Axtell</td>
</tr>
<tr>
<td>Stover &amp; lime</td>
<td>Stover &amp; lime</td>
<td>Stover &amp; lime</td>
<td>Stover &amp; lime</td>
<td></td>
</tr>
<tr>
<td>Salt</td>
<td>Salt</td>
<td>Salt</td>
<td>Salt</td>
<td></td>
</tr>
</tbody>
</table>

| Number of lambs per lot | 60 | 59 | 60 | 60 |
| Number of days on feed | 94 | 94 | 94 | 94 |
| Initial w. per lamb | 79.75 | 77.97 | 78.54 | 77.69 |
| Final w. per lamb | 107.60 | 109.89 | 111.17 | 102.34 |
| Total gain per lamb | 27.85 | 31.92 | 32.63 | 24.65 |
| Daily gain per lamb | .296 | .339 | .347 | .282 |
| Feed per lamb daily | |
| Milo grain | 1.26 | 1.26 | 1.15 | 1.26 |
| Axtell stover | 2.40 | 2.40 | 2.53 | 2.99 |
| Axtell silage | 5.56 | 5.56 | 5.56 | 5.56 |
| Alfalfa hay | .20 | .20 | .20 | .20 |
| Soybean pellets | .019 | .019 | .019 | .019 |
| Salt | .022 | .027 | .017 | |
| Feed cost per cwt. of gain | $17.24 | $15.41 | $18.29 | $19.24 |
| Feed cost per pound | $4.80 | $4.92 | $5.97 | $4.74 |

**Number of lambs lost**

| 0 | 0 | 0 | 0 |
15. Cost of lamb loss* .......... 0 0 0 0 0
16. Total cost** ............. $31.61 $31.13 $32.37 $30.86
17. Final cost per cwt. ........ $29.37 $28.33 $29.12 $30.15
* Includes initial value and cost of feed consumed by lambs lost up until death.
** Includes lines 12, 13, and 15.

1. Lot number ................ 5 6 7 8
2. Ration fed
   Milo Axell stover
   Protein Limestone Salt
   Milo storable Axell stover
   Protein Limestone Salt
   Milo storable plus Alfalfa
   Milo storable plus Soybean pellets
3. Number of lambs per lot ... 60 60 60 60
4. Number of days on feed .... 94 94 94 94
5. Initial wt. per lamb ....... 77.86 77.36 77.77 78.61
6. Final wt. per lamb ......... 114.69 113.09 109.23 108.14
7. Total gain per lamb ....... 36.83 35.73 31.46 29.52
8. Daily gain per lamb ....... .392 .380 .335 .320
9. Feed per lamb daily
   Milo grain ................ 2.07 2.04 .11 .11
   Axell stover ............. 1.76 1.76 .29 .29
   Axell silage .............. .20 .20 .02 .02
   Alfalfa hay .............. .20 .20 .06 .06
   Soybean pellets .......... .019 .019 .018 .018
   Ground limestone ....... .027 .019 .019 .019
   Salt ..................... .027 .019 .018 .018
   Soda .................... .020
10. Feed per cwt. gain
    Milo grain ............... 52.8 53.6 32.8 34.4
    Axell stover ............ 44.0 46.3 86.6 86.6
    Axell silage ............ .51.0 52.6 6.0 6.7
    Alfalfa hay ............. .4.8 5.0 5.7 5.9
    Soybean pellets .......... 6.9 5.0 5.4 5.6
    Ground limestone ....... 4.8 5.0 5.7 5.9
    Salt .................... 4.8
11. Feed cost per cwt. gain.. $17.57 $18.19 $7.87 $7.91
12. Feed cost per lamb ...... $ 6.47 $ 6.50 $ 2.47 $ 2.33
13. Initial cost per lamb .... $26.18 $26.01 $26.31 $26.43
14. Number of lambs lost .... 0 0 0 0
15. Cost of lamb loss* ....... 0 0 $ 0.41 $ 0.68
16. Total cost** ............. $32.65 $32.51 $29.03 $29.44
17. Final cost per cwt. ...... $28.47 $28.75 $26.58 $27.22
* Includes initial value and cost of feed consumed by lambs lost up until death.
** Includes lines 12, 13, and 14.

Observations
1. The two lots of lambs receiving their grain and stover free choice made larger gains than the lambs hand-fed a similar ration, but the gains were more expensive. These results are in accord with those obtained in previous years.
2. Larger and somewhat cheaper gains were made by the lambs receiving ground grain instead of whole grain. These results are in contrast to results obtained in similar studies in previous years at this and at other stations. The difference in the rate of gain of the two lots as indicated by the bi-weekly weights was small and the comparatively wide variation appeared only in the final weight period.
3. The inclusion of silage in the ration increased the rate of gain but also increased the cost of gain by slightly more than $1.00 per hundredweight. The silage-fed lambs, however, gained at virtually the same rate as those receiving only stover as their roughage until the last 11 days of the feeding period; this test, as well as the comparison of ground and whole grain, needs to be repeated before reliable conclusions can be drawn.
4. The lambs receiving no salt in their ration made slower and more expensive gains than the lambs in any of the other lots.
5. The average daily gains of the variously treated lambs in all of the lots were as follows:
   Number of Lambs Avg. Daily Gain
   Vaccinated ................ 119 $355 lb
   Drenched ................... 120 $321 lb
   Vaccinated and drenched .. 119 $331 lb
   No treatment ............... 120 $345 lb
   The comparatively low rate of gain made by the drenched lambs was shown in nearly all of the lots and is consistent with a similar test a year ago.
   The slightly larger gains made by the vaccinated lambs were not consistent in all lots and probably not significant. The death loss (two in all lots) was too low to allow any conclusions concerning the effectiveness of the vaccine or of the soda. The only lamb dying of overeating disease during the test, however, had been vaccinated.
   The cheapest gains were made by the lambs running on the milo stubble. Slightly larger and cheaper gains were made by the lambs receiving alfalfa hay than those receiving soybean pellets. Gains were slow on the stubble during the first part of the grazing period, because of digestive disturbances; but once the lambs became accustomed to the grain, the gains were as high as those made by the self-fed lambs in the dry lot.

Comparative Lambing Dates of Untreated Ewes and Ewes Treated with Various Hormone Preparations.

T. Donald Bell and Walter H. Smith

Introduction
Many of the producers of commercial lambs in Kansas prefer to have their ewes lamb in the fall months, in order to secure more favorable lamb prices during the spring months and to avoid having the lambs on hand during the hotter summer months when parasites are more troublesome. Unfortunately, not all of the ewes will breed for fall lambs, and various systems of management as well as different treatments have been used to encourage earlier and more uniform lamb crops. In recent years considerable publicity has been given to hormones of various types and their possible effectiveness in producing earlier lamb crops. Because of this publicity and its