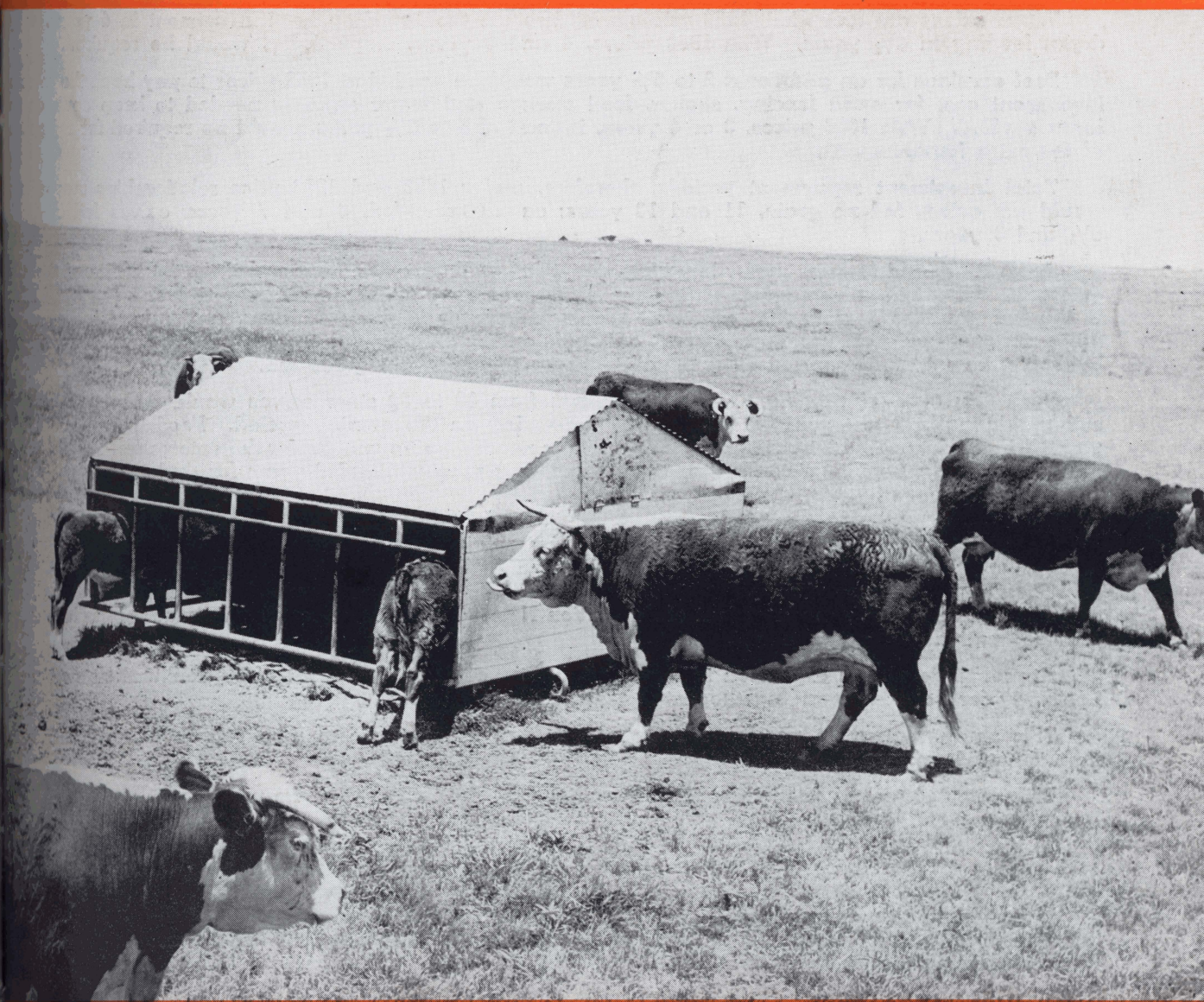


Financing a Beef Cattle Enterprise on Blackland Farms

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R. D. LEWIS, DIRECTOR, COLLEGE STATION, TEXAS

IN COOPERATION WITH THE U. S. DEPARTMENT OF AGRICULTURE

SUMMARY

Results of a study conducted cooperatively by the Texas Agricultural Experiment Station and the U. S. Department of Agriculture indicate that, at 1956 costs and market prices, a well-managed beef herd has prospects of being a good investment on Blackland farms.

With 1953 prices, 12 beef cows on typical Blackland farms would pay for themselves in 4 to 7½ years. At 1956 prices, 4 to 9 years would be necessary, the variation in time required depending on the method of feeding calves.

On farms where calves were sold without grain feeding, beef earnings at 1953 prices for 7½ years would be required to pay the cost of the breeding herd. With 1956 prices, 9 years would be required.

When calves are creep-fed, 1953 prices would return the breeding herd investment in 4 years, or by drylot feeding in 4½ years. With 1956 prices, 4 and 5 years, respectively, would be required.

Beef earnings for an additional 2 to 3½ years would be needed at 1953 prices to pay back the average investment cost for extra fencing, shelter, feed storage and water supplies needed to keep cows on the farms studied. With 1956 prices, 3 or 4 years, instead of 2 to 3½ years, would be required for repayment of the extra improvements.

Total investment repayment periods, therefore, under 1953 and 1956 price relationships respectively would be: calves fed no grain, 11 and 13 years; calves creep-fed, 6 and 7 years; calves fed in drylot 6½ and 8 years.

Some Blackland farmers prefer handling steers rather than cows because of the flexibility of the steer enterprise. An increasing number of farmers in the area have found it profitable to buy a few steer calves in the fall to utilize grazing that otherwise would largely be wasted. Grazing of this kind includes stubble fields after corn or grain sorghum harvest, oat fields during winter, and the fall, winter and spring grazing available from waterways and other small acreages of permanent grassland.

With this type of grazing program, earnings from 30 to 50 steer calves would make the enterprise self-liquidating in 2 to 4 years at 1953 prices, depending on the grazing period. Feeders in drylot would pay off in 4 years, including the investment cost for needed improvements for the enterprise. At 1956 prices repayment time would be 2 to 6 years under a grazing program, and 8 years for drylot feeding.

ACKNOWLEDGMENTS

The authors acknowledge the assistance of H. O. Hill, superintendent of Substation No. 23, at McGregor and Richard M. Smith, superintendent of Substation No. 5 at Temple, who gave helpful suggestions during the preparation of the manuscript.

Appreciation also is expressed to Donald S. Moore of the Department of Agricultural Economics and Sociology for help in arranging the data presented in the tables.

This study was made possible by the cooperation of the farmers who furnished basic information here reported and analyzed.

The cover picture is used through the courtesy of The Progressive farmer.

THE COVER PICTURE

It was profitable to creep-feed calves on Blackland farms during the time of the study reported in this bulletin. The creep-feeder is on skids and can be moved easily to take full advantage of the different types of grazing that may be available.

Financing a Beef Cattle Enterprise on Blackland Farms

A. C. MAGEE and RALPH H. ROGERS*

AN INCREASING NUMBER OF BLACKLAND FARMERS have added beef cattle to their farming systems in recent years to utilize grazing and hay crops and to increase farm earnings. Cash crop production, particularly cotton, has been predominant in this area. However, adjustments of cropping systems to include more close-seeded grains, legumes and grasses; sodding of waterways and removal of low-yield cropland from cultivation have increased forage supplies. Meanwhile, the shift from horse to tractor power took away an important outlet for both hay and grain. Such changes have increased farmer interest in beef cattle.

This bulletin reports the results of a study made to determine the amount of capital necessary to finance various types of beef enterprises on Blackland farms, the resulting increase in annual expenses and the time needed for the expected extra earnings to "pay out" the added investment.

Data were obtained for 23 farms in Bell and McLennan counties during 1952-54 (Figure 1). All of the cooperating farmers obtained the major part of their farm income from cash crops. The beef cattle enterprise was a relatively recent addition to the farm business. Cattle utilized grazing from stalk fields and from small grain that otherwise would not have been used. Most of the labor required for the cattle was during the slack season in winter when unused labor was available.

The beef cattle enterprise consisted of a small herd of brood cows on 15 of the farms studied. On the remaining 8 farms, stocker and feeder cattle were used in a grazing program or were put on feed in drylot.

In fitting mother cows in with cash crop production, calves were handled in different ways. Some calves were sold at weaning time, with or without creep feeding. Other calves were weaned and put in the feedlot for more weight and finish, or were wintered as stockers and sold off pasture the following spring or early summer.

Some Central Texas farmers prefer steers rather than cows because of the flexibility of

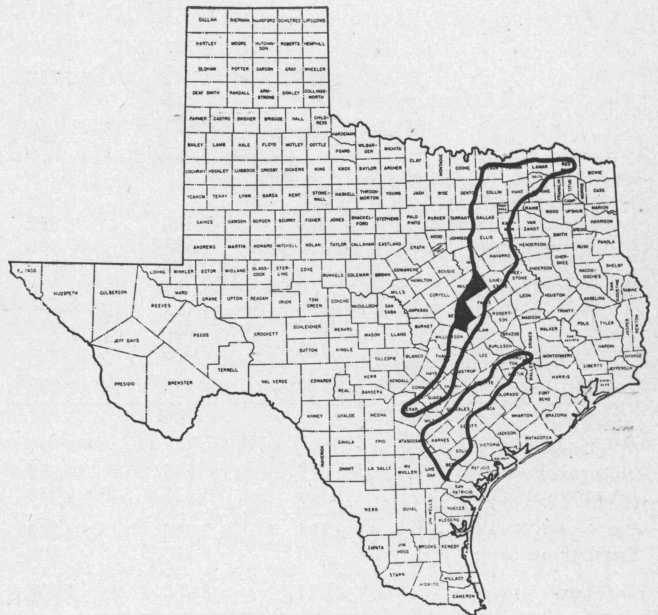


Figure 1. The heavy black lines show the approximate boundaries of the Blackland area of Texas. The shaded part shows the Blackland portions of Bell and McLennan counties in which the study was made.

the steer enterprise. Feed supplies can determine the number of stockers purchased and, in case of drouth, the number kept can be adjusted readily with minimum danger of loss.

Farmers whose main interest is in cash crops prefer to spend very little time with livestock

CONTENTS

Summary	2
Acknowledgments	2
Introduction	3
Added Investment for the Beef Enterprise	4
Added Costs and Returns with Beef Cows	7
Added Costs and Returns with Steers	8
Financing the Beef Enterprise	10

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TABLE 1. ADDITIONAL INVESTMENT PER FARM RESULTING FROM ADDITION OF BEEF COWS TO THE FARMING SYSTEM

Item	Farms where calves were:		
	Sold off the cows		Fed in drylot (3 farms)
	Fed no grain (9 farms)	Creep fed (3 farms)	
		Number	
Cows per farm	12	13	11
		Dollars	
Investment in cattle and feed:			
Cattle	1,465	1,575	1,360
Average feed inventory	300	300	600
Total	1,765	1,875	1,960
Investment in improvements:			
Barns, sheds, corrals	130	130	352
Water facilities	187	187	185
Fencing	195	195	165
Racks and troughs	15	81 ¹	40
Subtotal	527	593	742
Seeding grassland ²	192	192	160
Total	719³	785³	902
Summary			
Investment in improvements	719	785	902
Investment in cattle	1,465	1,575	1,360
Total cash investment	2,184	2,360	2,262
Feed inventory	300	300	600
Total investment	2,484	2,660	2,862

¹Includes \$66 for a creep feeder.

²Average cost, \$16 per acre.

³Averages used for all 12 farms.

except when crop work is not urgent. For this reason, such farmers prefer to handle stocker cattle which can be kept for any desired time.

Stocker and feeder calves were bought to utilize pasture for a short (90 days), an intermediate (155 days) or a long grazing period (324 days), or to go into the feedlot.

The Blackland farms included in the study averaged approximately 200 acres of cropland and all except one had less than 50 acres of permanent grassland. In general, cropland was productive and fairly level. On the average, 12 acres of permanent grassland had been seeded, the rest were sloping and low-lying or overflow land in native grasses.

Cotton was the chief cash crop on all farms. Other crops grown for cash or for feed included corn, grain sorghum, oats (seeded alone or in combination with clover) and some wheat. Sudangrass was grown for summer grazing. Ordinarily, hay was not grown as a cash crop.

Except for cotton hoeing and extra labor at harvest time, the operator, with the help of other members of the family, did practically all the farm work.

ADDED INVESTMENT FOR THE BEEF ENTERPRISE

Adding a beef enterprise increased the investment in the farm business materially. In this study, these added capital items are grouped under four headings:

1. The cost of farm facilities and improvements added because of the cattle enterprise.
2. The cost of seeding and the establishment of permanent grass on land diverted from cultivated crops for use with beef animals.
3. The investment in cattle.
4. The increased investment in feed supplies kept for beef production.

As a rule, these items involved cash expenditure. Some inventory items, however, such as homegrown hay and grain fed to cattle instead of being sold, required no cash outlay but resulted in postponing income.

Some additional facilities were added on each of the farms studied to maintain a cattle enterprise. A summary of investment costs for these improvements for cow herds is shown in Table 1, and for stocker cattle in Table 2.

TABLE 2. ADDITIONAL INVESTMENT PER FARM RESULTING FROM ADDITION OF FEEDER CATTLE TO THE FARMING SYSTEM

Item	Farms where steers were:			Fed in drylot (3 farms)
	Grazed only (5 farms)			
	Short period	Intermediate period	Long period	
		Number		
Feeders purchased	42	30	48	30
		Dollars		
Investment in cattle and feed:				
Cattle, 1953-54 basis	1,880	1,630	2,245	2,524
Average feed inventory	58	25	150	595
Total	1,938	1,655	2,395	3,119
Investment in improvements:				
Barns, sheds, corrals	140	140	140	400
Water facilities	167	167	167	275
Fencing	225	225	225	
Racks and troughs	25	25	25	80
Subtotal	557	557	557	755
Seeding grassland ¹	208	208	208	
Total	765³	765³	765³	755
Summary				
Investment in improvements	765	765	765	755
Investment in cattle	1,880	1,630	2,245	2,524
Total cash investment	2,645	2,395	3,010	3,279
Feed inventory	58	25	150	595
Total investment	2,703	2,420	3,160	3,874

¹Average cost, \$16 per acre.

²Grassland not used.

³Average of all 5 farms.

Barns and corrals left over from the recent days of horsepower farming were remodeled to provide feed storage and shelter for beef cattle. For the 17 farms on which no drylot feeding was done, remodeling of sheds and barns cost about \$135 per farm. Hayracks, feed troughs and creep-feeders were constructed largely from used material already on hand and at little added cost.

The six farmers who fed calves in drylot spent \$350 to nearly \$600 in improving corrals and shelter and for hayracks and feed troughs. The average was approximately \$435.

Water facilities in the Blackland often are limited, and in some places it is difficult to provide a dependable supply of stockwater. Without ample water, any livestock enterprise is hazardous. Although the cooperating farmers already had some water for livestock, most of them improved their water systems or enlarged the supply to provide adequately for the cattle enterprise.

On farms with a good supply of well water, improvements made were mainly in the use of pipe and materials to increase storage and to make stock water more readily available. The usual practice was to increase the water supply by building one or more earthen tanks in which to store runoff water. In either case, the cost of improving the water supply averaged about \$185 per farm. Government assistance helped to keep the cost of earthen tanks low. In most cases, cattle drank water directly from earthen tanks instead of water piped to a drinking trough. Feedlots were equipped with running water or the cattle had access to water in earthen tanks.

All of the farms had been fenced before the beef enterprise was added, but much of the existing fencing needed repairs badly. New fencing was added in a few instances. Improvement costs for fencing shown in Tables 1 and 2

include cash expenditures for repairs of old fencing and for building new fencing.

Most farmers used electric fencing particularly when small grain fields were used to graze cattle. Electric fencing was economical. It turned the cattle except when the soil was so dry it grounded very little current when animals came in contact with the hot wire.

In most instances, some cropland was shifted to permanent grass cover when the beef enterprise was added. This required expenditures for land preparation and planting and sometimes for cultivation. Materials such as seed, sprigs and in some instances fertilizers, also were used. Seldom was a solid turf obtained the first year, and on some farms drouth made resodding necessary. While grass was being established, little income was obtained from the acreage.

Cooperating farmers were successful in establishing stands of Bermudagrass and K. R. bluestem. Most of the acreage sodded was to Bermudagrass. K. R. Bluestem seedings were limited almost entirely to thin, eroded or high and relatively sloping areas where Bermudagrass would not thrive. A few farmers planted some seed of other grasses, but the results obtained during the study were disappointing.

The usual practice was to prepare a good seedbed during the winter and sod Bermudagrass in the spring. Sprigs were spaced 1 to 3 feet apart in 3-foot rows. Bermuda sprigs cost 15 cents per cubic foot; 20 cubic feet usually were put down per acre. Much of the sprigging was done by machines rented from the Soil Conservation Service at \$6 a day. Ordinarily, the cost of using the machine averaged about \$1.50 per acre.

Some farmers used no fertilizer; other farmers used 100 to 200 pounds of 16-20-0 or 15-15-0 per acre. Costs of fertilizer ranged up to \$7 per acre. A few farmers used a crop or two



Figure 2. With good management, a small beef cow herd will soon pay for itself. There is relatively little risk in a well-managed cow-calf enterprise.

of sweetclover as a soil conditioner before setting out Bermuda.

Farmers who used fertilizer or clover got a solid turf 1 to 2 years sooner and had to do much less replanting than those who used neither. Without fertilizer or soil conditioner, about half of the acreage had to be resodded. The extra cost of resodding just about equaled the cost of the fertilizer.

Some farmers obtained a good turf the first year; others took as long as 5 years. Most of the farmers were successful in 3 years or less. Adverse moisture conditions prevailed during much of the study.

The average cost of establishing Bermuda-grass was approximately \$16 per acre. This figure is used in arriving at the costs shown in Tables 1 and 2 because of the predominance of this grass. K. R. Bluestem pastures were established at costs which averaged \$2 to \$3 per acre higher than Bermudagrass.

Four pounds of K. R. Bluestem seed per acre were planted at a cost of \$2 per pound. On the average, about half the acreage was resodded. The usual practice was to disk the seedbed twice before planting and cultivate at least once the first year.

The production of cultivated crops was reduced when cropland was shifted to permanent grass, with the farmer foregoing whatever profits might have occurred had cash crops been grown. Since only low-producing land was shifted to permanent grass on the farms studied, possible profits from crops grown on such land were considered to be low, and were not included as costs of the adjustment on these farms.

Based on findings at Substation No. 5, Temple, Superintendent R. M. Smith states that, "Converting low-producing cropland to grass is sound land-use which adds to the permanence and value of the land and the farm. Increased acreages of close-growing annual grazing crops provide conservation benefits."

The crops grown and utilized through beef cattle did not require the purchase of additional machinery or power. Although hay was put up on all farms with beef cattle, the size of the hay crop did not justify owning hay-baling machinery. Instead, raking, baling and frequently mowing were hired on a custom basis.

Twelve farmers had added an average of 12 beef cows per farm, and had sold calves directly from the mother cow at weaning time. Cows on the farms studied were grade animals of good quality. The capital expenditure required to remodel improvements already on these farms, and to add additional improvements, averaged \$719 per farm. This includes the cost of establishing 12 acres of permanent grassland.

Three farmers in this group creep-fed the calves before weaning them. The extra cost of the creep-feeder averaged \$66 per farm.

Three other farmers finished calves in drylot before marketing. On these farms, the investment in farm improvements (including seeding permanent grassland) averaged \$902 per farm because of extra expenses incurred in getting equipped for drylot feeding.

Blackland farmers acquired beef cattle a time when prices were relatively high. Soon after World War II, the purchase of even a small number of beef animals required considerable capital. They usually went into the cattle business by buying a few cows and then let the business "grow" by keeping heifer calves.

The average investment in cattle for a herd of 12 cows in 1953 was calculated to be \$1,400 including one bull and normal heifer replacements (Table 1). Cattle prices have declined somewhat since 1953, and the current inventory for a herd of this size would be slightly lower.

The investment for stocker or feeder cattle varied with the number, weight and market price of the animals purchased. These cattle were bought through local livestock auctions and were not sorted according to market grades. However, the animals were thrifty and made good gains. On the farms studied, the investment in stocker and feeder cattle ranged from \$1,630 to \$2,520 in 1953. At current prices, their cost would be 1 to 2 cents lower per pound.

Most of the permanent improvements used with cattle were made before beef animals were included in the system of farming. If the capital expended on longtime investments—such as improvements and equipment—is to remain intact, added earnings from the beef enterprise must provide for maintenance and depreciation. Capital used to purchase breeding animals also is a longtime investment, but once the cow herd is established, returns from the sale of cull cows largely offset the investment in replacement heifers. Since steers are bought and sold each year, the investment in them is an annual cost. Even so, the farmer must provide his own or borrowed capital each year.

Without a livestock enterprise, all grain and hay produced could have been sold at harvest. With cattle, however, the farmer's money was tied up in the feed marketed through the animals. For those who kept cows, the average feed inventory ranged from \$300 to \$600 (Table 1). On farms where stocker cattle were maintained primarily to utilize grazing, the feed inventories ranged from \$25 to \$150 (Table 2). The grain and hay used to feed 33 calves in drylot increased the average feed inventory to about \$600.

An outlay of cash was not necessary for most of the feed used since it was grown on the farm. In this study, the feed used is treated as part of

TABLE 3. SUMMARY OF ADDED ANNUAL COSTS PER FARM REQUIRED FOR BEEF COW HERDS, BLACKLAND, 1953

Item	Method of handling calves					
	No grain fed		Creep-fed		Fed in drylot	
	Costs per farm					
	Cash	Noncash	Cash	Noncash	Cash	Noncash
	Dollars					
Feed, concentrates and hay	139	253	139	353	139	651
Crops, entirely for grazing ¹	23	75	51	75	55	72
Vaccine and veterinary	12		13		13	
Marketing	27		20		30	
Interest on added investment ²	93		102		102	
Miscellaneous items	60	30	55	30	49	42
Total	354	358	380	458	388	765
Total cash and noncash costs	712		838		1,153	

¹Includes land rental for permanent grassland.

²On the farms studied, interest was not always a cash cost item.

the annual cattle expenses and as part of the added investment because the farmer had to forego selling his feed for cash at harvest time.

ADDED COSTS AND RETURNS WITH BEEF COWS

A summary of the extra expenses incurred annually as a result of adding a cow herd to a Blackland farm is shown in Table 3, with cash and noncash items listed separately. A more detailed discussion of requirements for maintaining a cow herd or a feeder enterprise on Blackland farms is presented in Bulletin 840, "Beef Cattle on Central Texas Farms." This bulletin also carries a discussion of production and sales from various types of beef cattle enterprises.

On the farms studied, there was relatively little difference in the average cash expenses, regardless of how the calves were handled. For instance, the cost of feed bought for wintering the cows and expenses for such items as veterinary services and marketing did not vary greatly between the three size-groups. The main difference was in noncash feed costs, which were increased somewhat by creep feeding and still more by drylot feeding.

Total added costs and cattle sales are summarized in Table 4. Beef cattle were well established in 1953 on the farms studied. Improvements such as remodeling of sheds and barns, enlargement of the water supply and addition of fencing had been made. Each farmer also felt that his place was stocked to a reasonable capacity.

Two or three cows usually were added when seeded pastures came into full production, which required an average of about 3 years.

Since most of the capital needed to add beef cows to the farming system came in the first year, overhead costs such as interest and depreciation were at or near peak level from the beginning.

Based on farmer experience and using 1953 prices, beef earnings were estimated for the first 3 years cows were kept by cooperating farmers. Average yearly net earnings from the beef enterprise were \$168 where calves were not given supplemental feeding, \$379 where calves were creep-fed and \$293 where calves were fed in drylot (Table 4).

Once the beef cow enterprise was well established, average beef earnings at 1953 prices

TABLE 4. ESTIMATED ADDED COSTS AND RETURNS PER FARM FOR BEEF COW ENTERPRISE DURING FIRST 3 YEARS AND SUCCEEDING YEARS, 1953 AND 1956 PRICES

Item	Method of handling calves		
	Fed no grain (9 farms)	Creep-fed (3 farms)	Fed in drylot (3 farms)
1953 prices			
	Dollars		
During first 3 years:			
Annual cattle sales	772	1114	1236
Annual expense for cattle	604	735	943
Annual net beef earnings, first 3 years	168	379	293
Added investment for cattle alone	1465	1575	1360
Total net beef earnings, first 3 years	504	1137	879
Balance outstanding at end of 3 years	961	438	481
Cost of improvements alone	719	785	902
Total unretired investment (cattle and improvements) at end of 3 years	1680	1223	1383
During succeeding years:			
Annual cattle sales	930	1281	1545
Annual expenses for cattle	712	838	1153
Annual net beef earnings	218	443	392
	Years		
Repayment period required:			
Balance of investment for cattle	4.5	1	1.5
Investment for improvements	3.5	2	2
Total, remaining investment period	8	3	3.5
Total, original investment period	11	6	6.5
1956 prices			
	Dollars		
Annual net beef earnings	165	330	297
	Years		
Repayment period required:			
Investment for cattle	9	4	5
Investment for improvements	4	3	3
Total, original investment period	13	7	8

amounted to \$218 on farms where calves were not fed, \$443 where calves were creep-fed and \$392 where calves were lot-fed.

It is estimated that during the first 3 years (assuming 1953 price relationships), farmers who practiced creep feeding or fed calves in drylot, took in enough from the cow herd to pay current expenses and to repay half the total added investment as a result of shifting to beef cattle. In both instances, 3 additional years were required to recover from beef earnings the entire amount invested in order to include beef cows in the farming system.

It is estimated that 11 years would be necessary to recover the added capital invested in herds where calves were sold without supplemental feeding. On these farms, beef earnings for 4 years were required to pay the cost of added improvements alone. With creep-fed or lot-fed calves, 2 years of beef earnings would repay the added investment in improvements.

Although a cow herd cost less in 1956 than in 1953, this advantage was more than offset by lower prices in 1956 for the calves sold. Beef earnings were estimated for 1956, using the same inputs of feed and other materials, the same level of production and 1956 price relationships, to bring the results of the study as nearly up to date as possible.

With the prices that prevailed during 1956, and with calves that were given no supplemental feed, it would take 13 years for 12 beef cows to repay the added investment (\$2,184) necessary to add such an enterprise. When calves were creep-fed or lot-fed, a herd of similar size would accomplish the same results in 7 and 8 years, respectively. Any investment that pays itself out in 7 or 8 years, yields a good return. On the

basis of 1956 prices, the cost for added improvements would be paid in 3 or 4 years entirely from beef earnings.

With good management, beef cows provide increase each year. The value of this increase and the cash value of the cowherd are likely to fluctuate from year to year. Otherwise, there is a relatively little risk in a well-managed cow-calf enterprise.

ADDED COSTS AND RETURNS WITH STEERS

A summary of the extra expenses incurred in keeping stocker and feeder cattle is shown in Table 5, with cash expenses separated from noncash items. For detailed consideration of these costs and of production and sales, see Bulletin 840.

Because of drouth and short feed supplies, the number of cattle bought by cooperating farmers and the method of feeding them varied from year to year, even on the same farms. Because of differences in practices followed, the data obtained were not well suited to group analysis. Consequently, case studies based on 1953 data were made of the four most common systems by which stocker and feeder cattle were fitted into the farming program on Central Texas farms. These are designated as farms A, B, C, and D, corresponding to systems where cattle utilized grazing for a short, an intermediate and a long period, or were fed in drylot.

The purchase price of the cattle accounted for most of the cash costs in each instance. Marketing expense and interest also were important cash items. Cottonseed meal was an important cost when steers went in the feedlot. For steers kept on the long 324-day grazing period, cash expenses on crops which were grown entirely

TABLE 5. SUMMARY OF ADDED ANNUAL COSTS REQUIRED FOR FEEDER CATTLE ENTERPRISE, BLACKLAND, 1953

Item	Stocker cattle utilizing grazing for a relatively:						Feeders fed in drylot (Farm D)	
	Short period ¹ (Farm A)		Intermediate period ² (Farm B)		Long period ³ (Farm C)		Cash	Noncash
	Cash	Noncash	Cash	Noncash	Cash	Noncash		
	Costs per farm							
	Dollars							
Feed, concentrates and hay	2	81	31	42	6	198	183	1.085
Crops, entirely for grazing ⁴		20		48	201	270		
Vaccine and veterinary	5		12		25		7	
Marketing	83		75		134		60	
Interest on added investment ⁵	41		52		135		84	
Miscellaneous items	25	26	25	26	35	48	75	57
Steers purchased, total cost	1,880		1,630		2,245		2,524	
Cost per cwt.	(13.50)		(14.00)		(15.00)		(17.00)	
Total	2,036	127	1,825	116	2,781	516	2,933	1.142
Total cash and noncash costs	2,163		1,941		3,297		4,075	

¹Grazed 90 days.

²Grazed 155 days.

³Grazed 324 days.

⁴Includes land rental for permanent grassland.

⁵In some instances, interest was not a cash cost.

for grazing (Sudangrass and oats) amounted to about \$200. Items such as land rent and operator's labor which make up the noncash charges involved in these crops, accounted for the relatively large noncash costs for this grazing system compared with costs reported for cattle kept for either the 3 or 5-month grazing period.

Noncash costs for cattle put in the feedlot were calculated to be more than \$1,100 and consisted largely of homegrown feed.

Total cattle sales and added costs because of cattle are summarized in Table 6. At 1953 prices, beef earnings from the steers kept to utilize grazing for the 3 and 5-month grazing period were \$771 and \$866, respectively. Respective beef earnings per animal amounted to \$18.36 and \$28.87. In both instances, this 1 year's profits paid for all improvements made for the enterprise. The same was true in the case of beef earnings from steers fed in drylot (column 4, Table 6). Beef earnings in 1953 from steers kept for the long-grazing period (column 3, Table 6) much more than paid for the added improvements.

Forty-eight animals were used for the long grazing period compared with 42 and 30 head, respectively, for the short and intermediate grazing period. However, with the results obtained in 1953, beef earnings from only 30 steers grazed the long period would have more than paid for the improvements added to accommodate the cattle enterprise.

At the 1953 price level, beef earnings for the four steer operations studied also would provide

the capital needed for the annual purchase of cattle in 2 to 4 years of operation.

Stocker and feeder prices were 1 to 2 cents a pound lower in the fall of 1956 than the prices reported for cattle of similar quality in 1953. Even so, the margin between purchase and selling prices in the spring and summer of 1956 was 1 to 2-1/2 cents less per pound than that reported in 1953.

Even with relatively less favorable prices in 1956, 2 years would be the longest time required for any one of the stocker or feeder enterprises studied to pay the cost of the added improvements.

A grazing enterprise may be handicapped when drouth occurs. Most farmers who grazed steers during 1952-54 made some adjustments in practices because of poor grazing prospects. They either bought fewer than the usual number of stockers, sold them earlier than had been planned or did not buy cattle. During favorable years, the number handled can be expanded quickly.

Such shifts in plans were not necessary for farmers who put feeders in drylot. In all cases studied, supplies of feed were ample for cattle feeding, even though yields were reduced by drouth.

A comparison of Tables 4 and 6 indicates that, at the time this study was made, cooperating farmers with steer enterprises received higher returns for the capital invested in a beef enterprise than did farmers with a cow-calf enterprise on farms of similar size.

TABLE 6. SUMMARY OF ADDED COSTS AND RETURNS FOR A FEEDER CATTLE ENTERPRISE ON BLACKLAND FARMS, 1953

Item	Stocker cattle utilizing grazing for a relatively:			Feeders fed in dry lot (Farm D)
	Short period ¹ (Farm A)	Intermediate period ² (Farm B)	Long period ³ (Farm C)	
	Number of feeder cattle per farm			
	42	30	48	33
	Dollars			
1953 prices				
Total annual cattle sales	2,934	2,807	5,507	4,896
Price per cwt. — cattle sold	(15.60)	(15.10)	(16.50)	(21.50)
Added annual expenses for cattle	2,163	1,941	3,297	4,075
Beef earnings (sales minus added costs) per farm	771	866	2,210	821
Per steer purchased	(18.36)	(28.87)	(46.04)	(24.88)
Added cash investment for:				
Improvements alone	765	765	765	755
Total for the enterprise (See Table 2)	2,645	2,420	3,016	3,452
Estimated time for beef earnings to repay:				
Cost of added improvements	1	1	1	1
Total added cash investment for steer enterprise	4	3	2	4
	Dollars			
1956 prices				
Estimated annual beef earnings	462	590	1,650	422
Estimated time for beef earnings to repay:				
Cost of added improvements	2	2	1	2
Total cash investment for steer enterprise	6	4	2	8

¹Grazed 90 days.

²Grazed 155 days.

³Grazed 324 days.

Considerable risk is involved in handling stocker and feeder cattle unless the animals are "well-bought" and "well-sold." Cooperating farmers reduced this risk by buying animals in September, October and November when prices generally are at or near the year's low. They expected to profit by the gain in live weight of the cattle, and through an increase in the price per pound of the weight originally purchased.

FINANCING THE BEEF ENTERPRISE

A few of the cooperating farmers financed the shift to beef production entirely with their own money, but most of them borrowed at least part of the funds needed. A few men borrowed all or most of the funds used. A wide range of credit institutions and some individuals provided the capital used. Cattle loans were not particularly difficult to obtain when many of the cooperators made this adjustment. Ordinarily, a man with ample unencumbered collateral has no difficulty in borrowing money to add beef cattle to his system of farming. However, many farmers who would like to run cattle are not so favorably situated.

In financing any farm adjustment, the following points should be considered: cost of making the adjustment, collateral provided by the added investment and repayment prospects of the added investment.

A total cash investment averaging \$2,200 to \$2,400 (Table 1) was needed in the cow-calf system for improvements and for 12 or 13 cows. A large part of this expenditure was necessary just to put the farmer in the cow business.

Of the total investment for the cow-calf system, the cattle investment averaged \$1,400 to \$1,600. Cattle are considered acceptable collateral by most lending agencies, but some may not lend the full value of the animals needed.

To many lending agencies, improvements made to keep cattle, such as the rebuilt fence, the new earthen tank or the remodeled shed, do not represent sufficient additional collateral which to make a loan for the beef enterprise despite the fact that these improvements were necessary (particularly an adequate water supply) for the success of the enterprise. Thus the beef cattle enterprise increased the farmer's collateral by only about two-thirds of the expenditure required to get in the cow business.

This study has shown (Table 4) that better results were obtained with cows by selling calves fed in a creep or drylot rather than by selling grass-fat animals. Handled in this way, production from the herds studied, even at 1953 prices, would pay all annual costs, including interest charge. It also would return 12 to 15 percent on the investment. Consequently, this type of beef enterprise would be self-liquidating in 5 or 8 years.

Of this time, about 3 years would be required to repay the investment in improvements. If the cattle were accepted at full value, they would provide collateral for the rest of the time required for self-liquidation of the adjustment cost. Normally, self-liquidation of the investment for a cow-calf system was a gradual year-by-year process.

With stocker and feeder cattle, the amount of the total investment varied largely according to the investment in cattle. For the farms studied the total investment in 1953 ranged from \$2,400 to nearly \$3,500. Seventy to nearly 80 percent of this amount was spent for cattle. About the only way the capital expenditure could have been reduced would have been to buy fewer cattle which would have reduced potential profits.

Farmers who handled steers had a larger initial investment than those who kept cows.



Figure 3. Blackland farmers get good gains with stocker steers grazed on Sudangrass. Some farmers prefer steers rather than cows because of the flexibility of the steer enterprise.

However, the total investment for improvements added for the cattle enterprise averaged about the same for both groups. Consequently, of the two general systems, farmers with steers had a larger proportion (about 75 percent compared with approximately 66 percent) of their investment in cattle.

When a farmer had plenty of feed, young, growing cattle that were readily marketable usually were considered satisfactory collateral.

In all four kinds of the steer enterprises studied, earnings from beef production in 1953 were sufficient to repay the total costs of improvements made to care for steers. As cattle purchases were included among the annual expenses, these steer enterprises were self-liquidating in 1 year (Table 6).

However, steer purchases had to be financed the next year if these operators were to continue in the cattle business. Additional operations were necessary at 1953 prices for 1 to 3 years for beef earnings to provide funds with which to make annual purchases of cattle.

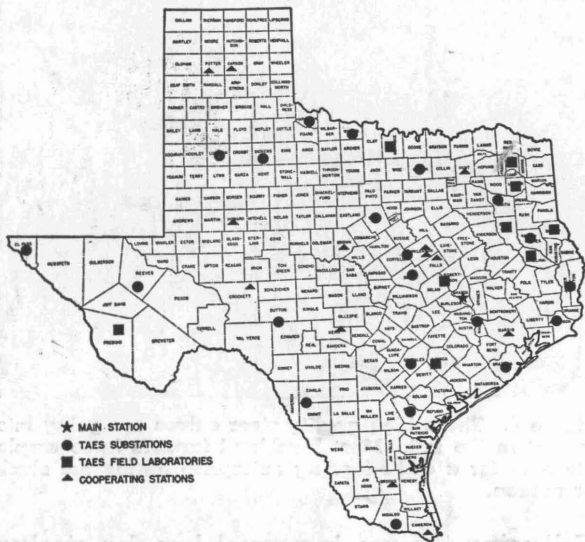
Calculated on the basis of 1956 prices, beef earnings from a steer enterprise of the sizes used with the short, intermediate, and long-grazing periods would be self-liquidating, (including money for annual cattle purchases) in 6, 4 and 2 years, respectively. Eight years would be required for the same level of accomplishment with steers fed in drylot.



Figure 4. These high-quality steer calves are going into the feedlot in the fall. Most Blackland farmers have ample time to care for a cattle-feeding enterprise during the slack winter season.

Following the year's normal low for stocker and feeder cattle prices during September, October and November, the market trend is upward for several months. Farmers can help safeguard their investment in stockers and feeders by buying on the low market and selling during the upward trend.

During the fall, heifers often can be bought for 2 or 3 cents less per pound than steers of similar grade. Heifers fatten more rapidly than do steers, and with a price spread such as this, they may offer opportunities for profits equal to or greater than those offered by steers.



Location of field research units in Texas maintained by the Texas Agricultural Experiment Station and cooperating agencies

State-wide Research



The Texas Agricultural Experiment Station is the public agricultural research agency of the State of Texas, and is one of ten parts of the Texas A&M College System

IN THE MAIN STATION, with headquarters at College Station, are 16 subject-matter departments, 2 service departments, 3 regulatory services and the administrative staff. Located out in the major agricultural areas of Texas are 21 substations and 9 field laboratories. In addition, there are 14 cooperating stations owned by other agencies. Cooperating agencies include the Texas Forest Service, Game and Fish Commission of Texas, Texas Prison System, U. S. Department of Agriculture, University of Texas, Texas Technological College, Texas College of Arts and Industries and the King Ranch. Some experiments are conducted on farms and ranches and in rural homes.

RESearch BY THE TEXAS STATION is organized by programs and projects. A program of research represents a coordinated effort to solve the many problems relating to a common objective or situation. A research project represents the procedures for attacking a specific problem within a program.

THE TEXAS STATION is conducting about 350 active research projects, grouped in 25 programs which include all phases of agriculture in Texas. Among these are: conservation and improvement of soil; conservation and use of water in agriculture; grasses and legumes for pastures, ranges, hay, conservation and improvement of soils; grain crops; cotton and other fiber crops; vegetable crops; citrus and other subtropical fruits; fruits and nuts; oil seed crops—other than cotton; ornamental plants—including turf; brush and weeds; insects; plant diseases; beef cattle; dairy cattle; sheep and goats; swine; chickens and turkeys; animal diseases and parasites; fish and game on farms and ranches; farm and ranch engineering; farm and ranch business; marketing agricultural products; rural home economics; and rural agricultural economics. Two additional programs are maintenance and upkeep, and central services.

RESearch RESULTS are carried to Texas farm and ranch owners and homemakers by specialists and county agents of the Texas Agricultural Extension Service.