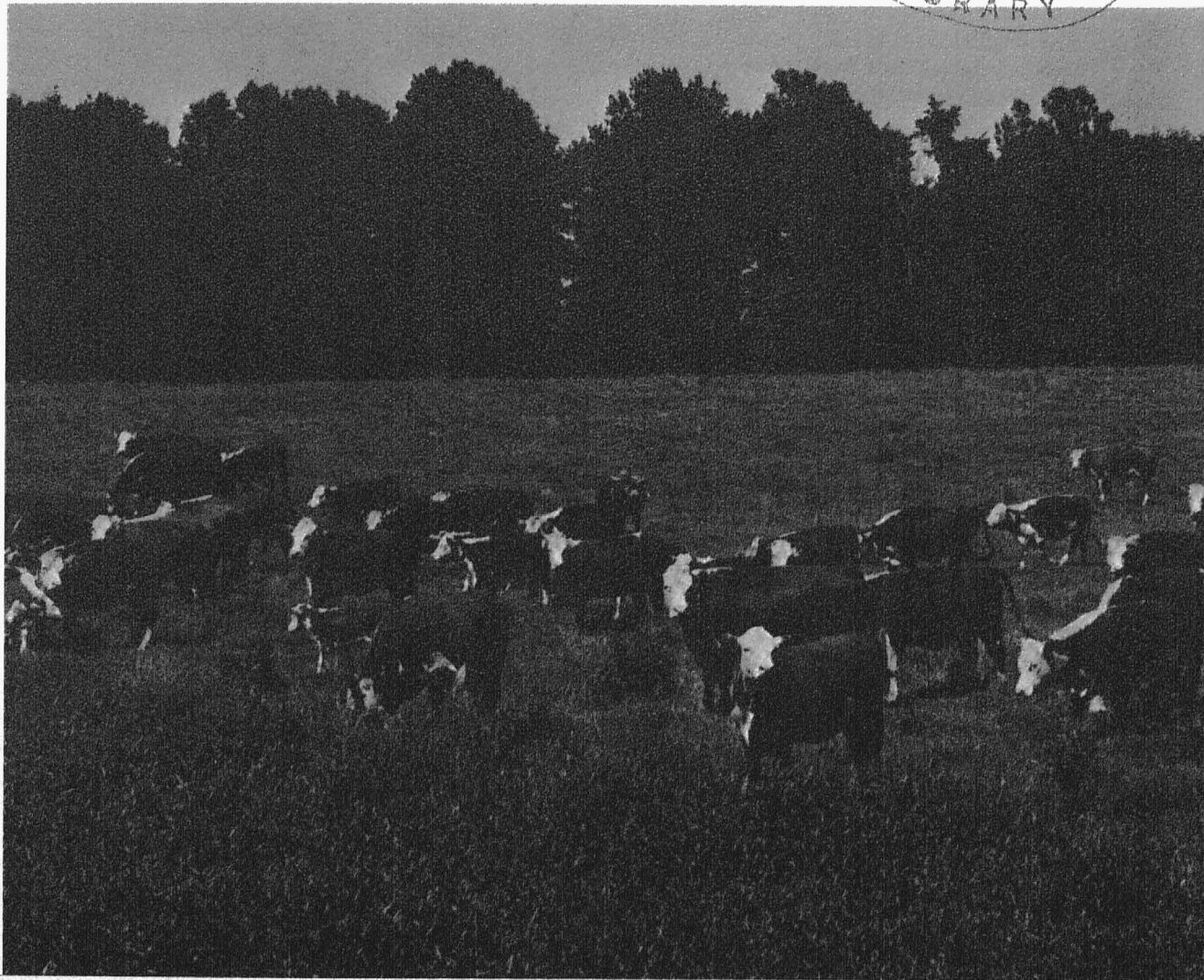
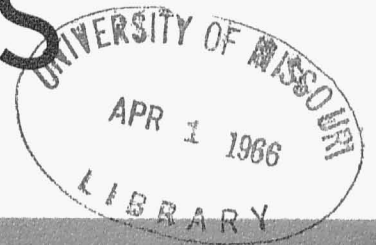


LABOR REQUIREMENTS

for BEEF COWS



B 838, December, 1965
Agricultural Experiment Station
University of Missouri

CONTENTS

Introduction	3
How the Study Was Conducted	4
Labor Summary by Jobs	4
In Hours per Cow	4
As Percent of Total Time	5
Seasonal Labor Requirement of Beef Cows	6
Variation in Labor Use Among Cooperators	7
One Roughage or Two	7
Days Necessary to Feed Roughage	8
Other Factors	9
Beef Cow Labor Costs and Returns	10
Labor Use and Return	11
Adequate Labor For High Production	11
Summary and Conclusions	12
Bibliography	14
Appendix	14

ACKNOWLEDGMENT

The research reported in this publication represents the joint efforts and contributions of the Departments of Agricultural Economics, Agricultural Engineering, Animal Husbandry, and Dairy Husbandry. It has been directed by a research supervisory committee consisting of Albert R. Hagan, Harold Walton, Albert J. Dyer, and Joe Edmondson, representing the four departments in order. Their contributions are gratefully acknowledged.

Special appreciation is accorded to Albert J. Dyer and Melvin Bradley for their many suggestions for conducting the research and improving this publication.

Labor Requirements of Beef Cows

HARRY LANPHER

AND

ALBERT R. HAGAN

● Beef cow herd owners are confronted with several perplexing management questions. How profitable is the enterprise? What resources—land, labor, feed, and capital—are required per cow unit? Would these resources pay higher returns in some alternative use? Under what conditions and kinds of management systems are cow herds most suitable and profitable?

Answers to questions such as these require up-to-date knowledge of the requirements and expected returns for different kinds of operations. This bulletin offers some guidelines in figuring labor requirements when planning cow herd systems. Analyses of other capital requirements will be developed in future publications.

The College of Agriculture designed a special study in 1963 to analyze the resources used in beef cow herd systems in Missouri and determine the returns realized from them. To get on-the-farm data for analysis, a "Farm Business Research Panel for Beef Cows" was established, through which pre-selected cow owners could send in current data on their operations. The departments of Agricultural Economics, Agricultural Engineering, Animal Husbandry, Dairy Husbandry, and the Extension Service cooperated in initiating this unique research effort.

This panel included 132 beef cow herd owners in a 17-county area who completed records during 1963 (see Appendix Figure 1). Each cooperator sent in beginning and ending inventories as well as monthly financial, feed, and labor records. One hundred and five farmers completed records in 1964 and 131 participated in 1965. The determination of resource requirements for cow herds has received primary attention in the study thus far.

This bulletin summarizes a two-year analysis (1963-1964) of the labor resources used for the beef cow herds and a one-year study (1964) of the production from the cow herds in relation to the labor used. We can expect more accurate figures to come out of this study in the future when more data is accumulated and calculations are based on longer periods of years.

How the Study Was Conducted

The Beef Cow Panel was set up to provide information on six types of cow herds. It was sub-divided into six segments, representing two size groupings and three methods of handling the calves as follows:

Herds of 35 Cows or Less

- 1) *Feeder calf production—calves sold at weaning.*
- 2) *Calves full fed from weaning to market.*
- 3) *Calves weaned, wintered, grazed and/or full fed.*

Herds of More than 35 Cows

- 1) *Feeder calf production—calves sold at weaning.*
- 2) *Calves full fed from weaning to market.*
- 3) *Calves weaned, wintered, grazed and/or full fed.*

For this study, the method of handling the calves after weaning should not have a significant effect on the per cow labor requirement prior to weaning. For this reason, the labor requirement for each panel segment is not shown for the various analyses that follow.

The labor necessary for handling the beef cow herd was broken down into two main categories. These were *chore* labor and *other* labor. The jobs performed on a regular schedule (usually daily) were classed as *chore* labor. Jobs which were performed more or less as the need arose were classed as *other* labor. A reproduction of the labor form developed for this study is in the Appendix.

The labor form of each cooperator was checked monthly, as it came in, for possible errors in entering figures, for missing information, and for inappropriate labor data.

The data on the monthly labor forms were coded,

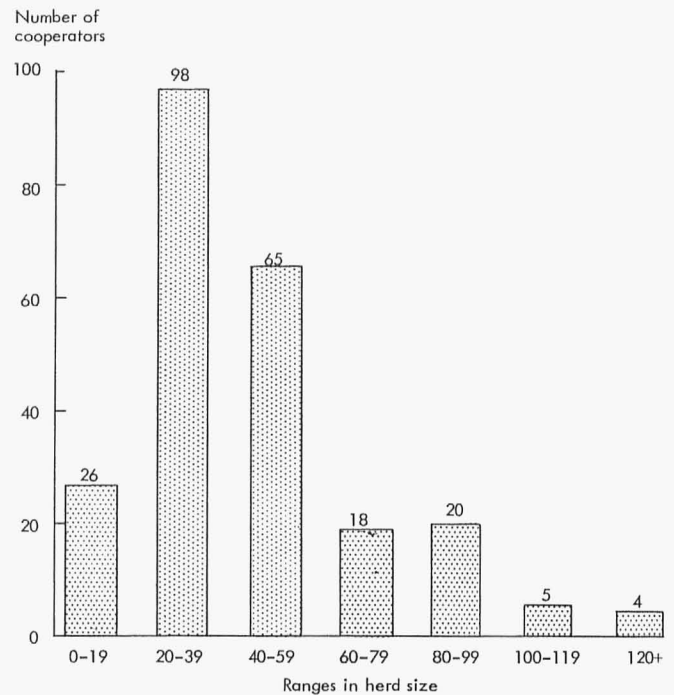


Fig. 1—Herd size and number of cooperators in each size range. (Each cooperator participating during both years of the study was counted twice.)

punched on cards, and processed with a computer. Labor information reported included all time spent caring for the cow herd, herd bulls, unweaned calves, and replacement heifers running with the cows. Figure 1 shows the sizes of the herds participating and the number of cooperators in each size grouping.

Labor Summary by Jobs

In Hours Per Cow

On the bar graph of Figure 2, jobs 1 through 4 were added together to make up bar 5, which is the total *chore* labor. Jobs 6 through 14 form bar 15, which is the total of all the *other* jobs. Bars 5 (chore labor) and 15 (other labor) form bar 16, which is the total of all jobs.

The average time per cow for the panel, including 6,176 cows during 1963, was 5.95 hours, plus 0.44 hours for repair of buildings and fences. For 4,899 cows during 1964, the total labor per cow was 6.04 hours. These figures seem to give a reliable average of the labor resource

used, per cow, in the production of beef calves on central and north Missouri farms. They present a marked contrast with the 20 to 40 hours per cow per year used in farm business planning in the past.

A study of the labor requirements of ten cow herds in one Missouri county during 1961-62 indicated a yearly labor requirement per cow, of 7.56 hours.¹ A Kansas study during 1955-57, involving 101 herds, showed 9.60 hours

¹Nolan Hesemann, Albert R. Hagan, and G. B. Thompson, "Labor Requirements for Beef Cattle Systems" (Unpublished bulletin manuscript, University of Missouri, Columbia, 1965), p. 13.

per cow,² and an Indiana project from 1956 to 1959 with 44 herds showed 7.1 hours per cow.³

As Percent of Total Time

Figure 3 shows a percentage breakdown by jobs of the total annual average time of 6.22 hours per cow. The diagram illustrates how much of the total time must be included in the daily routine. Chores took 54.2 percent of the time spent with the herd; other work took 45.8 percent.

The 54.2 percent of chore labor was, for the most part, done each day. For some cooperators, the checking and observing also was a daily chore. For many cooperators, therefore, approximately 75 percent of the total time per cow would need to be scheduled on a regular basis.

²C. F. Bortfeld, Dale A. Knight, and Gaylord J. Chizek, *Practices, Feed and Labor Requirements for Cowherds in Eastern Kansas*, Kansas State University Agricultural Experiment Station, Bulletin 413, October, 1959.

³M. R. Janssen, *Beef Cow Herd Costs and Returns in Southern Indiana*, Purdue Agricultural Experiment Station, Research Bulletin 725, 1961.

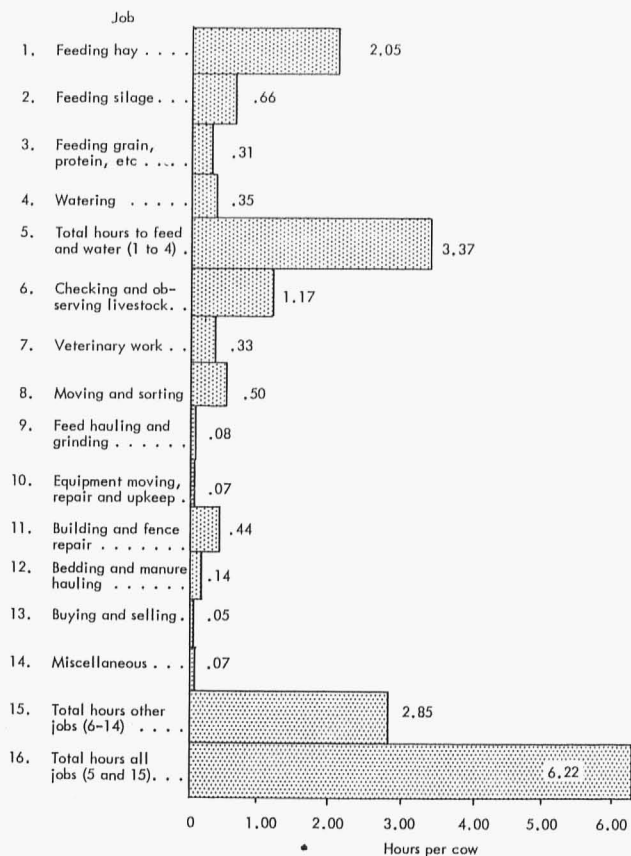


Fig. 2—Distribution by jobs of total yearly labor requirement per cow as reported by cooperators over a two-year period.

From Figure 3, it is obvious that any effort toward reducing the average time per cow should be concentrated on the hay and silage feeding chores and on checking and observing. These jobs required 62.4 percent of the total time.

As would be expected, about 90 percent of the feeding time came during the wintering period. Most of the checking and observing was done February through July when the cows were calving. Sorting and moving was the next most time consuming job, requiring 8 percent of the total time. A job not to be overlooked when planning time necessary for livestock enterprises is the repair of buildings and fences. In this study, 7 percent of the total time was spent for such repairs. Labor used in constructing new fences and buildings was not included as this represents long-term investments.

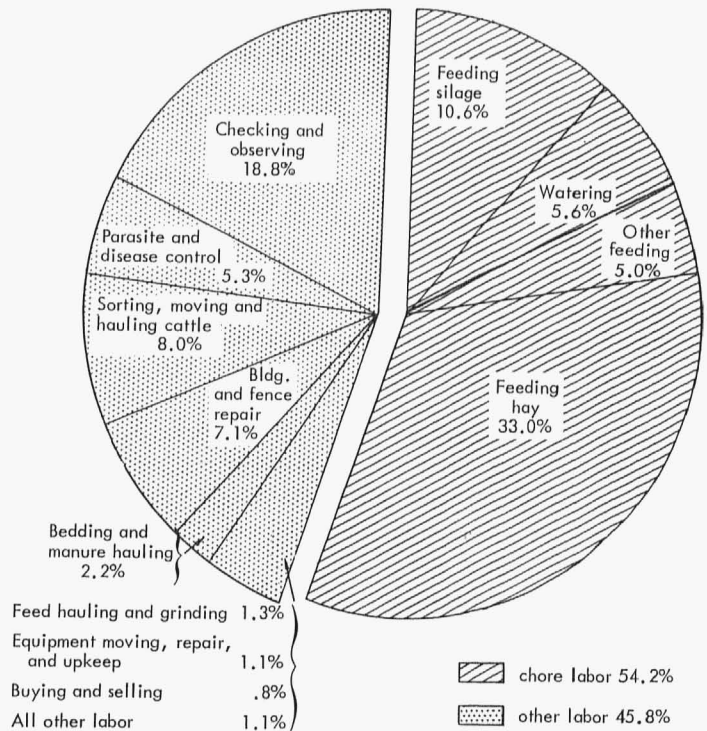


Fig. 3—Percentages of total annual labor per cow devoted to the various jobs.

Seasonal Labor Requirement of Beef Cows



Winter pasture reduced labor required for feeding on some farms.

The value of a farm resource may not be the same during all seasons of the year. For example, an inch of rain in the middle of July or the first of August may be worth 30 bushels of corn, while an inch of rain during the winter may have no value.

The same holds true, to some extent, with the labor resource. It is more valuable when used on certain enterprises at particular times of the year than on other enterprises at other times.

For this reason, farm managers may find Figure 4 helpful in anticipating the seasonal labor distribution with a beef cow enterprise. Over the two-year study period, almost 70 percent of the time used per cow came during the wintering period of December through April.

Thus beef cows compete very little with field crops for labor. The value of the labor used for beef cows, therefore, should be compared to the value of the same labor used on some other enterprise during the wintering period.

In planning farm labor use, other livestock enterprises—such as hogs, chickens, and feeder cattle—often require valuable time during the cropping season. This fact becomes quite important if the labor supply is short and, consequently, good management practices are slighted, resulting in reduced yields of either livestock or crops. For this reason, the low labor requirement of beef cows during the cropping season seems to be in their favor when choosing livestock enterprises.

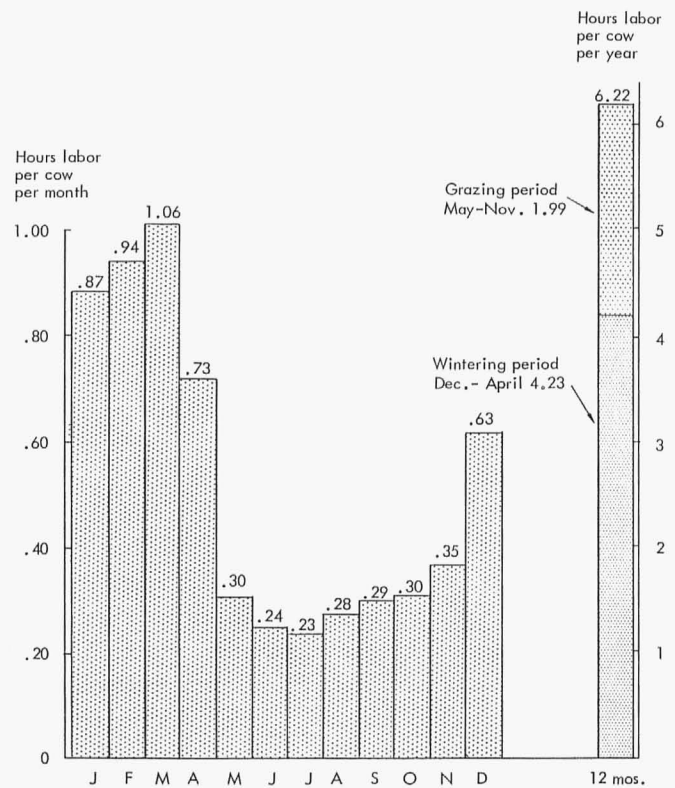


Fig. 4—Distribution by months and seasons of yearly labor requirement per cow as reported by cooperators over a two-year period.

Variation in Labor Use Among Cooperators

Averages tend to conceal some of the more important aspects of a study of this type. The labor requirement per cow, as reported by the ten herds requiring the greatest amount of time and the ten herds requiring the least amount of time, is shown in Figure 5, to illustrate the range.

Even the ten highest herds are low in labor requirement per cow, when compared to some of the previous standards of 20 to 40 hours used in farm planning work. The range is fairly wide, however, indicating a need for closer investigation of the labor requirement by herd managers.

If labor is valued at \$1.25 per hour, the cost per cow ranged from \$2.99 to \$17.85. However, it would not be right to conclude, without further analysis of the produc-

tion in pounds of gain, that the return to labor per dollar spent would be greater for the herds having a low labor requirement than those with a high requirement. This fact will be considered in the section on "Labor Cost and Returns."

Reasons for Variation in Labor Use

One Roughage or Two

Several cooperators fed both hay and silage to their cows. The use of both had a significant effect on the feeding time. Figure 6 shows that an extra hour of labor per cow was required when both hay and silage were fed. This amounts to about 23 percent more labor per cow during the wintering period and 17 percent more for the year.

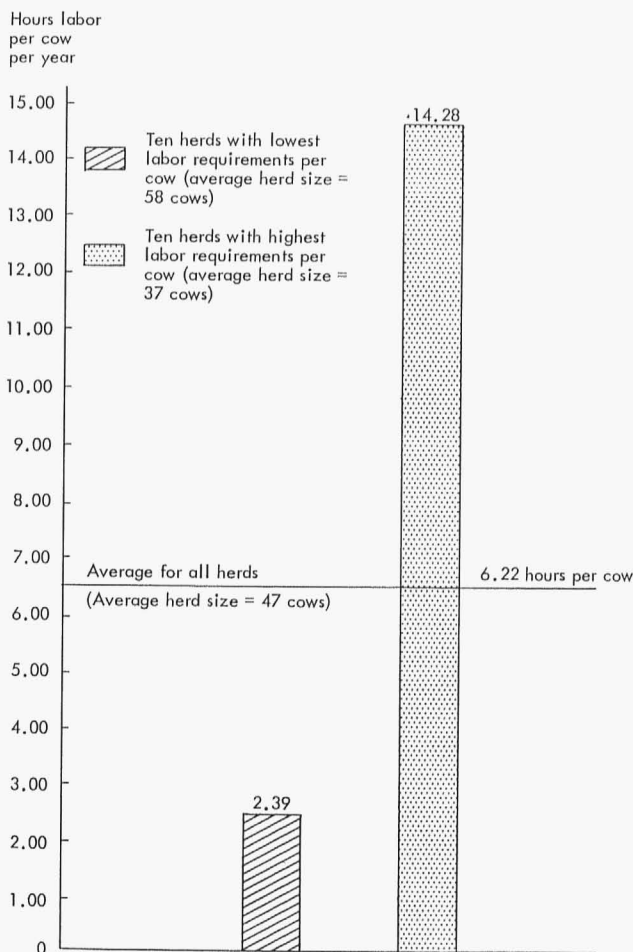


Fig. 5—A comparison of the average annual labor requirement per cow for the 10 cow owners in the highest group and those in the lowest.

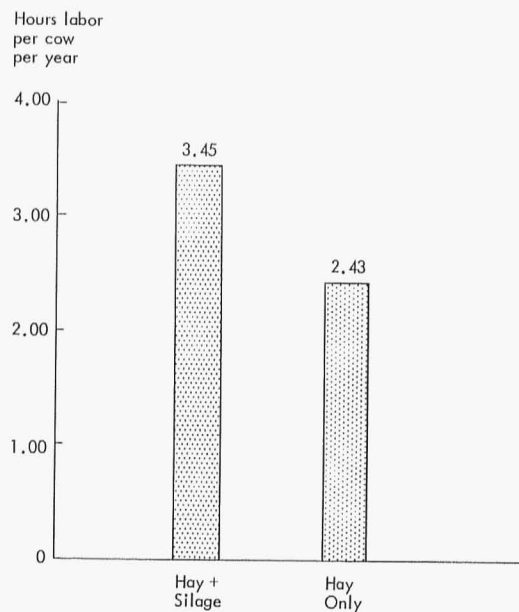


Fig. 6—Labor requirements per cow to feed roughages for cooperators who fed both hay and silage compared to those who fed hay only as reported over a two-year period.

Considering only the labor aspect of roughage feeding, efficiency in use of time drops when more than one type of roughage is fed. However, on some farms, the use of more than one kind of roughage may be desirable for proper nutrition and economy of feeding, even though extra labor is needed. Closely related to type of roughage is the number of days roughage feeding is required, as shown in the following section.

Days Necessary to Feed Roughage

Feeding roughages required about 44 percent of the time needed to take care of a cow. For this reason, the number of days silage and hay were fed was related directly to the total time necessary per cow.

Data provided by the 1964 panel cooperators indicated that either hay or silage was fed an average of 118 days. Baled hay left in the field and self-fed was not counted. The range was from 196 to zero days. This left 247 days for the cows to obtain their roughage from either pasture, baled hay left in the field, or crop residues.

The relationship between total labor required per cow and the number of days hay or silage was fed was computed statistically and plotted in Figure 7. This graph illustrates how the time per cow increased or decreased with the number of days of feeding hay and/or silage. The significance of the relationship lies in the extent of the change. The curve shows that as the number of days of hay and silage feeding increased from 125 to 150 the time per cow increased approximately 0.5 hours. A drop from 125 days to 100 days is related to a decrease of about 0.5 hours.

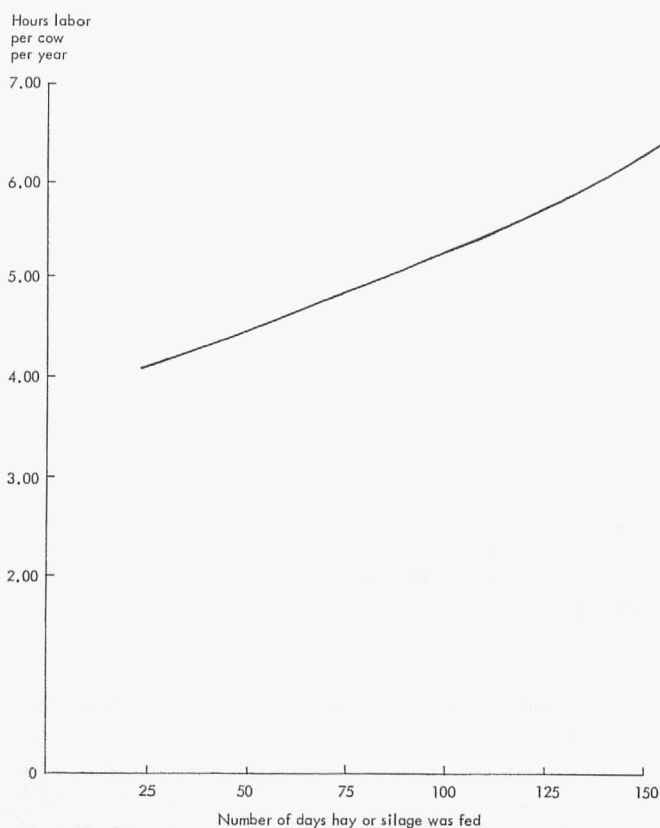


Fig. 7—Relationship between the number of days per year hay or silage is fed and the yearly labor requirement per cow.

Ways to Cut Down Roughage Feeding Time: A questionnaire was sent to several cooperators who had a low labor requirement per cow. Typical comments on how they saved roughage-feeding labor are:

- (1) "I run my cows on fescue pasture a lot in the winter so I do not have to feed very much hay."
- (2) "... plenty of pasture and use of stalk fields."
- (3) "... self-harvesting during the winter of government program reserve acres."
- (4) "... use of stalk fields and forage otherwise wasted."
- (5) "I use round bales fed in the field."
- (6) "I maintained year-round pasture and fed hay on grass to save labor."
- (7) "... by use of self-feeding bunker silos."

Aside from other benefits gained by making maximum use of crop residues and winter pasture, a significant saving of labor results from the decrease in the number of days of feeding hay and silage.

Herd Size

In agriculture, as well as in many other businesses, the term "economy of scale" often is used. This simply means that an increase in the size of an enterprise often results in more efficient use of resources. Does this principle hold true in the use of labor to care for a beef cow herd?

Labor data collected in 1963 and 1964 do indicate an "economy of scale" regarding hours of labor per cow. This relationship was computed statistically; results are shown in Figure 8. The curve shows the results when only herd size and total hours are considered, with no allowance for other factors that might affect the total requirement.

Note there was a marked drop in hours of labor per cow as the size of the herd increased up to about 60 cows. From 60 to 120 cows, the reduction was at a much slower rate. Based on the methods of handling beef cow herds in this study, little additional efficiency in labor use would be gained by increasing the number beyond 120.

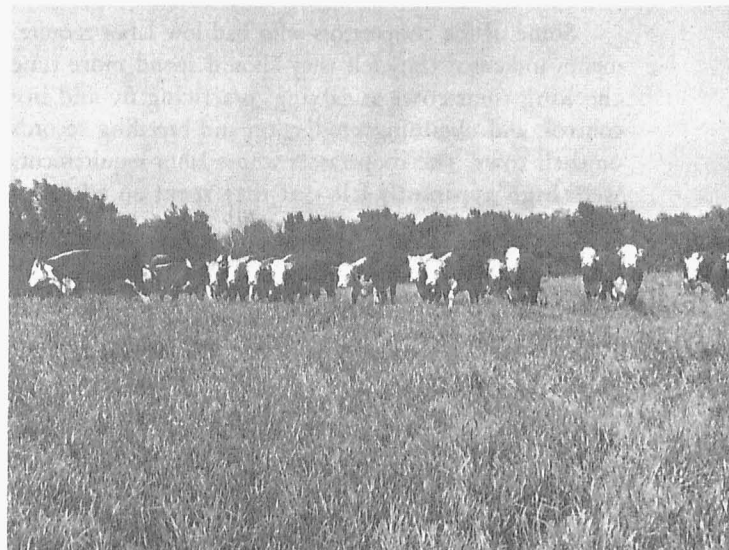
Several cooperators had labor requirements of only two to three hours per cow. This indicates that labor requirements can be lower still under certain conditions. But, if this reduction in the use of labor is obtained by omitting essential management practices, profits from the herd may be seriously reduced.

Age of Cooperator and Number of Replacement Heifers

Two other factors, the age of the cooperator and the number of replacement heifers running with the cow herd, were investigated to determine their effect on yearly



Round bales provided a way to harvest surplus pasture and save labor in winter feeding by storing it right in the pasture.



To make a small herd pay, costs must be kept very low. Permanent pastures and wooded areas for shade and winter shelter predominated on the beef cow farms.

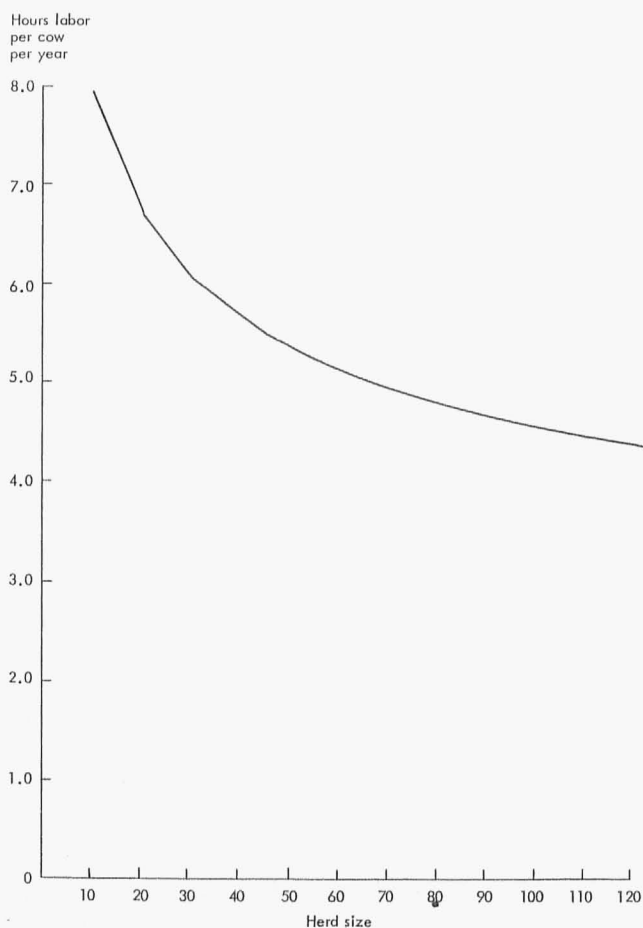


Fig. 8—Relationship between herd size and yearly labor requirement per cow.

labor requirement per cow. Neither of these factors was statistically significant in explaining the variation.

Other Factors Affecting Labor Requirements Per Cow

The variation among cooperators in time required per year to care for a beef cow is not easily explained. The factors above had a bearing and, in an effort to explain the variation further, several questions were asked of cooperators. An analysis of the answers of the 10 high and 10 low labor herd owners points out some additional factors which help to explain the labor variations.

Feeding and Watering Facilities. Automatic waterers in winter and adequate water supply during the summer reduced the labor requirements per cow, in the opinion of some cooperators.

Several indicated a more centralized feeding area either aided in keeping their labor requirement down or would have helped to keep it from being so high.

Self-feeding bunker silos were a labor saving device that lowered the time necessary to feed roughages for some cooperators.

Management Practices and the Physical Setup. Easier checking on cows, hauling feed to cows, and moving cows to new pastures—due to a well-planned arrangement of fences, corrals, field lanes, and pastures—aided several cooperators in reducing the time requirement.

Several cooperators indicated that their labor requirement was high due to renting pasture away from the home farm or having more than one farm. This required additional time in checking and working with the cow herd.

Some of the cooperators who had low labor requirements indicated they felt they should spend more time checking their cows at calving, practicing fly and lice control, and obtaining production and breeding records on their cows. The cooperators whose labor requirements were high apparently felt that they spent an adequate amount of time on these jobs.

Value of Labor. Apparently, the value placed on labor by the cooperators was related to the time they were willing to spend with their cow herds. The cooperators who spent the least amount of time per cow valued their time at an average of \$1.66 per hour. Those in the high labor requirement group placed a value of only \$1.14 per hour on their time.

Beef Cow Labor Costs and Returns

This section is devoted to an analysis of labor costs and returns in terms of production per cow. The information was drawn from the 1964 records of 85 beef panel cooperators.

The pounds of production per cow was computed by summing: (1) the weight of calves produced, (2) the gain in weight on replacement heifers, (3) the actual weight of cull cows sold, and (4) the change in opening and closing inventories with the inventory weights per cow held constant. Computations of these items are illustrated for the hypothetical twenty-cow herd of Joe Doakes as follows:

Cooperator: <i>Joe Doakes</i>	<i>Pounds</i>
Total weight of calves weaned.....	5,000
Lbs. of calves unweaned on Jan. 1, 1964..	2,000
Lbs. of calves unweaned on Dec. 31, 1964..	3,000
	<u>+1,000</u>
NET PRODUCTION FROM CALVES.....	6,000
*Production from heifers and cows.....	2,400
Decrease in cow inventory.....	<u>1,000</u>
NET PRODUCTION FROM HEIFERS AND COWS.....	1,400
TOTAL PRODUCTION FROM THE COW HERD.....	7,400
**Number of cows	-
Average calf production	$= 6,000 \div 20 = 300$
Average cow and heifer production	$= 1,400 \div 20 = 70$
TOTAL PRODUCTION PER COW.....	370

*Represents gain on replacement heifers and the actual weight of cull cows sold.

**Represents the highest number of cows on hand during any of the months from January through May.

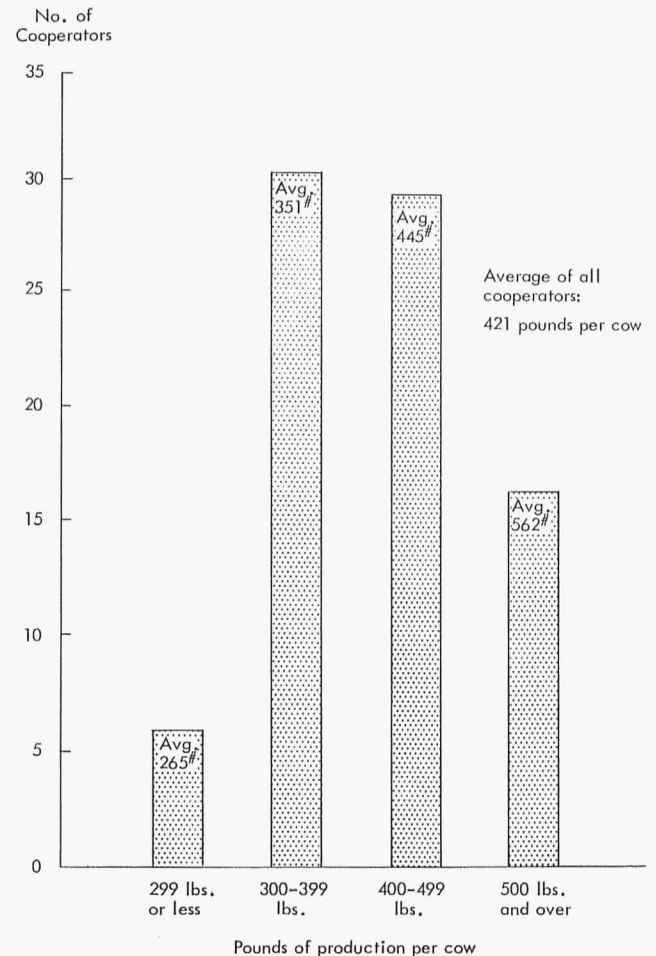


Fig. 9—Range in pounds of production per cow by 85 beef panel cooperators during 1964.

Figure 9 divides the 85 panel members who provided records on pounds of production into four groups. As the graph indicates, 18 cooperators realized production of more than 500 pounds per cow, with an average of 562 pounds for this group. The other bars are read in a like manner. Average total production of all cooper-

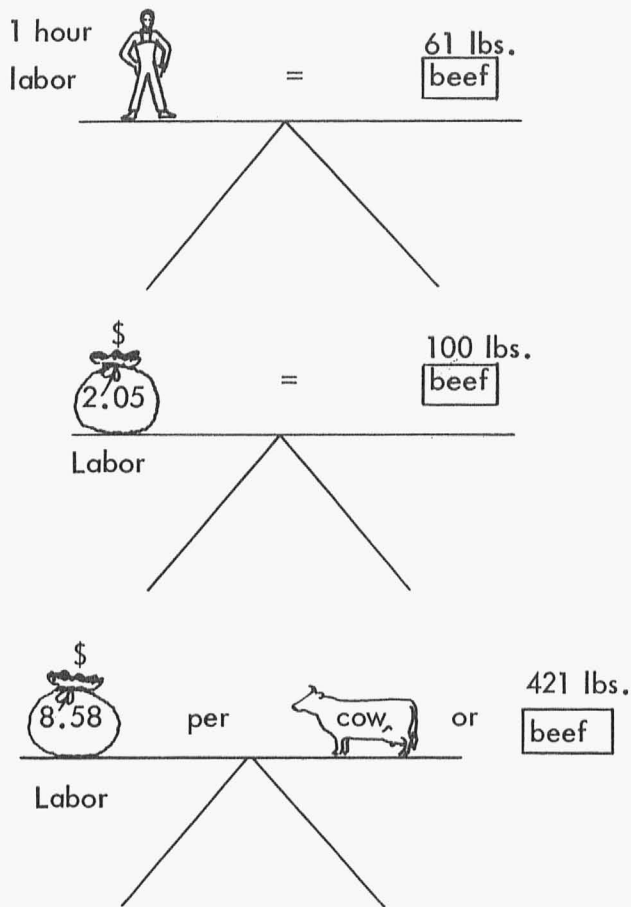


Fig. 10—Records of 85 cooperators show these costs and returns based on \$1.25 per hour for labor, 6.87 hours per cow, and 421 pounds of beef produced.

ators was 421 pounds per cow, 395 pounds of which represented calf production and 26 pounds the production from heifers and cows.

Labor Use and Return

The 85 cooperators who sent in weight records had slightly higher labor requirements per cow (6.86 hours) than did the entire panel. Figure 10 is based on this amount of labor. For each hour, 61 pounds of beef were produced. As shown by the center portion, with labor at \$1.25 per hour, the cost was \$2.05 per 100 pounds, or approximately \$0.02 per pound. On a per-cow basis, this is a total cost of \$8.58.

Assuming that the 395 pounds of calf production per cow sells for \$0.22 per pound and the 26 pounds of cow and heifer production at \$0.14 per pound, a gross return of \$90.54 would be realized per cow. On this basis, the labor cost was approximately 10 percent of the gross

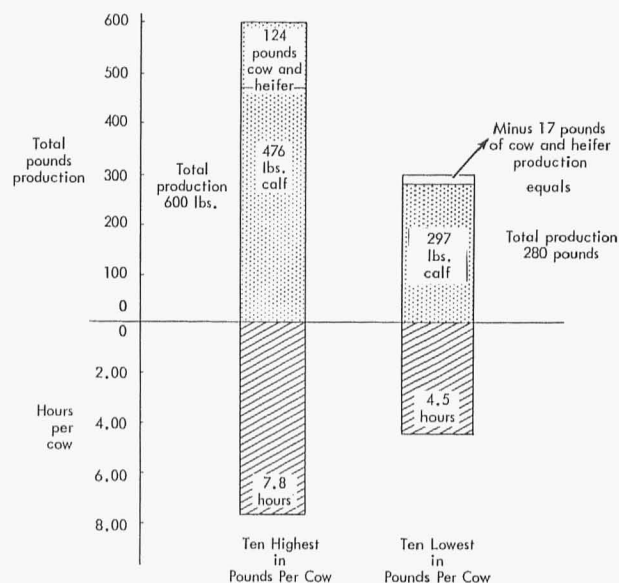


Fig. 11—The yield and the hours of labor used by 10 cooperators with highest production per cow and the 10 producing the least amount per cow.

income. Since this does not include a charge for management, any such expense would be in addition to the \$1.25 per hour charged for labor. The labor cost for the 10 lowest and the 10 highest herds varied from \$2.99 to \$17.85 per cow. With only these facts, the more efficient operators can not be determined.

Figure 10 shows that the cow owners who kept records produced 61 pounds of beef per hour of labor. The range was from 220 pounds down to 23 pounds. This range does not reveal much within itself. The quantity of resources used and the yield must be considered together.

Adequate Labor for High Production

Because there are so many variables other than labor involved in the production from a cow herd, an analysis of the relation between pounds of production and labor used does not give a clear-cut relationship. However, the time spent by cooperators with the greatest total production per cow should indicate the labor necessary for a high level of production in most cases.

Figure 11 shows the average yield and time requirement of the ten cooperators with highest production, and the average yield and time requirement of those producing the least amount. Though the ten top producers used 73 percent more labor, their yield in pounds of production per hour was 77 pounds, compared to 62 pounds for the low producers.



Labor requirements were kept low on many farms by keeping the cow herd on pasture the greater part of the year.

From a statistical standpoint, a definite statement that an increase in labor per cow of a given number of minutes will result in an increase in a given quantity of beef per cow cannot be verified. This is not feasible because the quality and timeliness of the labor resource cannot be held constant. Furthermore, no two farms are alike with respect to resources available and to their most profitable use. However, a valid assumption can be made that the top producer and top manager, as measured by total production, is using a somewhat greater amount of labor than the average producer and considerably more than the low producer.

As discussed previously, a farm resource should be

used on an enterprise until more can be gained by using it elsewhere. It appears that the use of additional labor per cow would have been a good investment for many of the cooperators; how good an investment cannot be determined accurately.

The point of greatest efficiency of resource use is impossible to establish scientifically; it is different on every farm; it is always changing on an individual farm; and it often is not recognizable when obtained. However, every producer should be aware of the existence of this point of greatest efficiency. The closer he comes to it the more profit he will realize.

Summary and Conclusions

The Farm Business Research Panel was initiated by the College of Agriculture to obtain up-to-date data on major types of farming in the state. Beef cow systems of operation were selected for the pilot study.

Pre-selected farms, representing particular types of beef cow operations, participated. Farm operators have provided complete records since January 1, 1963. Records are continuing through 1965 and a complete analysis of the resource use and returns will be made at the termination of the study.

This report summarizes the major findings of the labor input used on the beef cow enterprises over a two-year period (1963-64). Emphasis has been placed on obtaining accurate, up-to-date data on the labor requirements. During 1964, returns in pounds of production from the labor used also were brought into the study.

Some of the more important findings:

- (1) Range among cooperators in time spent per cow per year 2.39 to 14.28 hours



Labor requirements during the wintering period (when 2/3 of the labor comes) were reduced on some farms through use of stalk fields and other crop residues.

- (2) Average time spent per cow per year . . . 6.22 hours
- (3) Average time spent per cow per year by the ten cooperators producing the most beef per cow 7.80 hours
- (4) Average time per cow for wintering period 4.23 hours
- (5) Average time per cow for grazing period 1.99 hours
- (6) Pounds of beef produced per hour of labor 61 lbs.
- (7) Labor cost per 100 pounds beef produced \$2.05
- (8) Labor cost per cow per year \$8.58
- (9) Labor requirements per cow were reduced significantly as herd size increased.
- (10) Labor requirements were reduced by extensive use of crop residues and pastures.
- (11) Careful planning of facilities for handling lowered the labor used for the cow herd.

supplementary to crop production with respect to labor use.

- (3) Maximum use of pasture, crop residues, and round bales that can be left in the field save labor connected with crop production and, also, labor necessary for the beef cow enterprise.
- (4) A wide variation of labor use, per cow, exists among beef cow owners. On some farms, the total amount used could be lowered without reducing production. Other cow owners could profit by utilizing more labor. An examination of factors thought to be related to variations in labor requirements, per cow, may help each operator arrive at a more efficient use of his labor supply.

The results of this labor study point to some observations which should be kept in mind by farmers when deciding on the best use of their resources. The more important ones are:

- (1) The annual labor requirement for beef cows is comparatively low.
- (2) Approximately 70 percent of the time necessary to care for beef cows comes during the December through April period. For this reason, beef cows are

Bibliography

- University of Missouri College of Agriculture and the United States Department of Agriculture. *Farm Business Planning Guide*, 1961.
- Hesemann, Nolan, Hagan, Albert R., Thompson, G. B. "Labor Requirements for Beef Cattle Systems." Unpublished Bulletin Manuscript, University of Missouri, Columbia, Missouri, 1965.
- Lanpher, Harry D., Hagan, Albert R. "Beef Cattle Labor Requirements." Special Report 45, Agricultural Experiment Station, University of Missouri, Columbia, Missouri, 1965.
- Janssen, M. R., *Beef Cow Herd Costs and Returns in Southern Indiana*. Purdue Agricultural Experiment Station, Research Bulletin 725, 1961.
- Bortfeld, C. F., Dale A. Knight, and Gaylord J. Chizek, *Practices, Feed and Labor Requirements for Cowherds in Eastern Kansas*. Kansas State University Agricultural Experiment Station, Bulletin 413, October, 1959.

Appendix



Counties represented in the initial Beef Cow Research Panel.

Farm Code _____

Cooperator _____

County _____

Month _____ 19____

1. FEEDING & WATERING JOBS		Number of Days Done During Month	Average Minutes Per Day (2)	Hours For Month (3)		
				Man	Tractor	Man
1	2	3	4	5	6	7
01	FEEDING HAY					
02	FEEDING SILAGE					
03	FEEDING GRAIN, PROTEIN, MILL FEEDS, ETC; (Include time hauling to self feeders).					
04	WATERING					
05	TRACTOR USE FOR JOBS ABOVE (Figure time from start of job to finish of job)					
06	TRUCK USE FOR JOBS ABOVE (Figure time from start of job to finish of job)					
07	TOTAL HOURS, FEEDING & WATERING					

↑ State Office Use
Only ↓

2. OTHER JOBS		Number of Times Done During Month	Average Minutes Per Time (2)	Hours For Month (3)		
				Man	Tractor	Truck
1	2	3	4	5	6	7
01	CHECKING, OBSERVING LIVESTOCK & CALVING TIME					
02	DEHORN, CASTRATE, PEST & DISEASE CONTROL & HERD TESTING					
03	SORTING, MOVING, WEIGHING, ETC.					
04	PREPARATION & OBTAINING OF FEED					
05	EQUIPMENT MOVING, REPAIR & UPKEEP					
06	BUILDING & FENCE REPAIR (Livestock only) (Do not enter time for new buildings or fences)					
07	BEDDING & MANURE HAULING					
08	BUYING AND SELLING (Do not include truck driving time for hauling fat cattle to market)					
09	MISCELLANEOUS LABOR					
10	TRACTOR USE FOR ABOVE JOBS (Figure time from start of job to finish of job)					
11	TRUCK USE FOR ABOVE JOBS (Figure time from start of job to finish of job)					
12	TOTAL HOURS, "OTHER JOBS"					
13	TOTAL HOURS, ALL JOBS					

- (1) Include time spent caring for bulls, creep feeding calves, & time spent caring for replacement heifers & bulls if they are running with cow herd.
- (2) Add together the time of all workers on a job to get average minutes each day or time.
- (3) Leave blank columns 5,6, & 7 -- will be figured at state office.

APR 1 1966

