

THE VALUE OF A COMBINATION OF ANTIBIOTICS VS. SINGLE ANTIBIOTICS
FOR YOUNG DAIRY CALVES

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Thirty-two Jersey and Holstein calves (20 Jerseys and 12 Holsteins) 2 to 3 days old were raised on a limited milk-starter-hay system to evaluate a combination of aureomycin and terramycin versus the single antibiotics for young dairy calves. Milk was fed at the daily rate of 8 per cent of body weight for the first 21 days of life; thereafter, the amount of milk fed was gradually reduced until the calves were completely off of milk at 49 days of age.

The calves had all they wanted to eat of an excellent quality alfalfa hay, and one of the four calf starters shown in table 1 was fed up to a maximum of 4 pound daily beginning at 1 week of age. The antibiotic feeding supplements were fed at a rate to furnish 75 milligrams of crystalline antibiotic per calf daily for the first 49 days. The supplements were placed in the starters thereafter.

The results are given in the following tables.

Table 1.

Composition of Experimental Starters

| | 1 | 2 | 3 | 4 |
|----------------------------------|------|------|------|------|
| | (1b) | (1b) | (1b) | (1b) |
| Soybean oil meal | 50 | 50 | 50 | 50 |
| Crimped oats | 120 | 120 | 120 | 120 |
| Ground yellow corn | 80 | 80 | 80 | 80 |
| Wheat Bran | 50 | 50 | 50 | 50 |
| Distillers solubles (72% corn) | 100 | 100 | 100 | 100 |
| Steamed bonemeal | 5 | 5 | 5 | 5 |
| Salt | 5 | 5 | 5 | 5 |
| Vitamin A and D feed (grams) | 200 | 200 | 200 | 200 |
| Aurofac 2A (grams/lb.) | - | 3 | - | 1.5 |
| TM- (grams/lb.) | - | - | 2.5 | 1.25 |
| Analysis in percent | | | | |
| Dry matter | 92.8 | 91.3 | 91.8 | 91.9 |
| Crude protein | 21.5 | 20.6 | 21.7 | 21.8 |
| Ether extract | 5.0 | 5.0 | 5.0 | 5.0 |
| Crude fiber | 6.0 | 5.9 | 5.8 | 6.0 |
| Nitrogen-free extract | 53.1 | 53.0 | 52.1 | 51.8 |
| Ash | 7.2 | 6.8 | 7.2 | 7.3 |

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Table 2.
Effect of Antibiotics Upon the Daily Rate of Gain, Skeletal Growth
and the Incidence of Scours in Young Dairy Calves

| Group | Average Daily gain (lb.) | Height at withers (in.) | Heart girth (in.) | Incidence of scours (days/group) |
|--------------------------------------|--------------------------------|-------------------------------|-------------------------|--|
| 1 (Basal) | 1.03/0.11 ¹ | 4.53 | 7.66 | 6 |
| 2 (Basal plus Aurolfac) | 1.18/0.11 | 4.97 | 9.03 | 13 |
| 3 (Basal plus TM-5) | 1.15/0.09 | 4.62 | 7.22 | 8 |
| 4 (Basal plus Aurolfac plus TM-5) | 1.13/0.11 | 4.78 | 9.06 | 5 |

¹ Standard error of the mean

None of the differences in growth rate were statistically significant.

Table 3.
Summary of Feed Consumption and Utilization Data

| Group | Milk (lb) | Average total consumption | | Feed/gain (lb) |
|-------|--------------|---------------------------|-------------|-------------------|
| | | Starter (lb) | Hay (lb) | |
| 1 | 202.0 | 150.0 | 54.8 | 2.67 |
| 2 | 195.8 | 163.8 | 62.7 | 2.53 |
| 3 | 206.6 | 164.5 | 51.4 | 2.51 |
| 4 | 187.5 | 153.6 | 69.2 | 2.59 |