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FEEDER CATTLE  
COSTS AND RETURNS  
1956 - 1957

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Agricultural Research Service  
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# FEEDER CATTLE COSTS AND RETURNS

1956 - 1957

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## INTRODUCTION

The return over feed cost from feeder cattle fluctuates from year to year and from farm to farm. The variation in returns is accounted for by two primary factors: (1) the price spread between the purchase price and the sale price of the cattle, and (2) the feed cost per pound of gain. This is emphasized by this study of costs and returns for 79 lots of feeder cattle on southern Minnesota farms in the 1956-57 feeding season. This information was obtained from records kept by members of the Southeastern, Southwestern, and West Central Minnesota Farm Management Services. Labor requirements are included for those lots having detailed labor records. The purpose of this report is to make available data regarding the results from feeding operations and amounts of labor used with the various feeder cattle programs.

The data presented cover individual lots of cattle from purchase as feeders to sale as fat cattle. Three different programs are represented: (1) long-fed calves; (2) long-fed yearlings; and (3) short-fed yearlings and two year olds. Cattle on feed 240 days or less are classified as "short-fed" and those fed for longer periods as "long-fed". Steers and heifers are combined. All lots with an

average weight of 500 pounds or less per head at purchase are classed as calves.

Simple arithmetic averages are used throughout the report. In computing group averages each lot was given equal weight regardless of the number of animals in it.

#### PRICES

The average yearly prices at which the principal feeds used in cattle feeding were charged on the farms studied are shown in Table 1 for 1956 and 1957. The farm-raised feeds are valued at average prices on the farm. Purchased feeds are listed at the prices paid for them. Feeds for which there is no established market, such as corn silage, are valued on the basis of their feeding value relative to similar feeds for which a market price is available.

Table 1. Average Annual Feed Prices

|                                | 1956    | 1957    |
|--------------------------------|---------|---------|
| Alfalfa hay, per ton           | \$18.50 | \$17.50 |
| Timothy or brome hay, per ton  | 10.95   | 9.80    |
| Oats or hay silage, per ton    | 6.50    | 6.05    |
| Corn silage, per ton           | 6.00    | 5.75    |
| Ear corn, per bu.              | 1.25    | 1.10    |
| Oats, per bu.                  | .63     | .61     |
| Linseed oil meal, per 100 lbs. | 3.67    | 3.53    |
| Soybean oil meal, per 100 lbs. | 3.72    | 3.25    |

Monthly prices of stocker and feeder cattle at South St. Paul from January, 1956, through June, 1958, are shown in Figure 1. Southern Minnesota farmers secure their feeder cattle from a variety of sources but the South St. Paul quotations are reasonably representative of price trends during this period.

Dollars

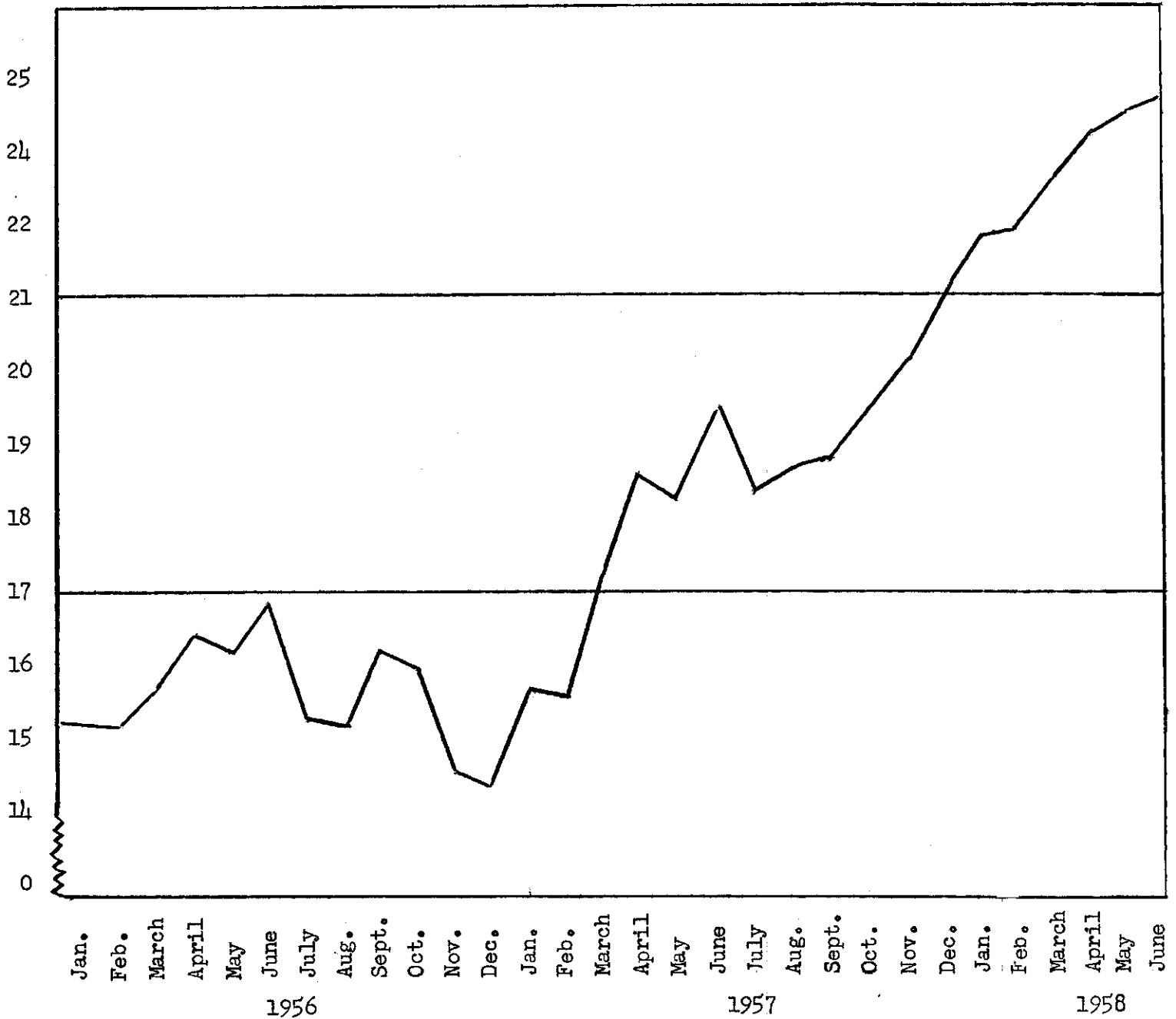


Figure 1. Average Monthly Prices per 100 Pounds of Stockers and Feeders, All Weights, South St. Paul, January, 1956 - June, 1958. (Compiled from Livestock Market News Statistics and Related Data, USDA, PMA, 1956-1958.)

The average purchase and sales prices per 100 pounds of feeder cattle for the years 1953-1957 by type of feeding program are shown in Figure 2.

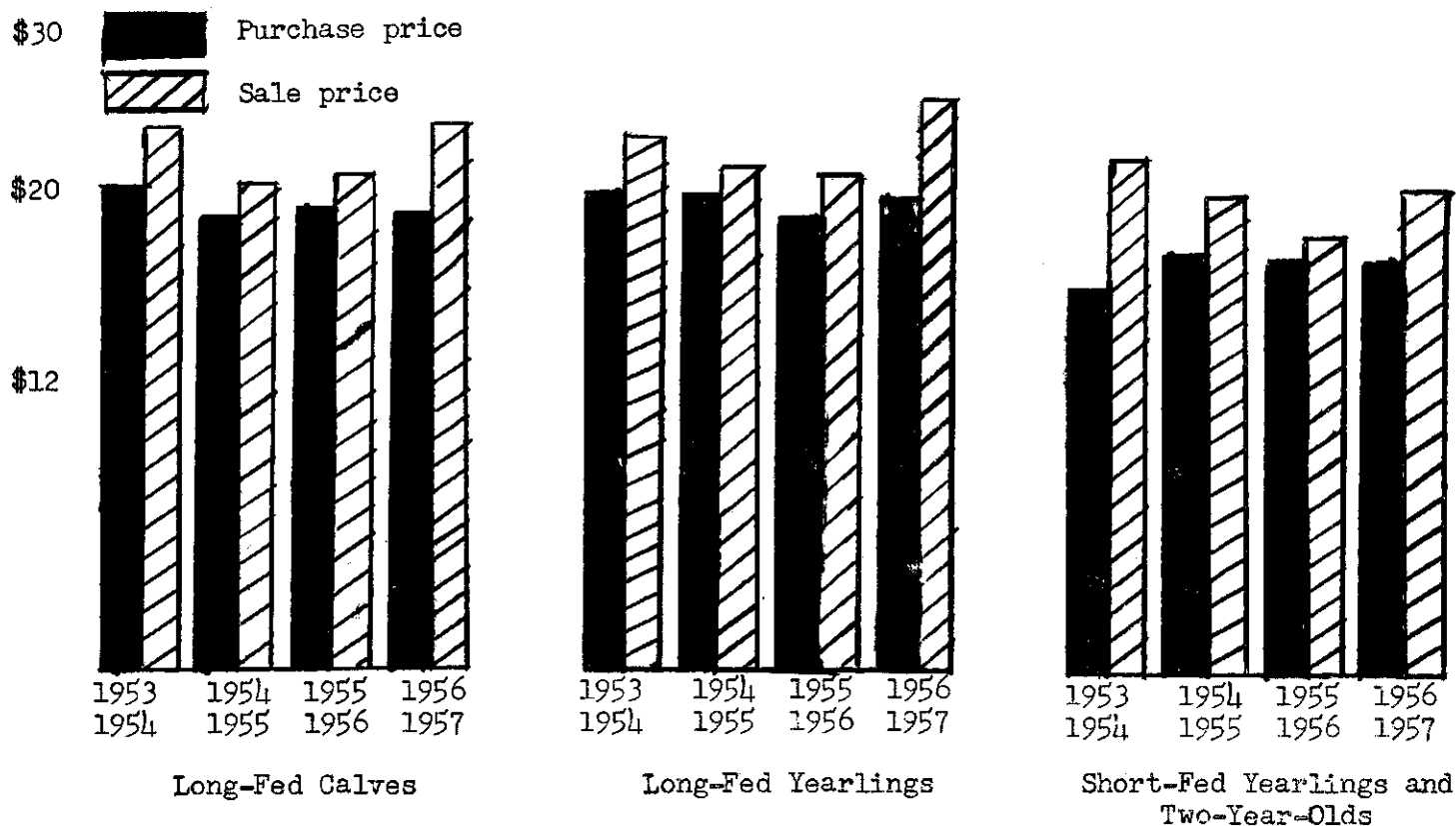


Figure 2. Average Purchase and Sale Prices per 100 Pounds of Feeder Cattle by Feeding Program on Farms Studied, 1953-1957.

#### NUMBERS AND WEIGHTS OF CATTLE FED

The individual lots of cattle for the 1956-57 feeding period included a wide range as to numbers per lot, gain per head, and daily gain. The data in Table 2 indicate the range from high to low for each item and also give a comparison between the calves, long-fed yearlings, and the short-fed yearlings and two-year-olds.

Daily gains were greatest for the short-fed cattle. This was due in part to their larger size and greater capacity for feed and to the fact that they were pushed along more rapidly. Death losses occurred in 22 of the 79 lots. In a few of the cases it was an important factor limiting the profits for these lots.

Table 2. Range in Numbers and Weights for Individual Lots

|                         | 26 lots         |      |     | 14 lots            |      |     | 26 lots                               |      |     |
|-------------------------|-----------------|------|-----|--------------------|------|-----|---------------------------------------|------|-----|
|                         | Long-fed calves |      |     | Long-fed yearlings |      |     | Short-fed yearlings and two-year-olds |      |     |
|                         | Avg.            | High | Low | Avg.               | High | Low | Avg.                                  | High | Low |
| Number of head in lot   | 58              | 240  | 16  | 66                 | 118  | 17  | 53                                    | 103  | 25  |
| Av. purchase weight     | 402             | 500  | 231 | 614                | 734  | 502 | 684                                   | 893  | 526 |
| Av. sale weight         | 931             | 1111 | 635 | 1125               | 1286 | 922 | 1054                                  | 1266 | 754 |
| Av. gain in wt. per hd. | 529             | 798  | 297 | 511                | 680  | 399 | 370                                   | 510  | 280 |
| Av. daily gain per hd.  | 1.7             | 2.4  | 1.1 | 1.7                | 2.1  | 1.4 | 2.                                    | 2.7  | 1.5 |

#### FEEDING AND LABOR DATA

The number and weights of cattle fed, the quantities of feed used and the costs and returns from feeding operations for the 1956-57 feeding season are shown on the following pages. In Table 3 is the report for the long-fed calves, in Table 4 for the long-fed yearlings and in Table 5 for the short-fed yearlings and two year-olds. A comparison of these data for the last four years is given in Table 6.

The information on costs and returns presented in Tables 3, 4, and 5 includes the prices paid and received for cattle, the cost and returns per lot and cost and returns per 100 pounds gain in weight. The return over feed costs per 100 pounds gain in weight (line 29) is used in this study as a measure of the relative profitability of individual lots of cattle and of the different groups compared.

Net returns or profits in cattle feeding are the result of sales income minus costs. The major items of cost are purchase price of cattle and the feed they consume. Profits result when the total of these plus other costs are below the amount received for the cattle.

Table 3. Long-Fed Calves, 1956-57

| Number and weight of cattle fed:            | Average<br>of<br>39 lots | Individual lot numbers |           |           |           |
|---|--------------------------|------------------------|-----------|-----------|-----------|
|   |                          | 1                      | 2         | 3         | 4         |
| 1. Number of head bought                    | 58                       | 42                     | 65        | 30        | 40        |
| 2. Days on farm                             | 313                      | 246                    | 330       | 234       | 277       |
| 3. Days on pasture                          | 28                       | -                      | -         | -         | -         |
| 4. Percent death loss                       | .80                      | -                      | -         | -         | -         |
| 5. Average purchase weight, lbs.            | 402                      | 431                    | 479       | 493       | 340       |
| 6. Average sales weight, lbs.               | 931                      | 862                    | 1063      | 1085      | 863       |
| 7. Gain per head, lbs.                      | 529                      | 431                    | 584       | 592       | 523       |
| 8. Gain per head per day, lbs.              | 1.70                     | 1.75                   | 1.77      | 2.42      | 1.89      |
| 9. Pounds of beef produced                  | 29588                    | 18095                  | 38025     | 17760     | 20920     |
| <b>Feed used per 100 lbs. gain:</b>         |                          |                        |           |           |           |
| 10. Corn, lbs.                              | 470                      | 394                    | 197       | 420       | 431       |
| 11. Small grain, lbs.                       | 22                       | -                      | 4         | 17        | 12        |
| 12. Commercial feed, lbs.                   | 45                       | 26                     | 29        | 1         | 48        |
| 13. Total concentrates, lbs.                | 537                      | 420                    | 230       | 438       | 491       |
| 14. Legume hay, lbs.                        | 263                      | 180                    | 333       | 417       | 285       |
| 15. Other hay, lbs.                         | 48                       | 4                      | -         | 39        | 90        |
| 16. Total dry roughage, lbs.                | 311                      | 184                    | 333       | 456       | 375       |
| 17. Corn silage, lbs.                       | 118                      | 591                    | 195       | -         | 29        |
| 18. Grass or oat silage, lbs.               | 271                      | -                      | 226       | -         | 239       |
| 19. Total silage, lbs.                      | 389                      | 591                    | 421       | -         | 268       |
| 20. Pasture days                            | 6                        | -                      | -         | -         | -         |
| <b>Prices of Cattle:</b>                    |                          |                        |           |           |           |
| 21. Price paid per 100 lbs.                 | \$18.81                  | \$16.97                | \$15.06   | \$19.71   | \$16.55   |
| 22. Price received per 100 lbs.             | 22.48                    | 23.00                  | 21.11     | 23.51     | 23.34     |
| 23. Price spread per 100 lbs.               | 3.67                     | 6.03                   | 6.05      | 3.80      | 6.79      |
| <b>Cost and returns per lot:</b>            |                          |                        |           |           |           |
| 24. Total value produced                    | \$7549.09                | \$5254.14              | \$9913.83 | \$4738.53 | \$5807.69 |
| 25. Total feed cost                         | 4749.80                  | 2313.08                | 4152.73   | 2098.03   | 2997.68   |
| 26. Total return over feed cost             | \$2799.29                | \$2941.06              | \$5761.10 | \$2640.50 | \$2810.01 |
| <b>Cost and returns per 100 lbs. gain:</b>  |                          |                        |           |           |           |
| 27. Value produced                          | \$25.52                  | \$29.04                | \$26.07   | \$26.68   | \$27.76   |
| 28. Feed costs                              | 15.82                    | 12.78                  | 10.91     | 11.81     | 14.33     |
| 29. RETURN OVER FEED COST                   | \$ 9.70                  | \$16.26                | \$15.16   | \$14.87   | \$13.43   |
| 30. Return over feed cost from price spread | \$ 3.04                  | \$ 6.04                | \$ 4.96   | \$ 3.70   | \$ 4.42   |
| 31. Return over feed cost from feeding      | \$ 6.66                  | \$10.22                | \$10.20   | \$11.17   | \$ 9.01   |
| 32. Return per \$100 feed cost              | \$166                    | \$227                  | \$239     | \$226     | \$194     |
| 33. Hours of labor per 100 lbs. gain: 1.56* |                          | 1.44                   | **        | **        | 2.28      |

\*Avg. of 67 lots in labor study (59 head per lot)

\*\*Labor records not available



Table 3. Long-Fed Calves, 1956-57 (continued)

|     | Individual lot numbers |                  |                  |                  |                  |                  |                  |                  |
|-----|------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
|     | 5                      | 6                | 7                | 8                | 9                | 10               | 11               | 12               |
| 1.  | 30                     | 47               | 50               | 47               | 49               | 34               | 66               | 80               |
| 2.  | 364                    | 388              | 371              | 303              | 254              | 385              | 341              | 284              |
| 3.  | -                      | 112              | 29               | -                | -                | -                | 70               | -                |
| 4.  | -                      | -                | 4.00             | -                | -                | -                | -                | 1.30             |
| 5.  | 359                    | 378              | 375              | 403              | 459              | 231              | 416              | 388              |
| 6.  | 1065                   | 1111             | 940              | 861              | 892              | 638              | 1031             | 880              |
| 7.  | 706                    | 733              | 565              | 458              | 433              | 407              | 615              | 492              |
| 8.  | 1.94                   | 1.89             | 1.52             | 1.51             | 1.70             | 1.10             | 1.80             | 1.73             |
| 9.  | 21170                  | 29780            | 28265            | 21515            | 21185            | 13850            | 40585            | 38420            |
| 10. | 490                    | 636              | 339              | 452              | 416              | 483              | 145              | 392              |
| 11. | 8                      | 5                | 7                | 5                | -                | -                | 27               | 43               |
| 12. | 16                     | 16               | 19               | 26               | 36               | 84               | 59               | 62               |
| 13. | <u>514</u>             | <u>657</u>       | <u>365</u>       | <u>483</u>       | <u>452</u>       | <u>567</u>       | <u>231</u>       | <u>497</u>       |
| 14. | 137                    | 161              | 205              | 316              | 253              | 318              | 330              | 302              |
| 15. | 42                     | -                | -                | 49               | -                | -                | -                | 16               |
| 16. | <u>179</u>             | <u>161</u>       | <u>205</u>       | <u>365</u>       | <u>253</u>       | <u>318</u>       | <u>330</u>       | <u>318</u>       |
| 17. | 118                    | -                | -                | -                | 736              | -                | -                | 916              |
| 18. | -                      | 326              | 375              | 516              | -                | 1011             | 369              | -                |
| 19. | <u>118</u>             | <u>326</u>       | <u>375</u>       | <u>516</u>       | <u>736</u>       | <u>1011</u>      | <u>369</u>       | <u>916</u>       |
| 20. | -                      | 18               | 5                | -                | -                | -                | 11               | -                |
| 21. | \$19.88                | \$19.22          | \$20.00          | \$17.25          | \$20.32          | \$20.95          | \$19.59          | \$17.50          |
| 22. | 23.27                  | 24.03            | 21.85            | 22.27            | 22.82            | 27.66            | 20.99            | 22.98            |
| 23. | 3.39                   | 4.81             | 1.85             | 5.02             | 2.50             | 6.71             | 1.40             | 5.48             |
| 24. | \$5291.78              | \$8013.72        | \$6521.14        | \$5740.80        | \$5398.47        | \$4358.90        | \$8903.51        | \$10529.64       |
| 25. | 2572.15                | 4302.15          | 3059.93          | 3174.18          | 2904.10          | 2751.74          | 4225.10          | 6142.92          |
| 26. | <u>\$2719.53</u>       | <u>\$3711.57</u> | <u>\$3461.21</u> | <u>\$2566.62</u> | <u>\$2494.37</u> | <u>\$1607.16</u> | <u>\$4678.41</u> | <u>\$4386.72</u> |
| 27. | \$24.96                | \$26.91          | \$23.07          | \$26.68          | \$25.48          | \$31.47          | \$21.94          | \$27.40          |
| 28. | 12.13                  | 14.45            | 10.82            | 14.75            | 13.71            | 19.87            | 10.41            | 15.99            |
| 29. | <u>\$12.83</u>         | <u>\$12.46</u>   | <u>\$12.25</u>   | <u>\$11.93</u>   | <u>\$11.77</u>   | <u>\$11.60</u>   | <u>\$11.53</u>   | <u>\$11.41</u>   |
| 30. | \$ 1.69                | \$ 2.88          | \$ 1.22          | \$ 4.41          | \$ 2.66          | \$ 3.81          | \$ .95           | \$ 4.42          |
| 31. | \$11.14                | \$ 9.58          | \$11.03          | \$ 7.52          | \$ 9.11          | \$ 7.79          | \$10.58          | \$ 6.99          |
| 32. | \$206                  | \$186            | \$213            | \$181            | \$186            | \$158            | \$211            | \$171            |
| 33. | **                     | 1.94             | 1.01             | 1.55             | **               | **               | 1.25             | **               |

\*\*Labor records not available

Table 3. Long-Fed Calves, 1956-57 (continued)

|   | Individual lot numbers |                    |                    |            |                    |
|---|------------------------|--------------------|--------------------|------------|--------------------|
|   | 13                     | 14                 | 15                 | 16         | 17                 |
| <u>Number and weight of cattle fed:</u>     |                        |                    |                    |            |                    |
| 1. Number of head bought                    | 105                    | 50                 | 34                 | 110        | 41                 |
| 2. Days on farm                             | 310                    | 269                | 281                | 325        | 222                |
| 3. Days on pasture                          | 120                    | -                  | 62                 | -          | -                  |
| 4. Percent death loss                       | .95                    | -                  | 2.94               | .91        | 4.88               |
| 5. Avg. purchase weight, lbs.               | 400                    | 399                | 454                | 410        | 408                |
| 6. Average sales weight, lbs.               | 874                    | 860                | 830                | 1009       | 824                |
| 7. Gain per head, lbs.                      | 474                    | 461                | 376                | 599        | 416                |
| 8. Gain per head per day, lbs.              | 1.53                   | 1.71               | 1.33               | 1.84       | 1.87               |
| 9. Pounds of beef produced                  | 49780                  | 23085              | 12785              | 64382      | 17085              |
| <u>Feed used per 100 lbs. gain:</u>         |                        |                    |                    |            |                    |
| 10. Corn, lbs.                              | 451                    | 391                | 675                | 565        | 580                |
| 11. Small grain, lbs.                       | -                      | 13                 | -                  | 21         | -                  |
| 12. Commercial feed, lbs.                   | 25                     | 23                 | 46                 | 27         | 52                 |
| 13. Total concentrates, lbs.                | 476                    | 427                | 721                | 613        | 632                |
| 14. Legume hay, lbs.                        | 366                    | 311                | 125                | 317        | 159                |
| 15. Other hay and stover, lbs.              | -                      | 9                  | 78                 | -          | 52                 |
| 16. Total dry roughage, lbs.                | 366                    | 320                | 203                | 317        | 211                |
| 17. Corn silage, lbs.                       | -                      | -                  | -                  | -          | -                  |
| 18. Grass or oat silage, lbs.               | -                      | 412                | -                  | -          | 562                |
| 19. Total silage, lbs.                      | -                      | 412                | -                  | -          | 562                |
| 20. Pasture days                            | 25                     | -                  | 17                 | -          | -                  |
| <u>Prices of cattle:</u>                    |                        |                    |                    |            |                    |
| 21. Price paid per 100 lbs.                 | \$15.65                | \$17.50            | \$16.00            | \$18.51    | \$16.75            |
| 22. Price received per 100 lbs.             | 21.43                  | 21.32              | 22.47              | 23.19      | 22.32              |
| 23. Price spread per 100 lbs.               | 5.78                   | 3.82               | 6.47               | 4.68       | 5.57               |
| <u>Cost and returns per lot:</u>            |                        |                    |                    |            |                    |
| 24. Total value produced                    | \$13096.34             | \$5683.34          | \$3869.92          | \$17049.96 | \$4744.57          |
| 25. Total feed cost                         | 7480.75                | 3129.21            | 2475.30            | 10103.63   | 2906.50            |
| 26. Total return over feed cost             | \$ 5615.59             | \$2554.13          | \$1394.62          | \$ 6946.33 | \$1838.07          |
| <u>Cost and returns per 100 lbs. gain:</u>  |                        |                    |                    |            |                    |
| 27. Value produced                          | \$26.30                | \$24.62            | \$30.27            | \$26.48    | \$27.77            |
| 28. Feed costs                              | 15.02 <sup>o</sup>     | 13.55 <sup>o</sup> | 19.36 <sup>o</sup> | 15.69      | 17.01 <sup>o</sup> |
| 29. RETURN OVER FEED COSTS                  | \$11.28                | \$11.07            | \$10.91            | \$10.79    | \$10.76            |
| 30. Return over feed cost from price spread | \$ 4.87                | \$ 3.30            | \$ 7.80            | \$ 3.29    | \$ 5.45            |
| 31. Return over feed cost from feeding      | \$ 6.41                | \$ 7.77            | \$ 3.11            | \$ 7.50    | \$ 5.31            |
| 32. Return per \$100 feed cost              | \$175                  | \$182              | \$156              | \$169      | \$163              |
| 33. Hours of labor per 100 lbs.gain         | **                     | 2.51               | **                 | .72        | **                 |

\*\*Labor records not available

Table 3. Long-Fed Calves, 1956-57 (continued)

|     | Individual lot numbers |                  |                  |                  |                  |                  |                  |                  |
|-----|------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
|     | 18                     | 19               | 20               | 21               | 22               | 23               | 24               | 25               |
| 1.  | 49                     | 33               | 45               | 39               | 65               | 152              | 30               | 40               |
| 2.  | 262                    | 446              | 301              | 306              | 348              | 203              | 346              | 306              |
| 3.  | -                      | 89               | -                | -                | 60               | 99               | -                | 103              |
| 4.  | 6.12                   | -                | -                | -                | 1.50             | 1.30             | -                | 2.50             |
| 5.  | 350                    | 309              | 474              | 457              | 411              | 448              | 352              | 423              |
| 6.  | 763                    | 884              | 1028             | 973              | 1087             | 745              | 1034             | 1107             |
| 7.  | 413                    | 575              | 554              | 516              | 676              | 297              | 702              | 684              |
| 8.  | 1.58                   | 1.28             | 1.84             | 1.70             | 1.94             | 1.46             | 2.03             | 2.23             |
| 9.  | 20205                  | 18980            | 24940            | 20125            | 43963            | 43725            | 20465            | 27365            |
| 10. | 568                    | 334              | 450              | 622              | 497              | 416              | 468              | 523              |
| 11. | 24                     | 27               | 6                | 14               | -                | 47               | 17               | 9                |
| 12. | 16                     | 21               | 60               | 25               | 44               | 20               | 32               | 36               |
| 13. | <u>608</u>             | <u>382</u>       | <u>516</u>       | <u>661</u>       | <u>541</u>       | <u>483</u>       | <u>517</u>       | <u>568</u>       |
| 14. | 485                    | 279              | 148              | 186              | -                | 118              | 151              | 168              |
| 15. | -                      | 5                | 104              | 40               | 125              | 23               | 39               | -                |
| 16. | <u>485</u>             | <u>284</u>       | <u>252</u>       | <u>226</u>       | <u>125</u>       | <u>141</u>       | <u>190</u>       | <u>168</u>       |
| 17. | -                      | -                | -                | 566              | -                | 114              | -                | -                |
| 18. | -                      | -                | 32               | 20               | -                | 961              | -                | 325              |
| 19. | -                      | -                | <u>32</u>        | <u>586</u>       | -                | <u>1075</u>      | -                | <u>325</u>       |
| 20. | -                      | 15               | -                | -                | 9                | 34               | -                | 16               |
| 21. | \$17.02                | \$19.00          | \$19.95          | \$18.00          | \$21.72          | \$16.84          | \$21.75          | \$21.50          |
| 22. | 22.89                  | 21.25            | 22.07            | 24.00            | 23.94            | 20.91            | 22.30            | 23.48            |
| 23. | 5.87                   | 2.25             | 2.12             | 6.00             | 2.22             | 4.07             | .55              | 1.98             |
| 24. | \$5633.81              | \$4264.32        | \$5952.97        | \$5890.20        | \$11115.92       | \$11919.39       | \$4622.85        | \$6760.40        |
| 25. | <u>3478.85</u>         | <u>2244.01</u>   | <u>3329.95</u>   | <u>3798.12</u>   | <u>6709.01</u>   | <u>7733.67</u>   | <u>2738.66</u>   | <u>4387.12</u>   |
| 26. | <u>\$2154.96</u>       | <u>\$2020.31</u> | <u>\$2623.02</u> | <u>\$2092.08</u> | <u>\$4406.91</u> | <u>\$4185.72</u> | <u>\$1884.19</u> | <u>\$2373.28</u> |
| 27. | \$27.88                | \$22.47          | \$23.87          | \$29.27          | \$25.28          | \$27.26          | \$22.59          | \$24.70          |
| 28. | <u>17.21</u>           | <u>11.82</u>     | <u>13.35</u>     | <u>18.87</u>     | <u>15.26</u>     | <u>17.68</u>     | <u>13.38</u>     | <u>16.03</u>     |
| 29. | <u>\$10.67</u>         | <u>\$10.65</u>   | <u>\$10.52</u>   | <u>\$10.40</u>   | <u>\$10.02</u>   | <u>\$ 9.58</u>   | <u>\$ 9.21</u>   | <u>\$ 8.67</u>   |
| 30. | \$4.99                 | \$1.22           | \$1.80           | \$5.27           | \$1.34           | \$6.36           | \$.29            | \$1.22           |
| 31. | \$5.68                 | \$9.43           | \$8.72           | \$5.13           | \$8.68           | \$3.22           | \$8.92           | \$7.45           |
| 32. | \$162                  | \$190            | \$179            | \$155            | \$166            | \$154            | \$169            | \$154            |
| 33. | **                     | **               | **               | **               | **               | 1.45             | **               | 1.61             |

\*\*Labor records not available

Table 3. Long-Fed Calves, 1956-57 (continued)

|   | Individual lot numbers |           |           |           |           |
|---|------------------------|-----------|-----------|-----------|-----------|
|   | 26                     | 27        | 28        | 29        | 30        |
| <u>Number and weight of cattle fed:</u>     |                        |           |           |           |           |
| 1. Number of head bought                    | 20                     | 16        | 24        | 35        | 66        |
| 2. Days on farm                             | 247                    | 461       | 262       | 394       | 345       |
| 3. Days on pasture                          | -                      | 64        | -         | -         | 26        |
| 4. Percent death loss                       | -                      | -         | -         | -         | -         |
| 5. Avg. purchase weight, lbs.               | 500                    | 300       | 444       | 322       | 427       |
| 6. Average sales weight, lbs.               | 935                    | 1098      | 995       | 865       | 992       |
| 7. Gain per head, lbs.                      | 435                    | 798       | 551       | 543       | 565       |
| 8. Gain per head per day, lbs.              | 1.76                   | 1.73      | 2.10      | 1.38      | 1.64      |
| 9. Pounds of beef produced                  | 8690                   | 12760     | 13204     | 19020     | 37345     |
| <u>Feed used per 100 lbs. gain:</u>         |                        |           |           |           |           |
| 10. Corn, lbs.                              | 400                    | 224       | 471       | 471       | 451       |
| 11. Small grain, lbs.                       | 114                    | 87        | 74        | 59        | 20        |
| 12. Commercial feed, lbs.                   | 83                     | 34        | 55        | 32        | 62        |
| 13. Total concentrates, lbs.                | 597                    | 345       | 600       | 562       | 533       |
| 14. Legume hay, lbs.                        | -                      | 251       | 204       | 368       | 326       |
| 15. Other hay and stover, lbs.              | 817                    | 196       | -         | 16        | -         |
| 16. Total dry roughage, lbs.                | 817                    | 447       | 204       | 384       | 326       |
| 17. Corn silage, lbs.                       | -                      | -         | 651       | -         | 535       |
| 18. Grass or oat silage, lbs.               | -                      | -         | -         | 473       | -         |
| 19. Total silage, lbs.                      | -                      | -         | 651       | 473       | 535       |
| 20. Pasture days                            | -                      | 8         | -         | -         | 5         |
| <u>Prices of cattle:</u>                    |                        |           |           |           |           |
| 21. Price paid per 100 lbs.                 | \$19.60                | \$16.67   | \$20.65   | \$19.22   | \$20.44   |
| 22. Price received per 100 lbs.             | 22.80                  | 19.25     | 22.88     | 22.60     | 22.84     |
| 23. Price spread per 100 lbs.               | 3.20                   | 2.58      | 2.23      | 3.38      | 2.40      |
| <u>Cost and returns per lot:</u>            |                        |           |           |           |           |
| 24. Total value produced                    | \$2303.46              | \$2580.95 | \$3259.81 | \$4678.23 | \$9206.15 |
| 25. Total feed cost                         | 1585.43                | 1541.78   | 2207.24   | 3238.97   | 6510.32   |
| 26. Total return over feed cost             | \$ 718.03              | \$1039.17 | \$1052.57 | \$1439.26 | \$2695.83 |
| <u>Cost and returns per 100 lbs. gain:</u>  |                        |           |           |           |           |
| 27. Value produced                          | \$26.50                | \$20.23   | \$24.69   | \$24.59   | \$24.65   |
| 28. Feed costs                              | 18.24                  | 12.08     | 16.71     | 17.02     | 17.43     |
| 29. RETURN OVER FEED COSTS                  | \$ 8.26                | \$ 8.15   | \$ 7.98   | \$ 7.57   | \$ 7.22   |
| 30. Return over feed cost from price spread | \$ 3.70                | \$ .98    | \$ 1.81   | \$ 1.99   | \$ 1.81   |
| 31. Return over feed cost from feeding      | \$ 4.56                | \$ 7.17   | \$ 6.17   | \$ 5.58   | \$ 5.41   |
| 32. Return per \$100 feed cost              | \$145                  | \$167     | \$148     | \$144     | \$141     |
| 33. Hours of labor per 100 lbs. gain        | 2.62                   | **        | 1.58      | 2.62      | 1.14      |

\*\*Labor records not available

Table 3. Long-Fed Calves, 1956-57 (continued)

|     | Individual lot numbers |            |            |           |           |           |           |           |           |
|-----|------------------------|------------|------------|-----------|-----------|-----------|-----------|-----------|-----------|
|     | 31                     | 32         | 33         | 34        | 35        | 36        | 37        | 38        | 39        |
| 1.  | 73                     | 240        | 109        | 55        | 32        | 50        | 81        | 33        | 50        |
| 2.  | 329                    | 346        | 323        | 194       | 315       | 349       | 297       | 306       | 334       |
| 3.  | -                      | -          | 133        | -         | -         | 74        | 30        | 35        | -         |
| 4.  | -                      | 2.08       | .91        | -         | -         | -         | 1.25      | -         | 2.00      |
| 5.  | 443                    | 389        | 478        | 466       | 376       | 470       | 324       | 325       | 382       |
| 6.  | 1087                   | 937        | 1023       | 886       | 871       | 939       | 747       | 805       | 811       |
| 7.  | 644                    | 548        | 545        | 420       | 495       | 469       | 423       | 480       | 429       |
| 8.  | 1.95                   | 1.58       | 1.69       | 2.16      | 1.57      | 1.31      | 1.42      | 1.30      | 1.30      |
| 9.  | 47070                  | 126790     | 59455      | 23090     | 15845     | 23470     | 34230     | 15860     | 20658     |
| 10. | 613                    | 613        | 400        | 667       | 538       | 472       | 720       | 400       | 548       |
| 11. | 17                     | 6          | -          | -         | 53        | 45        | 17        | 40        | 14        |
| 12. | 320                    | 116        | 47         | 40        | 21        | 27        | 48        | 27        | 25        |
| 13. | 950                    | 735        | 447        | 707       | 612       | 544       | 785       | 467       | 587       |
| 14. | 368                    | 184        | 124        | 251       | 544       | 368       | 409       | 454       | 368       |
| 15. | -                      | -          | 17         | -         | -         | 118       | 6         | -         | -         |
| 16. | 368                    | 184        | 141        | 251       | 544       | 486       | 415       | 454       | 368       |
| 17. | -                      | 73         | -          | 87        | -         | -         | -         | -         | -         |
| 18. | 563                    | 526        | 161        | 736       | -         | 383       | -         | 471       | 1883      |
| 19. | 563                    | 599        | 161        | 823       | -         | 383       | -         | 471       | 1883      |
| 20. | -                      | -          | 24         | -         | -         | 16        | 7         | 7         | -         |
| 21. | \$19.26                | \$17.81    | \$19.30    | \$18.71   | \$18.77   | \$20.00   | \$19.44   | \$21.42   | \$19.24   |
| 22. | 23.54                  | 22.97      | 20.22      | 22.48     | 21.13     | 21.88     | 22.93     | 21.31     | 21.61     |
| 23. | 4.28                   | 5.16       | .92        | 3.77      | 2.36      | 1.88      | 3.49      | -.11      | 2.37      |
| 24. | \$12462.62             | \$33933.40 | \$12505.34 | \$6160.20 | \$3632.49 | \$5580.70 | \$8762.94 | \$3356.79 | \$4915.35 |
| 25. | 9092.36                | 25090.52   | 8814.55    | 4726.93   | 2675.43   | 4164.21   | 7116.50   | 2808.74   | 4460.70   |
| 26. | \$ 3370.26             | \$ 8842.88 | \$ 3690.79 | \$1433.27 | \$ 957.06 | \$1416.49 | \$1646.44 | \$ 548.05 | \$ 454.65 |
| 27. | \$26.48                | \$26.76    | \$21.03    | \$26.68   | \$22.93   | \$23.78   | \$25.60   | \$21.17   | \$23.79   |
| 28. | 19.32                  | 19.79      | 14.82      | 20.47*    | 16.88*    | 17.75     | 20.79*    | 17.71*    | 21.59*    |
| 29. | \$ 7.16                | \$ 6.97    | \$ 6.21    | \$ 6.21   | \$ 6.05   | \$ 6.03   | \$ 4.81   | \$ 3.46   | \$ 2.20   |
| 30. | \$ 2.94                | \$ 3.79    | \$ .81     | \$ 4.20   | \$ 1.80   | \$ 1.90   | \$ 2.67   | \$ -.14   | \$ 2.18   |
| 31. | \$ 4.22                | \$ 3.18    | \$ 5.40    | \$ 2.01   | \$ 4.25   | \$ 4.13   | \$ 2.14   | \$ 3.60   | \$ .02    |
| 32. | \$137                  | \$135      | \$142      | \$130     | \$136     | \$135     | \$123     | \$120     | \$110     |
| 33. | **                     | 1.33       | **         | **        | **        | 1.67      | **        | 2.04      | 2.21      |

\*\*Labor records not available

Table 4. Long-Fed Yearlings, 1956-57

|   | Average<br>of<br>14 lots | Individual lot numbers |           |            |           |
|---|--------------------------|------------------------|-----------|------------|-----------|
|   |                          | 40                     | 41        | 42         | 43        |
| Number and weight of cattle fed:            |                          |                        |           |            |           |
| 1. Number of head bought                    | 66                       | 97                     | 50        | 88         | 50        |
| 2. Days on farm                             | 303                      | 277                    | 374       | 245        | 251       |
| 3. Days on pasture                          | 25                       | 25                     | 39        | 59         | -         |
| 4. Percent death loss                       | 1.13                     | 6.18                   | -         | -          | -         |
| 5. Avg. purchase weight, lbs.               | 614                      | 660                    | 574       | 502        | 664       |
| 6. Avg. sales weight, lbs.                  | 1125                     | 1080                   | 1173      | 922        | 1151      |
| 7. Gain per head, lbs.                      | 511                      | 420                    | 599       | 420        | 487       |
| 8. Gain per head per day, lbs.              | 1.70                     | 1.52                   | 1.60      | 1.72       | 1.94      |
| 9. Pounds of beef produced                  | 33340                    | 40765                  | 29935     | 36956      | 24365     |
| Feed used per 100 lbs. gain:                |                          |                        |           |            |           |
| 10. Corn, lbs.                              | 511                      | 417                    | 420       | 362        | 326       |
| 11. Small grain, lbs.                       | 6                        | -                      | -         | 10         | -         |
| 12. Commercial feed, lbs.                   | 45                       | 59                     | 20        | 58         | 8         |
| 13. Total concentrates, lbs.                | 562                      | 476                    | 440       | 430        | 334       |
| 14. Legume hay, lbs.                        | 263                      | 304                    | 160       | 211        | 238       |
| 15. Other hay, lbs.                         | 23                       | 37                     | -         | -          | 82        |
| 16. Total dry roughage, lbs.                | 286                      | 341                    | 160       | 211        | 320       |
| 17. Corn silage, lbs.                       | 553                      | 1276                   | 394       | 379        | 821       |
| 18. Grass silage, lbs.                      | 282                      | -                      | 655       | 216        | -         |
| 19. Total silage, lbs.                      | 835                      | 1276                   | 1049      | 595        | 821       |
| 20. Pasture days                            | 5                        | 6                      | 7         | 14         | -         |
| Prices of cattle:                           |                          |                        |           |            |           |
| 21. Price paid per 100 lbs.                 | \$19.11                  | \$17.60                | \$19.75   | \$17.04    | \$19.50   |
| 22. Price received per 100 lbs.             | 22.48                    | 24.07                  | 25.24     | 22.93      | 22.85     |
| 23. Price spread per 100 lbs.               | 3.37                     | 6.47                   | 5.49      | 5.89       | 3.35      |
| Cost and returns per lot:                   |                          |                        |           |            |           |
| 24. Total value produced                    | \$9116.81                | \$13946.28             | \$9133.60 | \$11080.46 | \$6677.82 |
| 25. Total feed cost                         | 6085.35                  | 7535.26                | 4433.32   | 5370.28    | 2937.73   |
| 26. Total return over feed cost             | \$3031.44                | \$6411.02              | \$4700.28 | \$5710.18  | \$3740.09 |
| Cost and returns per 100 lbs. gain:         |                          |                        |           |            |           |
| 27. Value produced                          | \$26.51                  | \$34.21                | \$30.51   | \$29.98    | \$27.40   |
| 28. Feed costs                              | 19.05                    | 18.48                  | 14.81     | 14.51      | 12.05     |
| 29. RETURN OVER FEED COSTS                  | \$ 7.46                  | \$15.73                | \$15.70   | \$15.47    | \$15.35   |
| 30. Return over feed cost from price spread | \$ 4.03                  | \$10.14                | \$ 5.27   | \$ 7.05    | \$ 4.55   |
| 31. Return over feed cost from feeding      | \$ 3.43                  | \$ 5.59                | \$10.43   | \$ 8.42    | \$10.80   |
| 32. Return per \$100 feed cost              | \$149                    | \$185                  | \$206     | \$206      | \$227     |
| 33. Hours of labor per 100 lbs. gain        | 1.56*                    | **                     | .81       | **         | **        |

\*\*Labor records not available

\*Avg. of 67 lots in labor study (59 head per lot)

Table 4. Long-Fed Yearlings, 1956-57 (continued)

|     | Individual lot numbers |                  |                  |                  |                 |                 |                 |                 |                  |                   |
|-----|------------------------|------------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|------------------|-------------------|
|     | 44                     | 45               | 46               | 47               | 48              | 49              | 50              | 51              | 52               | 53                |
| 1.  | 118                    | 72               | 133              | 45               | 25              | 29              | 40              | 105             | 17               | 53                |
| 2.  | 294                    | 452              | 377              | 263              | 316             | 325             | 281             | 245             | 246              | 295               |
| 3.  | -                      | 90               | 46               | 59               | -               | 36              | -               | -               | -                | -                 |
| 4.  | -                      | -                | -                | -                | 4.00            | 1.69            | -               | -               | 5.88             | -                 |
| 5.  | 641                    | 529              | 714              | 734              | 543             | 529             | 559             | 658             | 607              | 678               |
| 6.  | 1172                   | 1209             | 1291             | 1286             | 1103            | 1079            | 1068            | 1057            | 1054             | 1109              |
| 7.  | 531                    | 680              | 577              | 552              | 560             | 550             | 509             | 399             | 447              | 431               |
| 8.  | 1.81                   | 1.50             | 1.53             | 2.10             | 1.77            | 1.69            | 1.81            | 1.60            | 1.82             | 1.46              |
| 9.  | 62730                  | 49045            | 76735            | 24820            | 13992           | 15965           | 20345           | 41840           | 6550             | 22720             |
| 10. | 625                    | 472              | 665              | 686              | 520             | 536             | 353             | 601             | 598              | 573               |
| 11. | 6                      | -                | -                | -                | 6               | 28              | -               | 37              | -                | -                 |
| 12. | 25                     | 9                | 35               | 16               | 68              | 43              | 55              | 37              | 108              | 83                |
| 13. | <u>656</u>             | <u>481</u>       | <u>700</u>       | <u>702</u>       | <u>594</u>      | <u>607</u>      | <u>408</u>      | <u>675</u>      | <u>706</u>       | <u>656</u>        |
| 14. | 217                    | 186              | 179              | 161              | 457             | -               | 236             | 779             | 290              | 268               |
| 15. | -                      | -                | 52               | -                | 21              | 125             | -               | -               | -                | -                 |
| 16. | <u>217</u>             | <u>186</u>       | <u>231</u>       | <u>161</u>       | <u>478</u>      | <u>125</u>      | <u>236</u>      | <u>779</u>      | <u>290</u>       | <u>268</u>        |
| 17. | -                      | 265              | 34               | 548              | -               | 219             | 590             | 311             | 610              | 2289              |
| 18. | -                      | 367              | 280              | -                | -               | 69              | 590             | 549             | 1222             | -                 |
| 19. | -                      | <u>632</u>       | <u>314</u>       | <u>548</u>       | -               | <u>288</u>      | <u>1180</u>     | <u>860</u>      | <u>1832</u>      | <u>2289</u>       |
| 20. | -                      | 13               | 8                | 11               | -               | 7               | -               | -               | -                | -                 |
| 21. | \$19.91                | \$19.00          | \$20.05          | \$20.14          | \$20.50         | \$14.93         | \$18.93         | \$18.81         | \$17.69          | \$23.64           |
| 22. | 24.20                  | 22.52            | 22.74            | 22.76            | 22.24           | 18.60           | 23.97           | 21.62           | 19.34            | 21.58             |
| 23. | 4.29                   | 3.52             | 2.69             | 2.62             | 1.74            | 3.67            | 5.04            | 2.81            | 1.65             | -2.06             |
| 24. | \$18428.79             | \$12388.28       | \$19991.18       | \$6515.12        | \$3348.51       | \$3533.24       | \$6002.63       | \$10988.84      | \$1437.71        | \$4162.87         |
| 25. | 10870.35               | 6935.76          | 13699.81         | 4734.33          | 2578.65         | 2667.26         | 5592.23         | 10640.23        | 1719.42          | 5480.33           |
| 26. | <u>\$7558.44</u>       | <u>\$5452.52</u> | <u>\$6291.37</u> | <u>\$1780.79</u> | <u>\$769.86</u> | <u>\$865.98</u> | <u>\$410.40</u> | <u>\$348.61</u> | <u>\$-281.71</u> | <u>\$-1317.46</u> |
| 27. | \$29.38                | \$25.26          | \$26.05          | \$26.24          | \$23.93         | \$22.13         | \$29.50         | \$26.26         | \$21.95          | \$18.32           |
| 28. | 17.33                  | <u>14.14</u>     | 17.85            | 19.07            | 18.43           | 16.71           | 27.49           | 25.43           | 26.25            | 24.12             |
| 29. | <u>\$12.05</u>         | <u>\$11.12</u>   | <u>\$ 8.20</u>   | <u>\$ 7.17</u>   | <u>\$ 5.50</u>  | <u>\$ 5.42</u>  | <u>\$ 2.01</u>  | <u>\$ -.83</u>  | <u>\$-4.30</u>   | <u>\$-5.80</u>    |
| 30. | \$5.18                 | \$2.74           | \$3.31           | \$3.48           | \$1.69          | \$3.53          | \$5.53          | \$4.64          | \$2.61           | \$-3.26           |
| 31. | \$6.87                 | \$8.38           | \$4.89           | \$3.69           | \$3.81          | \$1.89          | \$-3.52         | \$-3.81         | \$-6.91          | \$-2.54           |
| 32. | \$170                  | \$179            | \$146            | \$138            | \$130           | \$132           | \$107           | \$103           | \$84             | \$77              |
| 33. | **                     | .64              | 1.78             | **               | **              | **              | 1.41            | .81             | 1.98             | 1.34              |

\*\*Labor records not available

Table 5. Short-Fed Yearlings and Two-Year-Olds, 1956-57

|  | Average<br>of<br>26 lots | Individual lot numbers |           |           |           |           |
|--|--------------------------|------------------------|-----------|-----------|-----------|-----------|
|  |                          | 54                     | 55        | 56        | 57        | 58        |
| <b>No. and weight of cattle fed:</b>           |                          |                        |           |           |           |           |
| 1. Number of head bought                       | 53                       | 60                     | 38        | 36        | 38        | 52        |
| 2. Days on farm                                | 184                      | 147                    | 156       | 201       | 180       | 175       |
| 3. Days on pasture                             | 15                       | -                      | -         | -         | -         | -         |
| 4. Percent death loss                          | .30                      | -                      | -         | -         | 2.63      | -         |
| 5. Avg. purchase weight, lbs.                  | 684                      | 837                    | 791       | 558       | 737       | 688       |
| 6. Avg. sales weight, lbs.                     | 1054                     | 1117                   | 1105      | 900       | 1111      | 1035      |
| 7. Gain per head, lbs.                         | 370                      | 280                    | 314       | 342       | 374       | 347       |
| 8. Gain per head per day, lbs.                 | 2.03                     | 1.90                   | 2.01      | 1.70      | 2.07      | 1.98      |
| 9. Pounds of beef produced                     | 19592                    | 16795                  | 11930     | 12305     | 14290     | 18035     |
| <b>Feed used per 100 lbs. gain:</b>            |                          |                        |           |           |           |           |
| 10. Corn, lbs.                                 | 600                      | 558                    | 332       | 482       | 597       | 459       |
| 11. Small grain, lbs.                          | 9                        | 40                     | -         | 2         | 3         | -         |
| 12. Commercial feed, lbs.                      | 59                       | 60                     | 42        | 43        | 85        | 50        |
| 13. Total concentrates, lbs.                   | 668                      | 658                    | 374       | 527       | 685       | 509       |
| 14. Legume hay, lbs.                           | 273                      | 232                    | 356       | 528       | 511       | 61        |
| 15. Other hay, lbs.                            | 31                       | 54                     | -         | -         | -         | -         |
| 16. Total dry roughage, lbs.                   | 304                      | 286                    | 356       | 528       | 511       | 61        |
| 17. Corn silage, lbs.                          | 365                      | 1309                   | 1274      | 487       | 472       | 1331      |
| 18. Grass or oat silage, lbs.                  | 143                      | -                      | -         | -         | -         | -         |
| 19. Total silage, lbs.                         | 508                      | 1309                   | 1274      | 487       | 472       | 1331      |
| 20. Pasture days                               | 4                        | -                      | -         | -         | -         | -         |
| <b>Prices of cattle:</b>                       |                          |                        |           |           |           |           |
| 21. Price paid per 100 lbs.                    | \$17.06                  | \$15.00                | \$10.96   | \$15.23   | \$15.42   | \$16.47   |
| 22. Price received per 100 lbs.                | 20.35                    | 19.74                  | 16.91     | 22.28     | 21.83     | 20.53     |
| 23. Price spread per 100 lbs.                  | 3.29                     | 4.74                   | 5.95      | 7.05      | 6.41      | 4.06      |
| <b>Cost and returns per lot:</b>               |                          |                        |           |           |           |           |
| 24. Total value produced                       | \$5161.02                | \$5697.00              | \$3805.99 | \$4155.97 | \$4910.09 | \$5159.38 |
| 25. Total feed cost                            | 3694.85                  | 2278.76                | 1894.10   | 2218.45   | 3048.51   | 3054.00   |
| 26. Total return over feed costs               | \$1466.17                | \$3418.24              | \$1911.89 | \$1937.52 | \$1861.58 | \$2105.38 |
| <b>Cost and returns per 100 lbs. gain:</b>     |                          |                        |           |           |           |           |
| 27. Value produced                             | \$26.85                  | \$33.91                | \$31.90   | \$33.77   | \$34.36   | \$28.61   |
| 28. Feed costs                                 | 19.03                    | 13.56                  | 15.88     | 18.02     | 21.33     | 16.93     |
| 29. RETURN OVER FEED COSTS                     | \$ 7.82                  | \$20.35                | \$16.02   | \$15.75   | \$13.03   | \$11.68   |
| 30. Return over feed cost from<br>price spread | \$6.50                   | \$14.17                | \$16.91   | \$12.05   | \$12.53   | \$8.08    |
| 31. Return over feed cost from<br>feeding      | \$1.32                   | \$6.18                 | \$-.89    | \$3.70    | \$.50     | \$3.60    |
| 32. Return per \$100 feed cost                 | \$141                    | \$250                  | \$201     | \$187     | \$161     | \$169     |
| 33. Hours of labor per 100 lbs.gain            | 1.56*                    | 1.76                   | **        | **        | 1.64      | 1.07      |

\*\*Labor records not available

\*Avg. of 67 lots in labor study (59 head per lot)



Table 5. Short-Fed Yearlings and Two-Year-Olds, 1956-57 (continued)

|     | Individual lot numbers |                  |                  |                  |                  |                  |                  |                  |                  |
|-----|------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
|     | 59                     | 60               | 61               | 62               | 63               | 64               | 65               | 66               | 67               |
| 1.  | 55                     | 45               | 35               | 40               | 50               | 52               | 85               | 59               | 25               |
| 2.  | 194                    | 225              | 136              | 238              | 234              | 187              | 219              | 181              | 79               |
| 3.  | -                      | -                | -                | -                | 107              | -                | -                | 37               | -                |
| 4.  | -                      | -                | -                | -                | -                | -                | -                | -                | -                |
| 5.  | 888                    | 797              | 655              | 609              | 598              | 756              | 549              | 610              | 563              |
| 6.  | 1170                   | 1234             | 934              | 1076             | 1087             | 1266             | 1021             | 978              | 754              |
| 7.  | 282                    | 437              | 279              | 467              | 489              | 510              | 472              | 368              | 191              |
| 8.  | 1.45                   | 1.94             | 2.05             | 1.96             | 2.09             | 2.73             | 2.16             | 2.03             | 2.40             |
| 9.  | 15480                  | 19690            | 9765             | 18672            | 24402            | 26490            | 40147            | 20735            | 3275             |
| 10. | 651                    | 671              | 465              | 526              | 335              | 559              | 565              | 321              | 886              |
| 11. | -                      | -                | -                | -                | -                | -                | 4                | -                | -                |
| 12. | 61                     | 51               | 55               | 30               | 48               | 25               | 35               | 51               | 137              |
| 13. | <u>712</u>             | <u>722</u>       | <u>520</u>       | <u>556</u>       | <u>383</u>       | <u>584</u>       | <u>604</u>       | <u>372</u>       | <u>1023</u>      |
| 14. | 181                    | 421              | -                | 375              | 164              | 189              | 251              | 207              | 183              |
| 15. | -                      | -                | 241              | 21               | 5                | -                | 180              | -                | -                |
| 16. | <u>181</u>             | <u>421</u>       | <u>241</u>       | <u>396</u>       | <u>169</u>       | <u>189</u>       | <u>431</u>       | <u>207</u>       | <u>183</u>       |
| 17. | -                      | -                | 1024             | -                | 299              | 438              | -                | 294              | -                |
| 18. | -                      | -                | -                | -                | -                | -                | -                | 752              | -                |
| 19. | <u>-</u>               | <u>-</u>         | <u>1024</u>      | <u>-</u>         | <u>299</u>       | <u>438</u>       | <u>-</u>         | <u>1046</u>      | <u>-</u>         |
| 20. | -                      | -                | -                | -                | 22               | -                | -                | 11               | -                |
| 21. | \$17.65                | \$18.76          | \$12.81          | \$19.25          | \$16.96          | \$19.25          | \$19.01          | \$19.29          | \$18.64          |
| 22. | 20.28                  | 23.15            | 17.14            | 22.14            | 20.00            | 22.08            | 21.50            | 21.07            | 21.24            |
| 23. | 2.63                   | 4.39             | 4.33             | 2.89             | 3.04             | 2.83             | 2.49             | 1.78             | 2.60             |
| 24. | \$4431.30              | \$6133.10        | \$2704.14        | \$4836.75        | \$5789.37        | \$6960.14        | \$9801.01        | \$5007.72        | \$1062.15        |
| 25. | 2624.27                | 3873.89          | 1634.22          | 2904.90          | 3276.05          | 4252.07          | 5897.87          | 3118.38          | 800.76           |
| 26. | <u>\$1807.03</u>       | <u>\$2259.21</u> | <u>\$1069.92</u> | <u>\$1931.85</u> | <u>\$2513.32</u> | <u>\$2708.07</u> | <u>\$3903.14</u> | <u>\$1889.34</u> | <u>\$ 261.39</u> |
| 27. | \$28.63                | \$31.13          | \$27.68          | \$25.90          | \$23.72          | \$26.27          | \$24.41          | \$24.15          | \$32.43          |
| 28. | 16.95                  | 19.66            | 16.73            | 15.56            | 13.43            | 16.05            | 14.69            | 15.03            | 24.45            |
| 29. | <u>\$11.68</u>         | <u>\$11.47</u>   | <u>\$10.95</u>   | <u>\$10.34</u>   | <u>\$10.29</u>   | <u>\$10.22</u>   | <u>\$ 9.72</u>   | <u>\$ 9.12</u>   | <u>\$ 7.98</u>   |
| 30. | \$8.35                 | \$7.98           | \$10.54          | \$3.76           | \$3.72           | \$4.19           | \$2.91           | \$3.08           | \$11.19          |
| 31. | \$3.33                 | \$3.49           | \$ .41           | \$6.58           | \$6.57           | \$6.03           | \$6.81           | \$6.04           | \$-3.21          |
| 32. | \$169                  | \$158            | \$165            | \$167            | \$177            | \$164            | \$166            | \$161            | \$133            |
| 33. | 1.85                   | **               | **               | 1.29             | 1.13             | .93              | **               | **               | **               |

\*\*Labor records not available

##Labor records not available

Table 5. Short-Fed Yearlings and Two-Year-Olds, 1956-57 (continued)

|     | Individual lot numbers |                  |                  |                  |                   |                  |
|-----|------------------------|------------------|------------------|------------------|-------------------|------------------|
|     | 74                     | 75               | 76               | 77               | 78                | 79               |
| 1.  | 48                     | 32               | 45               | 30               | 111               | 32               |
| 2.  | 231                    | 164              | 151              | 181              | 175               | 156              |
| 3.  | 33                     | 62               | -                | -                | -                 | -                |
| 4.  | -                      | -                | -                | -                | .90               | -                |
| 5.  | 704                    | 893              | 700              | 745              | 540               | 784              |
| 6.  | 1154                   | 1285             | 1041             | 1187             | 839               | 1084             |
| 7.  | 450                    | 392              | 341              | 442              | 299               | 300              |
| 8.  | 1.94                   | 2.39             | 2.27             | 2.44             | 1.70              | 1.92             |
| 9.  | 21620                  | 12560            | 15305            | 13265            | 32275             | 9585             |
| 10. | 757                    | 892              | 711              | 952              | 727               | 526              |
| 11. | -                      | 28               | -                | 18               | -                 | -                |
| 12. | 83                     | -                | 293              | 45               | 27                | 31               |
| 13. | <u>840</u>             | <u>920</u>       | <u>1004</u>      | <u>1015</u>      | <u>754</u>        | <u>557</u>       |
| 14. | 301                    | 318              | 568              | 271              | 532               | 104              |
| 15. | -                      | -                | -                | 15               | -                 | -                |
| 16. | <u>301</u>             | <u>318</u>       | <u>568</u>       | <u>286</u>       | <u>532</u>        | <u>104</u>       |
| 17. | -                      | 334              | -                | 678              | 90                | -                |
| 18. | 717                    | -                | 621              | -                | 619               | -                |
| 19. | <u>717</u>             | <u>334</u>       | <u>621</u>       | <u>678</u>       | <u>709</u>        | <u>-</u>         |
| 20. | 7                      | 16               | -                | -                | -                 | -                |
| 21. | \$18.48                | \$16.99          | \$17.19          | \$19.25          | \$17.20           | \$19.90          |
| 22. | 21.88                  | 20.55            | 20.22            | 22.49            | 17.38             | 17.94            |
| 23. | 3.40                   | 3.56             | 3.03             | 3.24             | .18               | -1.96            |
| 24. | \$5889.77              | \$3599.37        | \$4049.10        | \$3705.38        | \$5716.71         | \$1226.99        |
| 25. | 5083.59                | 3142.80          | 3529.53          | 3479.83          | 7597.95           | 2117.39          |
| 26. | <u>\$ 806.18</u>       | <u>\$ 456.57</u> | <u>\$ 519.57</u> | <u>\$ 225.55</u> | <u>\$-1881.24</u> | <u>\$-890.40</u> |
| 27. | \$27.24                | \$28.66          | \$26.45          | \$27.93          | \$17.71           | \$12.80          |
| 28. | 23.52                  | 25.01            | 23.06            | 26.23            | 23.53             | 22.09            |
| 29. | <u>\$ 3.72</u>         | <u>\$ 3.65</u>   | <u>\$ 3.39</u>   | <u>\$ 1.70</u>   | <u>\$-5.82</u>    | <u>\$-9.29</u>   |
| 30. | \$5.36                 | \$8.11           | \$6.23           | \$5.44           | \$-.33            | \$-5.14          |
| 31. | \$-1.64                | \$-4.46          | \$-2.84          | \$-3.74          | \$-5.49           | \$-4.15          |
| 32. | \$116                  | \$115            | \$115            | \$106            | \$75              | \$58             |
| 33. | **                     | **               | **               | **               | .88               | **               |

\*\*Labor records not available

Table 6. Comparison of High and Low Profit Lots, 1956-57

|   | Long-fed calves |            |         | Long-fed yearlings |            |         | Short-fed yearlings and two-year-olds |            |         |
|---|-----------------|------------|---------|--------------------|------------|---------|---------------------------------------|------------|---------|
|   | Average 22 lots |            | 17 lots | Average 7 lots     |            | 7 lots  | Average 15 lots                       |            | 11 lots |
|   | for above avg.  | below avg. | return  | for above avg.     | below avg. | return  | for above avg.                        | below avg. | return  |
| 1. Days on farm                           | 184             | 181        | 186     | 303                | 324        | 282     | 184                                   | 181        | 186     |
| 2. Percent death loss                     | .80             | .96        | .59     | 1.13               | .86        | 1.41    | .30                                   | .17        | .47     |
| 3. Av. purch. wt., lbs.                   | 402             | 401        | 404     | 614                | 612        | 615     | 684                                   | 693        | 671     |
| 4. Av. sale wt., lbs.                     | 931             | 928        | 934     | 1125               | 1143       | 1108    | 1054                                  | 1058       | 1048    |
| 5. Gain per head, lbs.                    | 529             | 527        | 530     | 511                | 531        | 615     | 370                                   | 365        | 377     |
| 6. Gain per hd./day, lbs.                 | 1.70            | 1.71       | 1.70    | 1.70               | 1.66       | 1.75    | 2.03                                  | 2.03       | 2.03    |
| Feed used per 100 lbs. gain               |                 |            |         |                    |            |         |                                       |            |         |
| 7. Grain, lbs.                            | 492             | 462        | 530     | 517                | 472        | 562     | 609                                   | 542        | 700     |
| 8. Comm'l. feed, lbs.                     | 45              | 34         | 60      | 45                 | 30         | 59      | 59                                    | 53         | 67      |
| 9. Tot. conc., lbs.                       | 537             | 496        | 590     | 562                | 502        | 621     | 668                                   | 595        | 767     |
| 10. Dry roughage equi., lbs.              | 540             | 285        | 346     | 286                | 461        | 667     | 473                                   | 482        | 460     |
| 11. Pasture days                          | 5               | 5          | 7       | 5                  | 7          | 3       | 4                                     | 2          | 6       |
| Prices of cattle                          |                 |            |         |                    |            |         |                                       |            |         |
| 12. Price pd/100 lbs.                     | \$18.81         | \$18.32    | \$19.45 | \$19.11            | \$18.98    | \$19.23 | \$17.06                               | \$16.85    | \$17.98 |
| 13. Price rec/100 lbs.                    | 22.48           | 22.80      | 22.07   | 22.48              | 23.51      | 21.44   | 20.35                                 | 20.70      | 19.86   |
| 14. Price spread per 100 lbs.             | 3.67            | 4.48       | 2.62    | 3.37               | 4.53       | 2.21    | 3.29                                  | 3.85       | 2.52    |
| Cost & returns per 100 lbs. gain          |                 |            |         |                    |            |         |                                       |            |         |
| 15. Value produced                        | \$25.52         | \$26.44    | \$24.32 | \$26.51            | \$28.97    | \$24.05 | \$26.85                               | \$28.90    | \$24.05 |
| 16. Feed costs                            | 15.82           | 14.51      | 17.51   | 19.05              | 15.60      | 22.50   | 19.03                                 | 17.13      | 21.62   |
| 17. Ret. over feed costs                  | 9.70            | 11.93      | 6.81    | 7.46               | 13.37      | 1.55    | 7.82                                  | 11.77      | 2.43    |
| 18. Ret. over feed cost from price spread | \$3.04          | \$3.64     | \$2.25  | \$4.03             | \$5.46     | \$2.61  | \$6.50                                | \$8.20     | \$4.19  |
| 19. Ret. over feed cost from feeding      | 6.66            | 11.93      | 3.56    | 3.43               | 7.91       | -1.06   | 1.32                                  | 3.57       | -1.76   |
| 20. Ret. per \$100 feed cost              | \$166           | \$186      | \$141   | \$149              | \$188      | \$110   | \$147                                 | \$171      | \$113   |

Two factors contribute to return over feed cost, (1) a gain in weight produced in the lot at less cost than the selling price, and (2) a positive price spread between the cost of the feeders and that of the fed cattle when sold. The combined effect of these two factors determines how much profit or loss is made on any given lot of feeder cattle. The amount each contributes to the return over feed cost is shown on lines 30 and 31 of the tables. The return from feeding (line 30) is the difference between the feed cost per 100 pounds gain in weight and the selling price per 100 pounds. The remainder is from price spread minus death loss. The return per \$100 feed cost (line 32) is obtained by dividing the total return by the total feed cost. This tells what was received on the average per \$100 spent for feed. Line 33 presents hours required per 100 pounds gain in weight based upon labor records kept on a portion of the lots.

#### COMPARISON OF LOTS ABOVE AVERAGE WITH THOSE BELOW AVERAGE IN RETURN OVER FEED COST

Tables 3, 4, and 5 indicate a wide variation among the different lots as to costs and returns. In Table 6 the average of the high return lots are compared with the low return lots. This table shows that the lots above average in return over feed costs have both lower feed costs per 100 pounds gain and a higher value produced per 100 pounds gain.

Some of the differences in feed costs may be due to over or under estimates in the amount of feeds fed. Most of them, however, are due to variations in the feed, the cattle, and the cattle feeder.

The quality of the feed produced is especially important in this study because most home grown feeds are valued at the same price with little regard for quality. Thus the lots fed low quality feed will tend to have higher feed costs per 100 pounds gain. The selection and combination of feeds used also determines the feed cost per 100 pounds gain. The least cost ration is one which will put on weight with the lowest feed cost per 100 pounds of gain. Another factor affecting feed costs is the

Table 7. A Four-Year Comparison of Feeder Cattle Costs and Returns

|   | Long-fed calves |                 |                 |                 |
|---|-----------------|-----------------|-----------------|-----------------|
|   | 1953-54         | 1954-55         | 1955-56         | 1956-57         |
|   | Avg.<br>20 lots | Avg.<br>29 lots | Avg.<br>37 lots | Avg.<br>39 lots |
| <u>No. and weight of cattle fed:</u>  |                 |                 |                 |                 |
| 1. Number of head bought  | 57              | 64              | 57              | 58              |
| 2. Days on farm   | 340             | 324             | 340             | 313             |
| 3. Days on pasture  | 57              | 50              | 46              | 28              |
| 4. Percent death loss   | 1.9             | 1.1             | 1.2             | .80             |
| 5. Avg. purchase weight, lbs.   | 413             | 410             | 407             | 402             |
| 6. Avg. sale weight, lbs.   | 956             | 947             | 962             | 931             |
| 7. Gain per head, lbs.  | 552             | 537             | 555             | 529             |
| 8. Gain per head per day, lbs.  | 1.6             | 1.7             | 1.6             | 1.7             |
| 9. Pounds beef produced per lot   | 30073           | 34212           | 31666           | 29588           |
| <u>Feed used per 100 lbs. gain:</u>   |                 |                 |                 |                 |
| 10. Corn, lbs.  | 480             | 515             | 436             | 470             |
| 11. Small grain, lbs.   | 22              | 20              | 34              | 22              |
| 12. Commercial feed, lbs.   | 43              | 47              | 41              | 45              |
| 13. Total concentrates, lbs.  | 545             | 582             | 511             | 537             |
| 14. Legume hay, lbs.  | 323             | 199             | 254             | 263             |
| 15. Other hay and stover, lbs.  | 23              | 23              | 26              | 48              |
| 16. Total dry roughage, lbs.  | 346             | 222             | 280             | 311             |
| 17. Silage, lbs.  | 410             | 395             | 415             | 389             |
| 18. Pasture days  | 11              | 9               | 8               | 6               |
| <u>Prices of cattle:</u>  |                 |                 |                 |                 |
| 19. Price paid per 100 lbs.   | \$20.40         | \$19.15         | \$18.89         | \$18.81         |
| 20. Price received per 100 lbs.   | 22.79           | 20.71           | 21.00           | 22.48           |
| 21. Price spread, per 100 lbs.  | 2.39            | 1.56            | 2.11            | 3.67            |
| <u>Cost and returns per 100 lbs. gain:</u>  |                 |                 |                 |                 |
| 22. Value produced  | \$24.72         | \$22.00         | \$22.44         | \$25.52         |
| 23. Feed costs  | 18.89           | 17.63           | 16.62           | 15.82           |
| 24. RETURN OVER FEED COSTS  | \$ 5.83         | \$ 4.37         | \$ 5.82         | \$ 9.70         |
| 25. Return over feed cost from price spread   | \$ 1.93         | \$ 1.30         | \$ 1.44         | \$ 3.04         |
| 26. Return over feed cost from feeding  | 3.90            | 3.07            | 4.38            | 6.66            |
| 27. Return per \$100 feed cost  | \$131           | \$127           | \$139           | \$166           |
| 28. Estimated costs other than feed & labor <sup>1</sup>  | 2.63            | 2.63            | 2.63            | 2.63            |
| 29. Estimated return to labor & management  | 3.20            | 1.74            | 3.19            | 7.07            |
| <u>Returns to labor:</u>  |                 |                 |                 |                 |
| 30. Estimated hours of labor  | 1.56            | 1.56            | 1.56            | 1.56            |
| 31. Estimated return per hour of labor  | 2.05            | 1.12            | 2.04            | 4.53            |
| 32. Estimated return per head to labor & mgmt.  | 17.66           | 9.34            | 17.70           | 37.40           |
| 1. Pond, G. A. and Hasbargen, P. R., "Planning Farms for Increased Profits," University of Minnesota Station Bulletin 445, December 1957. |                 |                 |                 |                 |

Table 7. A Four-Year Comparison of Feeder Cattle Costs and Returns (continued)

|     | Long-fed yearlings |                 |                 |                 | Short-fed yearlings and two-year-olds |                 |                 |                 |
|-----|--------------------|-----------------|-----------------|-----------------|---------------------------------------|-----------------|-----------------|-----------------|
|     | 1953-54            | 1954-55         | 1955-56         | 1956-57         | 1953-54                               | 1954-55         | 1955-56         | 1956-57         |
|     | Avg.<br>16 lots    | Avg.<br>19 lots | Avg.<br>13 lots | Avg.<br>14 lots | Avg.<br>16 lots                       | Avg.<br>14 lots | Avg.<br>29 lots | Avg.<br>26 lots |
| 1.  | 64                 | 58              | 70              | 66              | 44                                    | 48              | 46              | 53              |
| 2.  | 323                | 309             | 304             | 303             | 178                                   | 172             | 184             | 184             |
| 3.  | 54                 | 62              | 42              | 25              | 23                                    | 15              | 12              | 15              |
| 4.  | 0.6                | 0.8             | 0.3             | 1.13            | 0.2                                   | 1.2             | 0.4             | .3              |
| 5.  | 645                | 621             | 647             | 614             | 699                                   | 746             | 731             | 684             |
| 6.  | 1130               | 1123            | 1134            | 1125            | 1033                                  | 1084            | 1070            | 1054            |
| 7.  | 485                | 502             | 487             | 511             | 334                                   | 338             | 339             | 370             |
| 8.  | 1.5                | 1.6             | 1.6             | 1.7             | 1.9                                   | 2.0             | 1.8             | 2.03            |
| 9.  | 32449              | 28454           | 32108           | 33340           | 14303                                 | 14050           | 15553           | 19592           |
| 10. | 521                | 493             | 572             | 511             | 645                                   | 597             | 632             | 600             |
| 11. | 16                 | 15              | 9               | 6               | 46                                    | 7               | 18              | 9               |
| 12. | 55                 | 46              | 50              | 45              | 63                                    | 70              | 61              | 59              |
| 13. | <u>592</u>         | <u>554</u>      | <u>631</u>      | <u>562</u>      | <u>754</u>                            | <u>674</u>      | <u>711</u>      | <u>668</u>      |
| 14. | 337                | 265             | 253             | 263             | 288                                   | 330             | 311             | 273             |
| 15. | 39                 | 39              | 28              | 23              | 3                                     | 28              | 33              | 31              |
| 16. | <u>376</u>         | <u>304</u>      | <u>281</u>      | <u>286</u>      | <u>291</u>                            | <u>358</u>      | <u>344</u>      | <u>304</u>      |
| 17. | 569                | 890             | 740             | 835             | 681                                   | 812             | 790             | 508             |
| 18. | 10                 | 12              | 8               | 5               | 7                                     | 5               | 4               | 4               |
| 19. | \$19.97            | \$20.10         | \$19.13         | \$19.11         | \$16.14                               | \$17.77         | \$17.38         | \$17.06         |
| 20. | 22.66              | 21.29           | 21.04           | 22.48           | 21.59                                 | 19.90           | 18.50           | 20.35           |
| 21. | 2.69               | 1.19            | 1.91            | 3.37            | 5.45                                  | 2.13            | 1.12            | 3.29            |
| 22. | \$27.04            | \$22.89         | \$23.80         | \$26.51         | \$33.21                               | \$25.61         | \$21.40         | \$26.85         |
| 23. | <u>21.34</u>       | <u>19.46</u>    | <u>20.53</u>    | <u>19.05</u>    | <u>23.95</u>                          | <u>22.16</u>    | <u>22.62</u>    | <u>19.03</u>    |
| 24. | <u>\$ 5.70</u>     | <u>\$ 3.43</u>  | <u>\$ 3.27</u>  | <u>\$ 7.46</u>  | <u>\$ 9.26</u>                        | <u>\$ 3.45</u>  | <u>\$ -1.22</u> | <u>\$ 7.82</u>  |
| 25. | \$ 4.38            | \$ 1.59         | \$ 2.75         | \$ 4.03         | \$11.62                               | \$ 5.70         | \$ 2.89         | \$ 6.50         |
| 26. | 1.32               | 1.84            | .52             | 3.43            | -2.36                                 | -2.25           | -4.11           | 1.82            |
| 27. | \$127              | \$120           | \$128           | \$149           | \$139                                 | \$119           | \$98            | \$147           |
| 28. | 3.12               | 3.12            | 3.12            | 3.12            | 2.90                                  | 2.90            | 2.90            | 2.90            |
| 29. | 2.58               | .31             | .15             | 4.34            | 6.36                                  | .55             | -4.12           | 4.92            |
| 30. | 1.56               | 1.56            | 1.56            | 1.56            | 1.56                                  | 1.56            | 1.56            | 1.56            |
| 31. | 1.65               | .20             | .09             | 2.78            | 4.08                                  | .35             | -2.64           | 3.15            |
| 32. | 12.51              | 1.55            | .73             | 22.17           | 21.24                                 | 1.86            | -13.96          | 18.20           |

amount of feed wasted.

The type of cattle has an effect on feed costs per 100 pounds of gain. In general the heavier and older cattle require more feed per pound of gain than the lighter cattle. The degree of finish put on and the inherent feeding efficiency of the cattle have an effect on feed requirements. That the most profitable lots had a higher rate of gain may be an indication of better cattle or more intensive feeding.

Differences in the value of 100 pounds of cattle produced resulted from differences in the purchase price of feeders, the sale price of cattle marketed and the death loss, if any, during the feeding period. Both the price received and the price spread are higher for the lots with above average returns than for those with below average returns. A high value return produced per 100 pounds gain is obtained by a high selling price, a large price spread, or a combination of these two. The effect of price spread becomes more important as the purchase weight becomes a larger proportion of the total weight.

Table 7 includes a four year comparison of feeder cattle costs and returns. The estimated returns per hour of labor and estimated returns to management and labor per head indicate a wide variation in returns over the four feeding periods, 1953-1957.

#### COMPARISON OF RETURNS FROM PRICE SPREAD AND FROM FEEDING FOR THE DIFFERENT CATTLE FEEDING PROGRAMS

The data in Table 8 serve to illustrate the comparative importance of price spread and feed costs in determining cattle feeding profits for cattle of different beginning weights and different lengths of feeding period, as are presented by these lots of long-fed calves, long-fed yearlings, and short-fed yearlings and two-year-olds.



Table 8. Returns from Price Spread and from Feeding

|  | Long-fed calves<br>Avg. of 39 lots | Long-fed yearlings<br>Avg. of 14 lots | Short-fed yearlings<br>and two-year-olds<br>Avg. of 26 lots |
|--|------------------------------------|---------------------------------------|---|
| Price spread/100 lbs.                      | \$3.67                             | \$3.37                                | \$3.29  |
| Return over feed cost<br>from price spread | 3.04                               | 4.03                                  | 6.50  |
| Return over feed cost<br>from feeding      | 6.66                               | 3.43                                  | 1.32  |
| Return over feed cost<br>per 100 lbs. gain | 9.70                               | 7.46                                  | 7.82  |
| Avg. purchase wt., lbs.                    | 402                                | 614                                   | 684   |
| Gain per head, lbs.                        | 529                                | 511                                   | 370   |

The returns from feeding are of most importance in the calf feeding program and become relatively less important for the long-fed yearlings and least in importance for the short-fed yearlings and two-year-olds. Calves are purchased at lighter weights, are fed for a longer period for more gain in weight and put on gain at less cost per pound.

The return from price spread is of most importance for short-fed yearlings and two-year-olds because of their higher initial weight and becomes relatively less important as the purchase weights decrease and the gain in weight increases with the younger and lighter calves. A comparison of the importance of price spread might be made by comparing the calves with the short-fed yearlings and two-year-olds. For the calves the price spread was \$3.67 per one hundred pounds but the return from price spread per one hundred pounds gain was \$3.04 of the total \$9.70 return per 100 pounds gain. The average gain in weight was 529 pounds per head compared to the average purchase weight of 402 pounds. The profit on the gain in weight was more important because the gain in weight exceeded the initial weight by 127 pounds. For the short-fed yearlings and two-year-olds the price spread was only \$3.29 per 100 pounds but the return from price spread per 100 pounds gain in weight was \$6.50. The total return was \$7.82 per 100 pounds gain. The gain in weight was 370 pounds and the average purchase weight was 684 pounds. The price spread was relatively more important than the return from feeding because the initial weight exceeded the gain in weight by 310 pounds.

These illustrations serve to emphasize that low feed cost is an important determinant of profit for all types of cattle feeding programs but comparatively more so for calves or light weight cattle. Price spread becomes relatively more important for cattle that are purchased at heavier weights. The higher the purchase weight in relation to the selling weight, the more important price spread becomes. It means that feeding of calves involves less price risk than feeding heavy cattle. The buying and selling phase of the heavy cattle feeding program becomes extremely important because price spread is the main factor in determining profits. Heavy cattle feeding is a higher risk program with chances of higher profits or greater losses.

#### LABOR REQUIREMENTS FOR FEEDING CATTLE

For the 1956-57 cattle feeding season a special study was made to determine the number of hours of labor used in feeding cattle. Fifty-nine farmers with a total of 70 lots of cattle cooperated in this study.

The results in terms of all labor used per 100 pounds gain in weight and per head for three feeding programs are presented in Tables 9 and 10. There was significantly less time used per 100 pounds gain for those lots with 50 head or more as compared to those below 50 head. This is due to economies of large scale operation obtained by spreading the fixed time in doing a task over a greater number of animals, and also due to greater mechanization in case of the larger lots.

There was no significant difference between calves, short-fed yearlings, and long-fed yearlings in time spent per 100 pounds gain so the same figure is reported for all three feeding programs. The time required per head is determined by multiplying the time per 100 pounds gain by the hundred weight of gain typically put on under each of the feeding programs.

Table 9. Hours of Labor per 100 Pounds Gain in Weight and per Head with Lots of Less Than 50 Head

| Feeding Program      | Number of lots | Average number of cattle | Average time per 100 lbs. gain | Range in time per 100 lbs. gain | Pounds gain in weight | Average time per head |
|----------------------|----------------|--------------------------|--------------------------------|---------------------------------|-----------------------|-----------------------|
| Long-fed calves      | 19             | 40                       | 1.75                           | 1.01-2.62                       | 550                   | 9.62                  |
| Long-fed yearlings   | 3              | 44                       | 1.75                           | 1.41-1.89                       | 500                   | 8.75                  |
| Short-fed yearlings  | 16             | 32                       | 1.75                           | 1.01-3.43                       | 340                   | 5.95                  |
| All feeding programs | 38             | 36                       | 1.75                           | 1.01-3.43                       | -                     | -                     |

Table 10. Hours of Labor per 100 Pounds Gain in Weight and per Head with Lots of 50 Head or More

| Feeding Program                     | Number of lots | Average number of cattle | Average time per 100 lbs. gain | Range in time per 100 lbs. gain | Pounds gain in weight | Average time per head |
|-------------------------------------|----------------|--------------------------|--------------------------------|---------------------------------|-----------------------|-----------------------|
| Long-fed calves                     | 12             | 95                       | 1.31                           | .64-1.90                        | 550                   | 7.20                  |
| Long-fed yearlings                  | 8              | 84                       | 1.31                           | .81-1.78                        | 500                   | 6.55                  |
| Short-fed yearlings                 | 9              | 79                       | 1.31                           | .82-2.02                        | 340                   | 4.45                  |
| All feeding programs                | 29             | 87                       | 1.31                           | .64-2.02                        | -                     | -                     |
| All feeding programs, all lot sizes | 67             | 59                       | 1.56                           | .64-3.43                        | -                     | -                     |

#### ESTIMATED RETURNS OVER ALL COSTS PER HOUR OF LABOR

The return over feed costs does not give the complete picture as to returns for feeding cattle. In Table 11 is presented the estimated return to labor and management per 100 pounds gain in weight and the return per hour of labor for each of the feeding programs.

The value produced and feed costs are the average results in 1956-57 of the 79 lots presented in this report. Interest is computed at 6% of the purchase value times the fraction of the year the cattle were on the farm. Power, equipment, shelter and miscellaneous cash costs are average costs based on detailed cost studies.<sup>2</sup> This includes fixed costs for shelter and equipment such as depreciation.

The hours of labor spent per 100 pounds gain is the average amount spent caring for 67 lots on which detailed labor records were kept for the 1956-57 feeding season.

The return per hour of labor is the return for each hour spent to pay for the labor

<sup>2/</sup> Pond, G. A. and Hasbargen, P. R., "Planning Farms for Increased Profits", U. of M. Sta. Bul. 445, Dec. 1957.

used and give a return for management. The estimated average return per hour in 1956-57 for the three feeding programs was \$3.54.

The costs and returns upon which this table is based will vary from farm to farm and from year to year. The individual feeder can determine his interest and other costs for his lot and subtract this from his return over feed costs to get his return for labor and management. Dividing this by the number of hours spent per 100 pounds gain will give the return per hour of labor.

Table 11. Estimated Returns per Hour of Labor, Feeder Cattle Lots 1956-57

|  | Long-fed<br>calves | Long-fed<br>yearlings | Short-fed<br>yearlings |
|--|--------------------|-----------------------|------------------------|
| <u>Costs and returns per 100 lbs. gain</u> |                    |                       |                        |
| Value produced                             | \$25.52            | \$26.51               | \$26.85                |
| Feed costs                                 | 15.82              | 19.05                 | 19.03                  |
| Interest at 6%                             | .76                | 1.16                  | .95                    |
| Miscellaneous cash                         | .50                | .50                   | .50                    |
| Power                                      | .40                | .40                   | .40                    |
| Equipment                                  | .30                | .30                   | .30                    |
| Shelter                                    | .65                | .65                   | .65                    |
| Total                                      | <u>\$18.43</u>     | <u>\$22.06</u>        | <u>\$21.83</u>         |
| Return for labor and management            | 7.09               | 4.45                  | 5.02                   |
| Hours of labor spent                       | 1.56               | 1.56                  | 1.56                   |
| Return per hour of labor                   | <u>\$4.54</u>      | <u>\$2.85</u>         | <u>\$3.22</u>          |

#### DETERMINING PROFIT PROSPECTS

The selling price required to cover all costs (feed, interest, buildings, equipment and miscellaneous cash costs) and provide a return for labor and management depends on three main factors. The factors are: (1) the level of feeder cattle prices; (2) the cost of putting on a pound of gain; and (3) the weight and type of cattle fed.

The level of feeder cattle prices in the future is difficult to estimate. In making an estimate, number of cattle on feed and demand prospects for the various classes of feeder cattle are factors to be considered. Market outlook publications are sources of this type of information.

The cost of putting on a pound of gain depends upon the price of feeds, the weight and finish to which animals are fed, the percent death loss, the efficiency of feed utilization and age of the animals, and the ability of the farmer as a cattle feeder.

Profit prospects for the coming feeding season can be calculated by using the following work sheet. Past records of feed requirements over a period of years for comparable types of cattle fed to similar weights and finish should be used as a basis for the calculations. For farmers who do not have feed records the averages shown on the last page of this report will provide data which can be used.

Step 1. Determine Cost of Producing Finished Animal <sup>3</sup>

(a) Original cost per head \_\_\_\_\_ wt. x \$ \_\_\_\_\_ Price = \_\_\_\_\_

(b) Feed and other costs per head:

| <u>Feed Cost</u>  | <u>Am't. Fed</u> | <u>Price</u> | <u>Cost</u> |
|-------------------|------------------|--------------|-------------|
| Corn (Bu.)        | _____            | _____        | _____       |
| Small grain (Bu.) | _____            | _____        | _____       |
| Supplement (Lbs.) | _____            | _____        | _____       |
| All Hay (Tons)    | _____            | _____        | _____       |
| Silage (Tons)     | _____            | _____        | _____       |
| Pasture (Days)    | _____            | _____        | _____       |
| Total Feed Costs  |                  |              | _____       |

Estimated Other Costs

Labor Cost \_\_\_\_\_ hrs. per head x \$ \_\_\_\_\_ per hr. = \_\_\_\_\_

Interest \$ \_\_\_\_\_ original cost per head x interest rate = \_\_\_\_\_  
(for number of months on feed)

Miscellaneous costs<sup>4</sup> \_\_\_\_\_ gain x 1.10 per cwt. = \_\_\_\_\_

(c) Total cost per head \_\_\_\_\_

<sup>3</sup>/ Hal Routh, Kenneth H. Thomas, and Roger Johnson, "How Does the Level of Feeder Prices Affect Cattle Feeding Profits?" Report, Agricultural Extension Service, University of Minnesota, September, 1957.

<sup>4</sup>/ Pond, G. A. and Hasbargen, P. R., "Planning Farms for Increased Profits," University of Minnesota Station Bulletin 445, December, 1957.

Step 2. Determine Selling Price you need to cover Costs

$$\text{Divide: } \frac{\text{Total cost per head}}{\text{sale weight}} = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

Step 3. Your estimated sale value of steer

$$\underline{\hspace{2cm}} \text{ cwt.} \times \$ \underline{\hspace{2cm}} \text{ YOUR ESTIMATED PRICE}$$

PROFIT PER HEAD:                     

Examples of Various Feeding Programs

Long Fed Calves -- Good to Choice Grade

Step 1. Determine cost of producing finished animal

$$(a) \text{ Original cost per head} = 400 \text{ lbs. at } \$32.00 \text{ cwt.} = \underline{\hspace{2cm}} \underline{\$128}$$

(b) Feed and other costs per head: 550# gain

| <u>Feed Cost</u>   | <u>Am't Fed</u> | <u>Price</u> | <u>Cost</u> |
|--------------------|-----------------|--------------|-------------|
| Corn (bu.)         | 48 bu.          | 1.10         | 52.60       |
| Small grains (bu.) | 4.1 bu.         | .61          | 2.50        |
| Supplement (lbs.)  | 242 lbs.        | .034         | 8.23        |
| All hay (tons)     | .81 ton         | 15.00        | 12.15       |
| Silage (tons)      | 1.09 tons       | 6.05         | 6.59        |
| Pasture (days)     | 50              | .08          | <u>4.00</u> |

$$\text{Total Feed Costs} \quad \underline{\hspace{2cm}} \underline{\$86.27}$$

Estimated other costs

$$\text{Labor cost } 7.2 \text{ hrs. per head} \times \underline{1.00} \text{ per hour} \quad \underline{\hspace{2cm}} \underline{7.20}$$

$$\text{Interest } \underline{\$128} \text{ original cost per head} \times .06 = \underline{\hspace{2cm}} \underline{6.91}$$

(Number of days on farm) = 330

$$\text{Miscellaneous should cost } 550 \text{ grain} \times .65 \text{ per cwt.} = \underline{\hspace{2cm}} \underline{6.05}$$

$$(c) \text{ Total cost per head} \quad \underline{\hspace{2cm}} \underline{\$234.43}$$

Step 2. Determine selling price farmer must receive to cover all costs

$$\frac{\text{Total cost per head}}{\text{sale weight}} \quad \frac{\$234.43}{950} = \$24.68$$

Feed Requirements Based on 1953-1957 Lot Averages

|                              | Long-fed yearlings         | Short-fed 2 yr. olds |
|------------------------------|----------------------------|----------------------|
| Purchase weight (lbs.)       | lbs.                       | 722 lbs.             |
| Gain (lbs.)                  | <sup>634</sup><br>500 lbs. | 340 lbs.             |
| <u>Requirements per head</u> |                            |                      |
| Corn (bu.)                   | 47                         | 39                   |
| Small grains (bu.)           | 1.4                        | 2                    |
| Supplement (lbs.)            | 250                        | 211                  |
| All hay (tons)               | .74                        | .52                  |
| Silage (tons)                | 1.98                       | 1.18                 |
| Pasture (days)               | 45                         | 20                   |
| Labor (hours)                | 6.55                       | 4.45                 |
| Interest                     | 6%                         | 6%                   |
| Miscellaneous costs          | \$1.10/cwt.                | \$1.10/cwt.          |