11-1928

Circular No. 75 - Selecting Dairy Cows: Appearance Less Important than Performance

George Q. Bateman

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Selecting Dairy Cows

APPEARANCE LESS IMPORTANT THAN PERFORMANCE

GEORGE Q. BATEMAN

AGRICULTURAL EXPERIMENT STATION

UTAH AGRICULTURAL COLLEGE

LOGAN
ARE YOU MILKING COWS LIKE E-10
OR COWS LIKE E-11 AND E-13?

RECORD-KEEPING
WEEDS OUT THE UNPROFITABLE COWS
SELECTING DAIRY COWS

APPEARANCE LESS IMPORTANT THAN PERFORMANCE

George Q. Bateman

This is a cost study of three aged grade cows—E-10, E-11, and E-13—handled under identical conditions on the Dairy Experimental Farm. The three cows have been treated exactly the same since they came into the herd, all of the feed being weighed to each cow and the feed refused weighed back. Each milking has been weighed and sampled daily; butterfat tests have been made every ten days.

RULES OBSERVED IN FEEDING

GRAIN.—Three-fourths of a pound of grain is fed daily for each pound of fat produced a week. When a cow drops to 20 pounds of fat or less a month the grain is discontinued. During the dry period eight pounds of grain are fed daily.

WET BEET PULP.—Wet beet pulp is fed according to the body weight of the cow, approximately 5.75 pounds of pulp being fed per hundred weight of cow.

ALFALFA.—The cows are allowed as much alfalfa as they will clean up.

PASTURE.—The cows are treated exactly the same as to pasture.

PRICES AT WHICH FEEDS ARE CHARGED

Feeds consumed are charged at the following prices:

<table>
<thead>
<tr>
<th>Feed</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grain, per 100 lb.</td>
<td>$1.50</td>
</tr>
<tr>
<td>(Barley, oats, and bran—½ each by weight)</td>
<td>$1.50</td>
</tr>
<tr>
<td>Wet Beet Pulp, per ton</td>
<td>$2.65</td>
</tr>
<tr>
<td>Alfalfa, per ton</td>
<td>$10.00</td>
</tr>
<tr>
<td>Pasture, per head per month</td>
<td>$5.00</td>
</tr>
</tbody>
</table>

The author wishes to express his appreciation to former Director William Peterson under whom the work was initiated and who gave freely of his time and effort in getting the experiment under way; to George B. Caine, Dairy Husbandman, for his many helpful suggestions; and to D. W. Pittman, Associate Agronomist, for the photographs included in this circular.

*Superintendent, Dairy Experimental Farm.

Publication authorized by Director, October 23, 1928.
Fig. 1. Are you milking cows like Cow E-10 or cows like Cows E-11 and E-13? Compare their records on opposite page.
### INDIVIDUAL RECORDS OF THREE AGED GRADE COWS

The following shows the amount of feed consumed as well as milk and fat produced during a total lactation period from freshening date to freshening date:

#### COW E-10

- **Milked**—466 days; **dry**—54 days; **total lactation**—520 days
- **Total Production (lbs.)** Milk 11765.00; Fat 373.52*  
- **Total Grain Consumed (lbs.)** 1716.78 = $25.75  
- **Total Pulp Consumed (lbs.)** 24054.40 = $31.75  
- **Total Alfalfa Consumed (lbs.)** 8699.40 = $43.49  
- **Pasture (days)** 165 = $27.39

<table>
<thead>
<tr>
<th>Total Cost of Feeds</th>
<th>$128.38</th>
</tr>
</thead>
<tbody>
<tr>
<td>*Value of Product (lbs.)</td>
<td>$186.76</td>
</tr>
<tr>
<td>Cost of Feed (lbs.)</td>
<td>$128.38</td>
</tr>
<tr>
<td>Above Cost of Feed</td>
<td>$58.38</td>
</tr>
<tr>
<td>Feed Cost (per cwt. of milk)</td>
<td>$1.091</td>
</tr>
<tr>
<td>Feed Cost (per lb. of fat)</td>
<td>$0.343</td>
</tr>
</tbody>
</table>

**Returned for Each $1 Expended for Feed** $1.45

#### COW E-11

- **Milked**—508 days; **dry**—46 days; **total lactation**—554 days
- **Total Production (lbs.)** Milk 17631.0; Fat 652.23*  
- **Total Grain Consumed (lbs.)** 3952.6 = $59.28  
- **Total Pulp Consumed (lbs.)** 20196.1 = $26.65  
- **Total Alfalfa Consumed (lbs.)** 8161.9 = $40.80  
- **Pasture (days)** 255 = $42.13

<table>
<thead>
<tr>
<th>Total Cost of Feeds</th>
<th>$169.06</th>
</tr>
</thead>
<tbody>
<tr>
<td>*Value of Product (lbs.)</td>
<td>$326.11</td>
</tr>
<tr>
<td>Cost of Feed (lbs.)</td>
<td>$169.06</td>
</tr>
<tr>
<td>Above Cost of Feed</td>
<td>$157.05</td>
</tr>
<tr>
<td>Feed Cost (per cwt. of milk)</td>
<td>$0.958</td>
</tr>
<tr>
<td>Feed Cost (per lb. of fat)</td>
<td>$0.259</td>
</tr>
</tbody>
</table>

**Returned for Each $1 Expended for Feed** $1.92

#### COW E-13

- **Milked**—388 days; **dry**—34 days; **total lactation**—422 days
- **Total Production (lbs.)** Milk 12338.2; Fat 404.20*  
- **Total Grain Consumed (lbs.)** 2420.0 = $36.30  
- **Total Pulp Consumed (lbs.)** 16853.8 = $22.24  
- **Total Alfalfa Consumed (lbs.)** 7543.8 = $37.71  
- **Pasture (days)** 144 = $23.90

<table>
<thead>
<tr>
<th>Total Cost of Feeds</th>
<th>$120.15</th>
</tr>
</thead>
<tbody>
<tr>
<td>*Value of Product (lbs.)</td>
<td>$202.10</td>
</tr>
<tr>
<td>Cost of Feed (lbs.)</td>
<td>$120.15</td>
</tr>
<tr>
<td>Above Cost of Feed</td>
<td>$81.95</td>
</tr>
<tr>
<td>Feed Cost (per cwt. of milk)</td>
<td>$0.973</td>
</tr>
<tr>
<td>Feed Cost (per lb. of fat)</td>
<td>$0.297</td>
</tr>
</tbody>
</table>

**Returned for Each $1 Expended for Feed** $1.68

*Average value per pound of butterfat is taken as 50 cents.*
PERTINENT FACTS FROM THE RECORDS OF THREE AGED GRADE COWS

E-10  E-11  E-13

Returned for each $1 expended for feed $1.45  $1.92  $1.68
Feed Cost per pound of fat  $0.343  $0.259  $0.297

_in Terms of Feed Cost._—Cow E-11 produced each pound of butterfat for .084 cent less than Cow E-10 and for .046 cent less than Cow E-13. In other words, Cow E-10 is 32.4 per cent less economical than Cow E-11 and 15.4 per cent less economical than Cow E-13.

_in Terms of Cows and Feed._—It would take 2.6 cows like Cow E-10 to make as much profit as Cow E-11 made alone; and they would eat 2.6 times as much feed as she did.

_in Terms of Cows, Feed, and Acreage to Produce Feed._—With seven cows like Cow E-11, approximately all the feed consumed could be produced on 20 acres of land, with a profit above feed cost of $1099. To realize this profit with cows like E-10 would require 18.2 cows; and 52 acres of land would be needed to produce the required feed.

(College Series No. 258)
Income from a Dairy Herd Depends on The Earning Capacity of The Individual Cows
Profit In Dairying Depends On:

- Economical and Balanced Rations
- Cow-testing Records
- Feeding, Weeding, and Breeding
- A Purebred Dairy Bull Whose Ancestors Have Proved Their Production.