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AGRICULTURAL EXTENSION SERVICE (2)
UNIVERSITY OF MINNESOTA -- U. S. DEPARTMENT OF AGRICULTURE
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(1)

PLANNING YOUR CATTLE FEEDING PROGRAM
1959 - 1960

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What's the best system for feeding cattle during the next year? What are the profit prospects? How much can I pay for feeders this fall? What is a good buy?

To help you answer these questions for your farm you need to:

1. Plan a feeding program that fits your feed supply
2. Estimate profit prospects for various programs
3. Compare the effect of current feeder cattle prices on slaughter prices necessary to cover your costs
4. Estimate the maximum that you can pay for different weights and grades of feeders -- then make the best buy possible

Plan a cattle feeding program to fit your feed supply.

It's important to have a basic feeding program that fits your cropping program, buildings and labor supply. Then build this feeding plan around your forage supply and the market on which the cattle will be sold. You can buy grain if needed, or sell it if you have too much.

Table 1 shows approximate feed and labor requirements for different feeding programs. You have plenty of flexibility for feeding to fit your feed supply. For example, suppose you have high moisture, or immature, corn. You can harvest it as silage, buy more cattle, and use the extra silage along with hay and legume silage already on the farm.

Estimate profit prospects.

The selling price needed to cover costs and give you a return for labor depends on:

1. The level of feeder cattle prices,
2. the cost of putting on the gain, and
3. the weight and type of cattle fed.

Now look at Table 2. It shows:

1. The gross margin per head needed to cover costs of feed, misc. cash, interest, buildings and equipment and return you $1.50 per hour of labor for each cattle feeding program.

2. The net selling price needed to cover these costs based on expected feeder cattle prices this fall.

TABLE 1

FEED AND LABOR REQUIREMENTS

Program[1]	Feeder Grade Weight	Slaughter Grade Weight	Months on Farm	GAIN		FEED REQUIRED PER HEAD							LABOR PER HEAD	
						With Corn Silage[2]				With Legume-Grass Silage or Hay				
				Total	Per Day	Corn	Protein	Silage	Hay	Corn	Protein	Hay eq.[2]	40 hd.	100 hd.
	lbs.	lbs.		lb.	lb.	bu.	lb.	ton	ton	bu.	lb.	ton	hours	
STEER CALVES														
Dry Lot														
Liberal Grain	Ch. 400	Ch. 1000	9	600	2.2					60	300	.8	12	8
Liberal Roughage	Gd-Ch 400	Ch. 950	11	550	1.7	35	450	3.1	.4	50	200	1.0	11	7
Pasture Fed	Gd-Ch 400	Ch. 950	12	550	1.5	33	150	2.2	.5	45	100	1.0	11	7
										(Past.-.3-.4A)				
HEIFER CALVES														
Dry Lot														
Liberal Grain	Gd-Ch 400	Ch. 850	9	450	1.7					44	200	.8	9	6
Liberal Roughage	Gd-Ch 400	Ch. 850	10	450	1.5	33	300	1.5	.5				9	6
Pasture Fed	Gd-Ch 400	Ch. 850	10	450	1.5	30	205	1.5	.4				9	6
YEARLING STEERS														
Dry Lot														
Liberal Grain	Gd-Ch 650	Ch-Pr 1150	7	500	2.4					60	250	.9	7	5
Liberal Roughage	Gd-Ch 650	Ch. 1150	8	500	2.1	30	300	3.5	.8	39	100	1.8	7	5
Pasture Fed	Gd-Ch 650	Ch. 1100	11	450	1.4					36	100	1.2	7	5
Maximum Roughage	Med-Com.	Standard									(Past.-.3-.4A)			
(common steers)	700	1050	6	350	1.9	10	300	3.0	.3				7	5
HEAVY STEERS														
Short Fed														
Liberal Grain	Ch. 950	Ch-Pr 1150	3½	200	2.0	28	180	1.0	.2	34	100	.4	4	3
Liberal Roughage	Gd. 850	Gd-Ch 1100	4	250	2.0	5	300	3.5	.1				4	3
Long Fed														
Liberal Grain	Gd. 850	Ch. 1200	5	350	2.4					49	200	.7	5	4

[1] For Feeding and Management suggestions for each program see "Beef Cattle Rations" by Bob Jacobs

[2] One ton corn silage + 70# Protein = .3T. hay + 5 bu.corn
One ton alf.-grass silage = 1/3 T. hay
One ton oat silage + 50# protein = 1/3 T. hay

TABLE 2 GROSS MARGIN NEEDED

	Steer Calves		Heifer Calves	Yearling Steers			Heavy Steers Liberal Grain		YOUR PROGRAM
	Liberal Grain 400-1000#	Pasture Fed 400-950	Liberal Grain 400-850	Liberal Grain 650-1150	Liberal Roughage 650-1150	Common Maximum Roughage 700-1050	Short Fed 950-1150	Long Fed 850-1200	
GROSS MARGIN[1] PER HEAD NEEDED TO COVER COSTS OF:									
Feed[2]	$ 87	$72	$66	$86	$83	$51	$48	$70	
+ Misc. cash costs ($1.10/cwt)	94	78	71	91	88	55	50	74	
+ Interest (6%)	100	86	77	98	96	60	55	79	
+ Labor ($1.50/hr.)	118	102	90	109	107	70	61	87	
+ Bldgs. & Equip. ($.75/cwt)	122	106	94	112	110	73	63	89	
ESTIMATED COST OF FEEDER									
Cost of feeder[3] per 100#	$35	$35	$33	$29	$29	$23	$26	$26	
at farm per head	140	140	132	188	188	161	247	221	
NET SELLING PRICE NEEDED									
NET SELLING PRICE[4] PER 100# NEEDED TO COVER: feeder cost, misc. cash costs, interest, and market value of feed	$24.00	$23.78	$24.58	$24.86	$24.69	$21.04	$26.26	$25.00	
Total cost including feeder, misc. cash, interest, feed, labor and building and equipment	$26.20	$25.89	$26.58	$26.08	$25.91	$22.28	$26.95	$25.83	
Feed Cost per 100# gain	$14.50	$13.10	$14.60	$17.20	$16.60	$14.60	$24.00	$20.00	

[1] Gross margin is the difference between purchase cost on the farm and net selling value per head at the weights and grade indicated.

[2] Feed prices used: Corn -- $1.05 per bu.; Protein -- $4.00/100#; Hay -- $15.00 per ton; Grass silage -- $5 per ton; Corn silage ---$8.00 per ton; Pasture -- $15.00 per acre.

[3] Feeder cost includes transportation cost to the farm.

[4] Net Selling price is market price less cost of trucking commission and yardage.

a. Adding $1.00 per 100# to the cost of feeder will increase the net selling price needed approximately $.40 for steer calves; $.50 for heifer calves; $.60 for yearlings; and $.70 - .80 for 2-year olds.

b. Changing the price of corn 10¢ per bu. will change the net selling price needed approximately $.50 for steer calves; $.45 for heifer calves; $.50 for good-choice yearlings; $.10 for common steers and $.40 for 2-year old steers.

For example: With steer calves on a liberal grain feeding program, you would need to plan on a gross margin per head (difference between purchase and sale) of $122 to cover present value of feed, miscellaneous cash costs, interest on the cattle, labor at $1.50 per hour, and building and equipment depreciation. Adding $140 for the laid in cost of the feeders (400# @ $35.00 per 100#) brings the total selling price needed to $262 for a 1000# finished steer. Thus the net selling price (after trucking, yardage and commission fees) needs to be $26.20 to cover these costs and allow a $1.50 return for labor. Note that the feed cost per 100# gain is estimated at $14.50 for this program.

In most cases the net selling price needed is around $26 per 100#. With feeders as high as a year ago, the same feed costs and a slaughter market expected to range $1-2 less in 1960 profit prospects for cattle feeding appear slim indeed. All programs will not make money in 1959-60. If you have the facilities and feed and have had good results in the past this is not the year to drop out of cattle feeding. However, careful buying this fall, close attention to feeding and management in the feed lot and effective marketing next year will be the keys to getting a return for your labor and buildings.

However, with careful marketing and feeding, feeders should cover out-of-pocket costs for feeders, interest, veterinary and miscellaneous cash costs and market value for the feed. Note in Table 2 that the net selling price needed to cover these costs ranges around $24 for calves and yearling programs and $25 - $26 for heavy steers.

Use the worksheet on page 5 to estimate profit prospects for your own situation.

WHAT ARE YOUR PROFIT PROSPECTS?

Two factors are generally known at the beginning of any feeding period: 1) the price of feeders and 2) value of feed to be fed. With this worksheet and your own feeding results from past years or the feed requirements on page 2 you can figure your profit prospects for the coming year. By following the procedure outlined, you can calculate the selling price you need to cover all costs in the feed lot. By comparing this necessary price with your expectations of future selling price conditions you can estimate profits. Every cattle feeder needs to do this before buying cattle.

Step 1 --- Determine Cost of Producing Finished Animal.

(a) Original Cost Per Head _____ wt. x $_____ Price = _____
(include transportation to the farm)

(b) Feed and other Costs per Head:

Feed Cost	Am't Fed	Price	Cost
Corn (Bu.)	_____	_____	_____
Small grain (Bu.)	_____	_____	_____
Supplement (Lbs.)	_____	_____	_____
All Hay (Tons)	_____	_____	_____
Silage (Tons)	_____	_____	_____
Pasture (Days)	_____	_____	_____

TOTAL FEED COSTS _____

Estimated other costs

Labor Cost _____ hrs./head x $_____ per hr. = _____

Interest $_____ Orig. cost/head x _____ Int. Rate for Mo. on feed _____

Miscellaneous Costs _____ gain x $1.10/cwt. _____

Buildings and Equipment _____ gain x $.75/cwt. _____

(c) TOTAL COST PER HEAD _____

Step 2 -- Determine Net Selling Price[1] you need to cover costs

Divide: $\frac{\text{Total Cost per Head}}{\text{Sale Weight}}$ = _____ = [ ]

Step 3 -- Your estimated sale value of steer.

_____ cwt. x $_____ Net Selling Price [1] = Value/Head _____

PROFIT PER HEAD: [ ]

[1] Net Selling Price is market price less cost of trucking, commission, yardage, etc.

Compare how the level of feeder cattle prices affects the selling prices needed to cover costs.[1]

When feeder cattle prices are low it usually requires a positive price margin between purchase and selling price to cover costs and show a reasonable return for labor. This is not generally true when feeder prices are high since feed costs are then considerably lower than feeder prices, thus the average production costs become lower than the feeder prices. The following example illustrates this point.

Example: Long-fed calves Limited feeding on pasture
(Purchased weight -- 400#, Sale weight 950#)

	A	B	C
BUY -- 400# @ $18.00	= $72	400# @ $25.00 = $100	400# @ $32.00 = $128
COSTS -- feed, misc., and labor	= 113	= 113	= 113
TOTAL COST	$185	$213	$241
SELL --950# @ $19.50	= 185	950# @ $22.40 = 213	950# @ $25.40 = 241
DIFFERENCE	0	0	0
Selling price necessary to cover all costs and return $1.50 for labor.	$19.50	$22.40	$25.40

Thus feeder calves purchased at $18 need a plus price margin while calves costing $25 and $32 can sell for less than purchase price per 100 lbs. and still show comparable returns.

It is important to note that the level of feeder cattle prices on needed selling price varies with the type and weight of cattle fed. This effect is shown in Figure 1 on page 7. This chart shows the selling price necessary to cover feed and other costs and return $1.50 per hour when the price of feeders ranges between $15 and $40/cwt. This has been calculated for three different types of feeder cattle -- calves, yearlings, and two-year-olds.

The reason these needed selling prices differ is because the cost of the gain and the amount of gain put on varies with the type of cattle fed. [2]

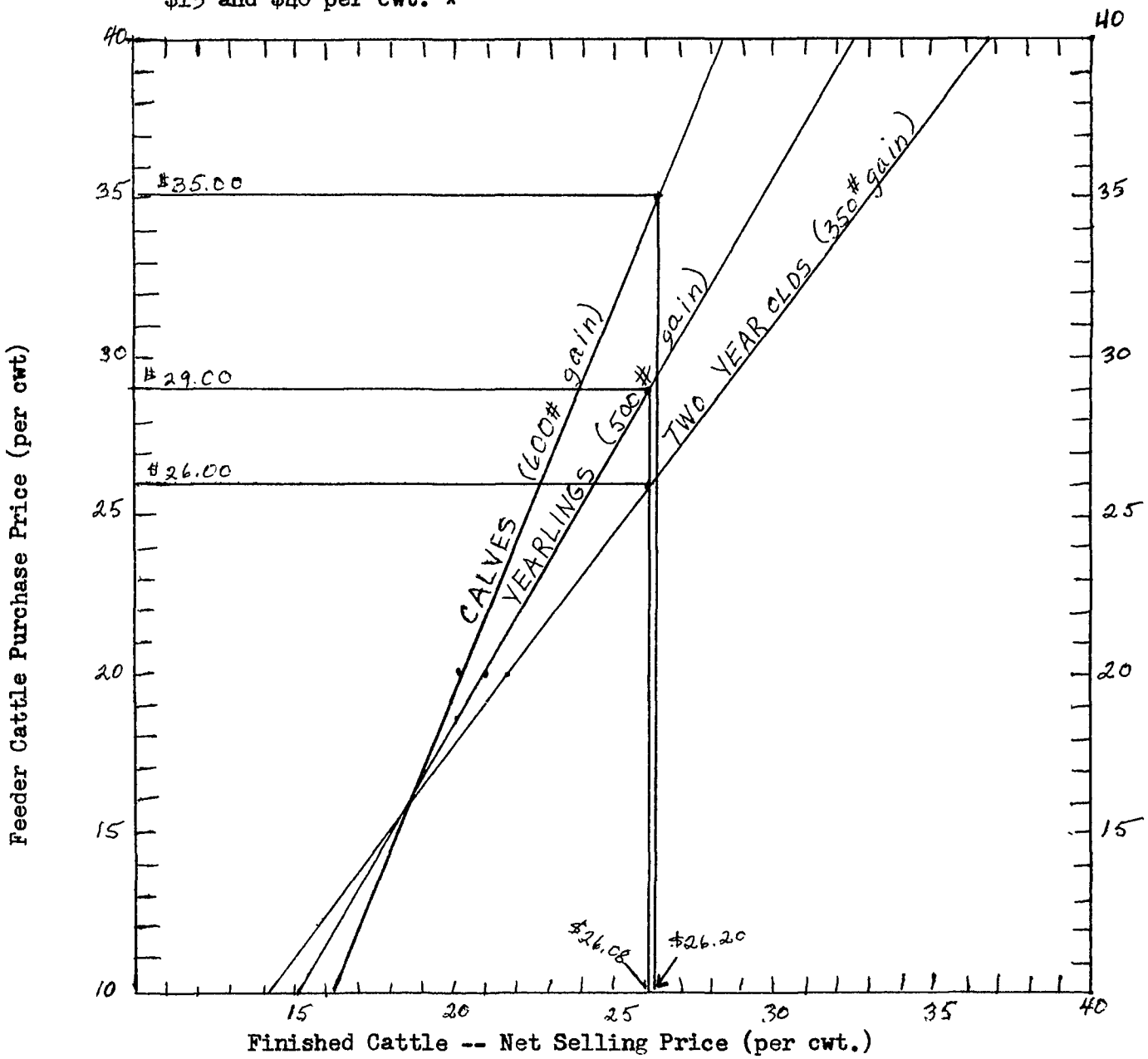
The level of feeder cattle prices has a greater effect on the necessary selling price for short fed cattle than does the cost of gain. Although the cost of gain is higher for these cattle than for calves, fewer pounds are added compared to the original weight of the cattle. Thus price spread is of utmost importance when handling short-fed heavy cattle.

On the other hand the cost of gain has more effect on the necessary selling price for long-fed calves than does the level of feeder cattle prices. The cost of gain is lower and gains added are larger compared to the original weight. Thus, low feed cost is a very important determinent of profit with lightweight long-fed calves.

[1] "How Does the Level of Feeder Prices Affect Cattle Feeding Profits." Hal Routhe, K. H. Thomas, R. Johnson, Agric. Extension Service, Institute of Agriculture, St. Paul, Minnesota.

[2] The total cost per hundred pounds gain at present prices is about $21 for calves, $24 for long-fed yearlings and $29 for two-year-olds. This difference is largely due to greater feeding efficiency with calves compared to older, heavier cattle. The amount of gain put on is generally about 550# for calves, 500# for yearlings and 350# for two-year-olds.

Figure 1 Selling Price of Cattle Needed to Cover All Costs and Return $1.50 Per Hour for Labor When the Price of Feeder Cattle Ranges Between $15 and $40 per cwt. *



* based on corn at $1.05 per bushel. Changing the price of corn $.10 per bushel will change the breakeven price by approximately $.50 per 100#.

USE OF THE CHART

The above chart can be used to determine the cattle selling price needed to cover all costs and return 1.50 per hour for labor when feeder cattle prices vary from $15 to $40 per cwt.

Example: Start from the left hand side of the chart at a $35 price for feeder calves. Following the line across, we find that calves need to be sold for $26.20 per cwt. in order to cover all costs and return $1.50 per hour for labor. Yearlings purchased at $29.00 need a $26.08 selling price. Two year olds purchased at $26 need a $25.83 selling price. This selling price can be read from the bottom line of the chart. The feeder price should include trucking to the farm and net selling price is market price less trucking, commission and yardage.

Estimating the price that can be paid for feeders.

Once you have established an "outlook price" for slaughter cattle in the coming year you can determine how much can be paid for feeders. These calculations can be used for two purposes.

1. To aid you in deciding the top price you are willing to pay for different grade and quality feeders.
2. To help you to determine the grade and quality feeders that are comparatively better buys.

Tables 3 and 4 are based on an outlook price for average choice slaughter steers of $25 in the fall of 1960 and $26 for the first half of the year. This is a net selling price figure, which means that the quotable market prices would be about $1.00 higher.

TABLE 3 Prices That Can Be Paid for Different Grades of Steer Calves and Still Allow a Large Enough Margin to Cover All Costs Including Labor at $1.50/hour.

(Based on a Net Selling Price of $25 for Choice Slaughter Steers in Aug.-Sept. 1960.)

Feeder Grade Slaughter Grade	Ch-Fancy Hi Ch-Prime	Gd-Choice Ave. Ch.	Md-Gd Good	Com. Md. Standard	Return/head over Feed and Cash costs
Slaughter Price	$26	$25	$23.50	$21	
Purchase and Sales Weight	Price that Can be Paid per Hundredweight				
400-1000	$34.50	$32.00	$28.25	$22.00	$22
500-1050	31.00	29.00	26.00	20.75	18

TABLE 4 Prices That Can Be Paid for Different Grades of Yearlings and Two Year Olds and Still Allow a Large Enough Margin to Cover All Costs Including Labor at $1.50/hour.

(Based on a Net Selling Price of $26 for Choice Slaughter Steers in March-April 1960.)

Feeder Grade Slaughter Grade	Choice Hi Ch-Prime	Good Choice	Medium Good	Common Standard	Return/head over Feed and Cash costs
Slaughter Price	$27	$26	$24.50	$22	
Purchase and Sales Weight	Price That Can be Paid per Hundredweight				
650 - 1150	$30.50	$28.75	$26.25	$22.00	$14
850 - 1200	27.75	26.25	25.00	21.50	10