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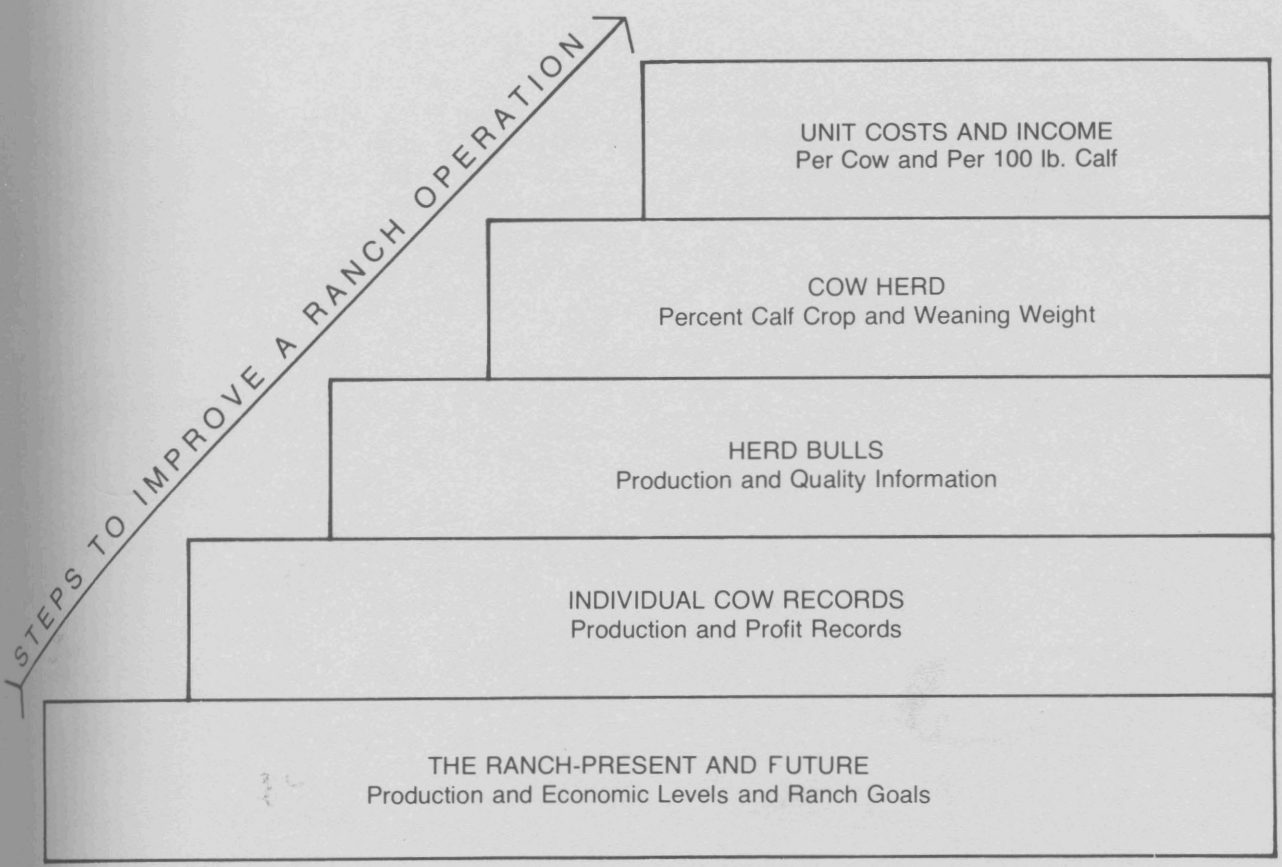
MANAGEMENT CONTROLS FOR SMALL RANCHES



Texas Agricultural Extension Service • The Texas A&M University System • John E. Hutchison, Director • College Station, Texas

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MANAGEMENT CONTROLS FOR SMALL RANCHES

L. A. MADDOX, JR.*

The Texas cow and calf industry is unique in that, in a period of big business, 1½ million beef breeding cows are owned by more than 100,000 producers in herds of less than 40 breeding cows each. These people usually own the land for some reason other than economic beef production. Beef cattle are raised because of the low labor requirement, and cattle offer a good method of marketing the forage produced on the land. The land owner may be a semi-retired farmer, a regularly employed individual who likes to live in the country, a person who wishes to pay for a small acreage of land as an investment or an individual who wants to live in the country after retirement.

Most of these small ranchers wish to operate their cattle business as efficiently as possible. Production, quality and cost control records can be assembled to help make decisions more accurately. Some problems still require a cowman's "sixth sense" until better measures of productivity and quality control are developed.

Many small cow-calf operators are looking for practical records and summaries that will help them make decisions affecting the future of their operation. Consider the following records and summaries. Not all of them are necessary for a particular ranch operation. Developing additional records and summaries may be of particular help to you.

This system is possible when calves are sold individually at an auction market. The date, weight and selling price of the calf, when credited to its dam, can produce revealing records and summaries.

Ranches Are Different

Three important ingredients in a ranch operation are (1) the ranch land, (2) the cows and bulls in the breeding herd and (3) the rancher controlling the land and cattle. The ranch, the breeding herd and the rancher are each truly unique.

No other piece of real estate exists with exactly the same climatic conditions, soil type, soil conditions, native forage, undesirable range plants or ability to respond to pasture improvement or range management.

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The breeding herd has a special uniqueness because of the characteristics of the original cow herd, how and why cattle were culled, the method of selecting replacement heifers and the kind of herd bulls the rancher has used.

The rancher's uniqueness exists because no one else has exactly the same education and experiences to use in making decisions. Each rancher has different goals for himself and his family. Each reacts differently to such things as the value of range and pasture improvement, reasons for selection of breeds or crosses of cattle, amount of money to be invested in replacing bulls and methods of marketing the cattle produced on the ranch.

Ranch Operation - Present and Future

When a small rancher embarks on a continuing record of production and profit characteristics, the first step should document production and profit levels and set goals for a 5-year period. Form D-916a, ***Production and Profit Levels and Ranch Goals,*** provides an easy way to record production characteristics. This form provides space to record the number of (percentage when applicable) cows bred, calves born, calves weaned, average weaning weight and replacement of cows and bulls. To document the economic aspects of the operation, cost and income characteristics on a per cow and a per calf basis should be recorded along with the goals for these characteristics.

Goals should reflect what appears to the cattleman to be the necessary changes in production and profit to establish a cattle operation which satisfies his own preferences. A completed Form D-916a should give an accurate record of each year's activity. Desirable changes in production or quality characteristics should reflect improvement in management. Stable production levels in some areas indicate the need for management changes. The number and percentage of breeding animals that are replaced will indicate the possibility of genetic changes causing adjustments in production and/or quality.

Genetic changes in most herds are slow, but in one-bull operations it is possible to change 50 percent of the genetic material of the calf production when herd bulls are changed.

Individual Cow Records

Small cow and calf operators can determine the good and bad characteristics of their operation by keeping individual cow records. The basic principle of this program is a financial accounting for each cow at the time her calf is weaned. The basic management practices involved are: identification of the cow and her calf, identification of the auction sales information with the proper calf and an actual or estimated cost per cow. Form D-916b, ***Individual Cow-Production and Profit Record,*** provides space to record:

Cow Numbers - Individual identification of cows is necessary. Producers should use individual numbers placed on the animal with a fire brand, freeze brand, ear tag, neck chain or neck band. A few small producers with 15 or 20 cows may have them all named and be able to operate without cow numbers, but this is not recommended.

Calf numbers - Each calf should be identified individually and with its mother. Small operators can do this with few labor costs by using metal or plastic ear tags during the first 10 days of the calf's life.

Sire - There is a place on Form D-916b to identify the sire of each calf. The practice of sire identification is most important when bulls of different breeds or crosses are used. This information is less important for small herds having more than one purebred bull.

Date of birth - To establish calving intervals, the date of birth should be recorded. Estimates of dates of birth, accurate within a week or 10-days, are sufficient for this kind of record system.

Date of sale - This information is readily available and is important since the accounting for a cow is from one weaned calf to another.

Months between sales - This is another way to determine cost per cow. It also emphasizes the additional costs of long calving intervals. Time should be calculated in months or months and a half. Further division would not be too meaningful.

Sale number - Auction sale number is necessary to identify the weight and selling price of the calf with its dam.

Sale price per cwt.-Sale price can be used as an indication of quality if you can observe a representative sample of cattle selling that day. In this record, it serves as a method of determining total income.

Sale weight - This is a way for small operators to secure a weaning weight without owning a set of scales and going to additional expense in working cattle. Sale weight is the second factor in determining total income.

Total sale price - This figure makes this record program possible since only small ranchers obtain such an accurate figure of each cow's contribution to total income.

Cow cost - Cow costs should be as accurate and realistic as possible. Usually, these costs will be determined on an annual basis. They can be transformed into a workable per-month cost by dividing the annual cost by 12. This is important to emphasize regularity of calving. Cow costs should represent the total cost (monthly cost x months) from the time the last calf was weaned.

Profit - By subtracting cow costs from total sale price, the profit figure is available. This figure may indicate need for changes in management and can be used to compare one cow with another.

Herd Bulls

The idea of improving productivity and quality within a cow herd by introducing superior genetic material through the sire is sound. In one year, the bull contributes half of the genetic material of the calves produced. The problem to the cattleman has been, "What is a good bull and how can one be recognized?" Research on procedures to measure production and quality characteristics started at Miles City, Montana in 1936. The first real attempt to develop testing procedures for use on a national basis resulted in the formation of the Performance Registry International in 1955. Refinement of testing procedures and record programs developed by breed associations makes it possible to buy bulls with performance and/or production information. This helps a cattleman to reliably predict a bull's breeding value on many production and quality characteristics.

Information on young bulls, outlined in Form D-916c, ***Production and Quality Information,*** provides for an average 205-day weaning weight and an average weaning weight ratio of all bulls purchased within a given year. A registered breeder with a reasonable production testing program would also be able to furnish yearling weights and ratios if young bulls are purchased at 12 or more months of age. A few of the more progressive registered breeders will be able to provide feedlot and carcass data on half sibs (calves sired by the same bull). Performance information on individual bulls plus feedlot and carcass data on half brothers would be helpful. A 205-day weaning weight and a yearling weight should be considered minimum essential information. Bulls may be purchased at a younger age when 205-day weights and ratios plus feedlot and carcass information on half brothers are available. This would reduce the extra cost of feeding the young bull and the possibility of damage to breeding ability because of overfeeding.

Cow Herd

A cow that fails to calve every year is unprofitable. A heavy calf produced one year does not compensate for failure to calve the preceding year. The most important record for the cow and calf man is the reproductive performance of the breeding herd. The second most important record is weaning weight information. These and the other records yield herd averages. This information is obtained from Form D-916b.

Average percent calf crop should be calculated each year and should be based on the number of cows exposed to bulls divided by the number of calves born. Percent calf crop calculated in this manner furnishes information that relates directly to reproduction and leaves out calf losses, a problem which requires different actions for solutions. Average percent calf crop should be plotted on Form D-916d, ***Percent Calf Crop and Weaning Weights.***

Weaning weights of calves should serve as indicators related to management practices and production efficiency. An ideal weaning weight cannot be established for all producers. How close the average weaning weight approaches your goal is important, provided your goal is economically sound. A continuing study of price changes in relation to weight changes must be made.

Data from these records help determine problems related to animal health, genetics, nutrition and/or management.

Unit Cost and Income

To be useful for making ranch management decisions, records must be more detailed than usually shown in total ranch costs and income. Costs and income per cow, along with costs and selling price per 100 pounds of calf weaned, give the rancher an opportunity for a different kind of study of total ranch operation. In studying production efficiency of a breeding herd, one may want to rule out the use of income from culled cows and bulls since their relationship is indirect. Some ranchers who have cost-per-cow information make errors in decisions when comparing the cost of the cow to the selling price of the calf. This relationship would be accurate only if one had a 100 percent calf crop.

The section of Form D-916e, ***Cost and Income Per Cow and Per 100 lbs. Calf,*** that deals with cost and income per cow should show two meaningful figures that can be compared on the same form. The comparison of these figures should serve as an excellent indicator of production efficiency.

The record section on cost and selling price per 100 pounds of weaned calf can be used to make direct comparisons between cost of production and selling price per 100 pounds of weaned calf. The best measure of overall efficiency, other than percent return to total capital investment, is probably the difference in these figures.

If production cost per 100-pound weaned calf is disappointing when compared to the selling price per 100-pound weaned calf, a study should begin. Look for changes in breeding, pasture, marketing, animal health and supplemental feeding programs that would increase profit.

Conclusion

Production, quality and cost controls are more complicated when working with biological materials and processes than they are with non-biological ones. Problems with any controls are increased for a ranch operation because of dependence upon elements of nature that regulate the food supply, the environment and the animals' health. Production management systems on small ranches can be improved continually. Systems suggested here offer a beginning.

The development of cost records and summaries will indicate characteristics of a small ranch operation and trends of certain measurable traits over a period of years.

Production, quality and cost controls in a modern ranch operation require planned observations and measurements, designs based on up-to-date principles and concepts of animal science, plant science and management.

Data and remarks shown on each sample form are only examples and are not intended to relate to each other.

D-916a

Production and Profit Levels and Ranch Goals

Date January 1969

PRODUCTION	Present Production NUMBER	Present Production PERCENTAGE	Goals for 1979 NUMBER	Goals for 1979 PERCENTAGE
Cows bred	20	XXX	30	XXX
Calves born	16	80	27	90
Calving interval, mo.	14	XXX	12	XXX
Calves weaned	14	70	27	90
Average weaning age, mo.	7	XXX	7	XXX
Average weaning weights	425	XXX	500	XXX
Replacement cows	7	30	6	20

PROFIT	
Cost	
Per cow	$135.00
Per 100 lb. calf weaned	45.38
Income	
Per cow	178.50
Per 100 lb. calf weaned	60.00

REMARKS

Changes planned to help reach goals

1. Clear the rest of the pasture and sprig with Coastal bermudagrass.
2. Soil test and fertilize according to recommendations.
3. Palpate cows and sell those not pregnant.

D-916b

INDIVIDUAL COW
Production and Profit Record

Year of Birth 1966 Cow No. 13

Calf number	Sire	Date of birth	Date of sale	Months between sales	Sale number	Price cwt.	Sale weight	Total sale price	*Cow costs	Profit
32	42	2-15-70	9-20-70	12	2622	35.50	380	134.90	90.00	44.90
50	42	3-16-72	9-5-72	23.5	1172	52.50	300	157.50	199.75	- 42.50
94	42	2-17-73	8-16-73	11.5	3726	61.00	450	274.50	126.50	148.00

Remarks: Sept. 70 - Weaned average calf, cow cost $7.50 per month: May 71 - Did not calve, abundance of grass, will keep the cow, cow cost $8.00 per month: Sept. 72 - Weaned light weight calf, average cow cost for last 24 months $8.50: August 73 - Weaned heavy calf in less than 12 months, cow cost $11.00 per month.

*Cow costs since last calf sold

Year	70	71	72	73	
Number of bulls purchased		1		1	
Percent of total bulls used		100%		100%	
Individual information					
205 day wt., lb.		515		525	
205 day wt., ratio		109		108	
140 day gain test, lb.				3.16	
140 day gain test, ratio				106	
Yearling weight, lb.				999	
Yearling weight, ratio				107	
Steer half sibs — Production & Product					
No. of half sibs					
Day on feed					
Feedlot gain, lb./day					
Feed per lb. of gain					
Quality grade					
Yield grade					

Remarks

Jan. 70 - Used old bull with no records.

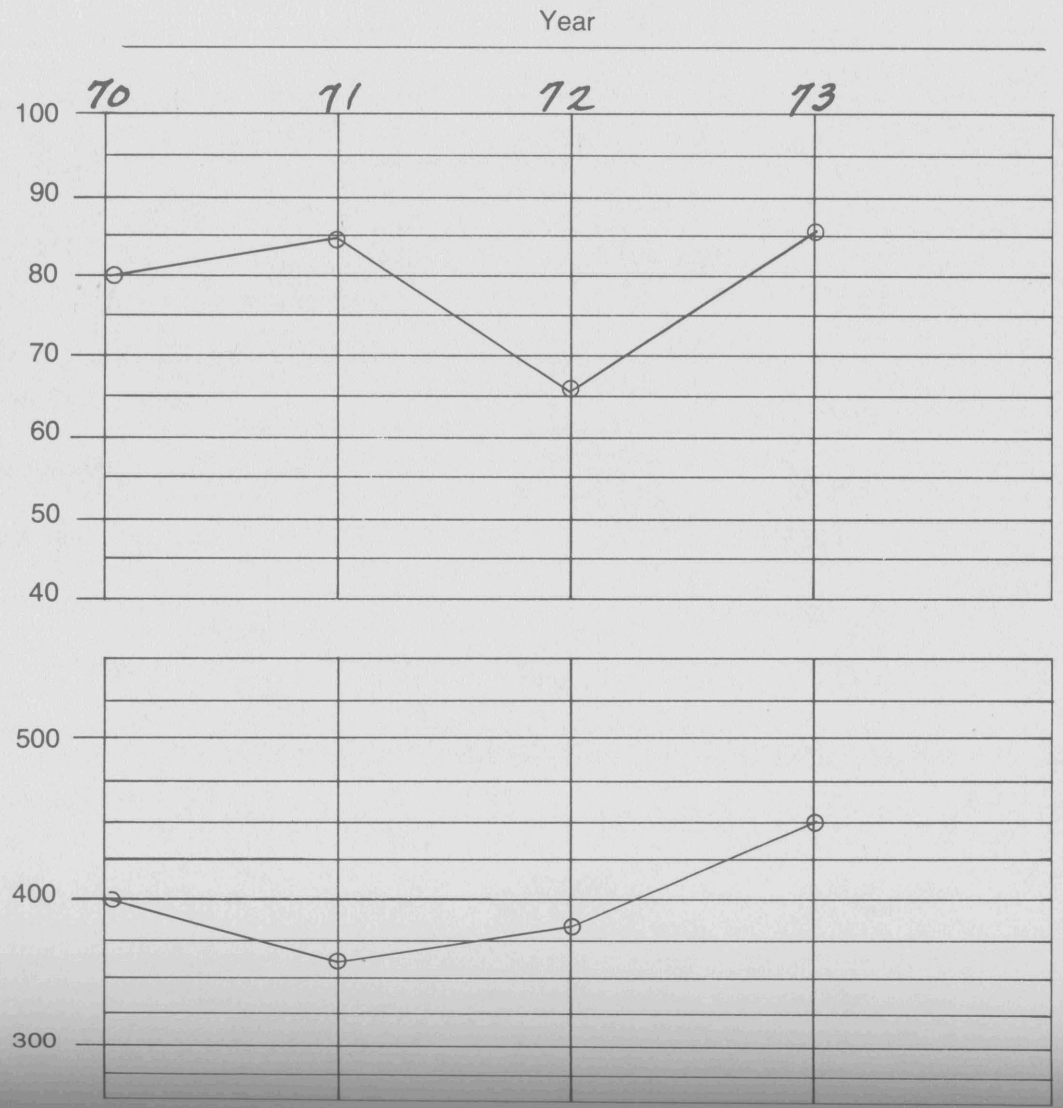
Jan. 71 - Purchased yearling bull from K. C. Ranch, weaning weight only information available.

May 72 - Not pleased with calves - sold herd bull.

Jan. 73 - Purchased yearling bull from Blank Gain Test.

D-916d

COW HERD
Percent Calf Crop and Weaning Weights



Remarks

Oct. 70 - Average kind of year, average production.

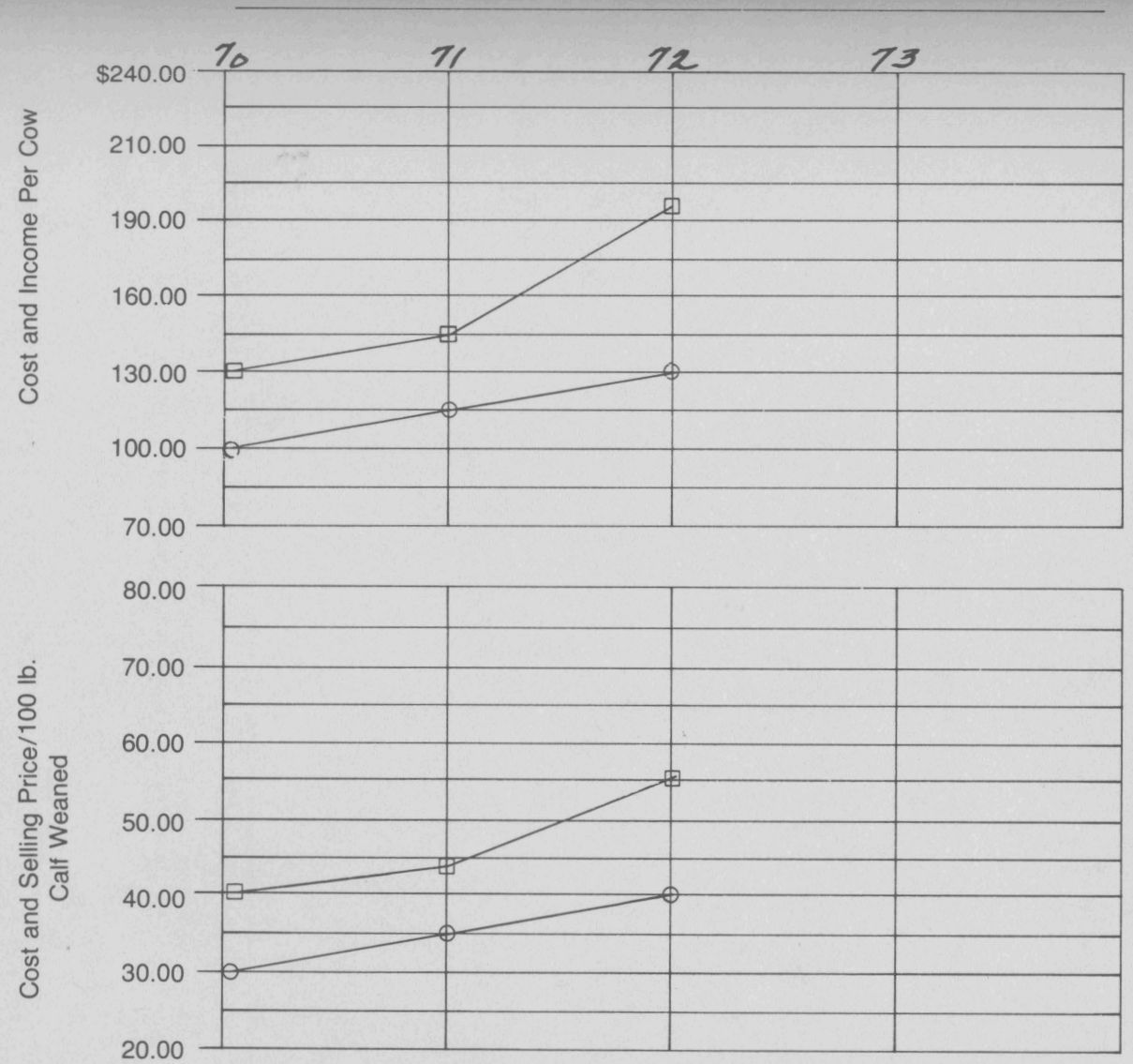
Oct. 71 - Weaned over 84% calf crop, calf weight down, bull still working after 90 days. Vet palpated cow herd and found 55% pregnant, vet diagnosed Vibriosis and treated cows, bull sold.

Oct. 72 - Weaned 65% calf crop with about 10% of calves less than 3 mo. of age.

Oct. 73 - Weaned 85% calf crop. Had long calving intervals because of cows that missed in 72.

D-916e

UNIT COSTS AND INCOME
Per Cow and Per 100 lb. Calf



Remarks

Jan. 71- The past year was about average with profit per cwt. of $9.40 and $30.00 per cow.

Jan. 72- Calf weight and selling prices went up but so did expenses because of feed costs for spring drouth. Profit per cwt. $8.20 and per cow $27.00.

Jan. 73- Everything's up but selling prices exceed costs. Profit per cwt. $25.30 and per cow $54.00.

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