

Cattle and Calf Losses to Predators—Feeder Cattle Enterprises in the United States

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Abstract

National losses to predators of beef cattle and calves on farms and ranches with 20 or more cows and market feeder calves or yearlings were investigated. Data are from a sample survey of about 1,800 producers in five major feeder cattle regions. Losses to dogs, coyotes, and all other predators were estimated. Percentage losses are small, but financial losses reach into millions of dollars.

Predators, particularly coyotes, are a concern to many livestock producers in the United States. Periodic reports of predator losses by cattlemen have attested to the existence of a problem for this industry, although its magnitude has not been known. Sheep and lamb losses to this cause have already been quantified. The Economics, Statistics and Cooperatives Service (ESCS), U.S. Department of Agriculture estimate 1974 losses to coyotes alone at more than 1.25 million lambs and adult sheep in 15 Western States with a value in excess of \$27 million (Gee et. al. 1977). Predator problems have also been identified as an important contributing factor in the declining Western States sheep population (Gee et. al. 1977).

Methods

In view of the deficiency in cattle and calf loss data, ESCS included questions on this subject as part of a comprehensive industry survey in 1976.¹ Numbers compiled through personal interviews with a random sample of about 1,800 farmers and ranchers represented 1975 calendar year losses. Sample design and data collection were by the Statistics Division, ESCS.

The population of beef cattle producers included all those in major feeder cattle producing regions of the continental United States with 20 or more beef breeding cows who marketed feeder calves or yearlings during 1975. This excluded farms where

cattle are fed for slaughter and farms with no beef breeding cows. The ESCS has identified five feeder cattle regions (Fig. 1). These include all continental States except 11 in the Northeast, which have only a small proportion of the nation's beef cattle inventory. The population as defined for estimating losses to predators included

80% of total beef breeding cows in the 50 States. Numbers for each region are in Table 1.

The survey questionnaire, designed to gather information on management practices, production, and costs as well as inventories and losses, was filled out by professional U.S. Dep. Agr. enumerators during personal interviews with producers. Interviews were conducted in January 1976. Loss estimates called for in the questionnaire included number of cattle and calves lost to all causes, disease, theft, dogs, coyotes, and other predators. Cattle were defined as those weighing 500 pounds

Table 1. Numbers of beef breeding cows in survey population and United States, 1975.

Geographical area	Beef cows in herds of 20 head or more where feeder calves and yearlings (1,000 head) are produced	Total beef cows (1,000 head)
Region		
Southeast	9,368	10,959
Northcentral	6,041	10,459
Great Plains	7,193	8,413
Southwest	10,477	11,004
West	3,414	3,865
All regions	36,493	44,700
Outside of regions		772
U.S. total		45,472

Source: Compiled from numbers reported in U.S. Dep. Agr., Econ. Res. Serv., Livestock and Meat Statistics—supplement for 1975, Stat. Bull. No. 522, June 1976.

Table 2. Farms and ranches reporting beef cattle and calf losses to predators, feeder cattle businesses, U.S. beef cattle regions, 1975.

Cause of loss	Region					
	South-east	North-Central	Great Plains	South-west	West	All regions
	Percent of farms and ranches					
	Cattle ¹					
Dog	1	3	3	1	2	1
Coyote	3		1	1	2	1
Other predators	3	3	3	3	3	3
	Calves ²					
Dog	10	4	2	4	1	4
Coyote	2	6	14	15	27	12
Other predators	4		1	4	2	2

¹ Loss of cattle weighing 500 pounds or more.

² Loss of calves prior to weaning.

³ Values greater than zero but less than one when rounded to whole numbers.

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¹ This project was completed by the Commodity Economic Division's Meat Animal Research Group consisting of Roy Van Arsdall of the University of Illinois, Calvin Boykin at Texas A and M University, Henry Gilliam at North Carolina State University, and the author.



Fig. 1. Feeder cattle regions of the United States.

Table 3. Farms and ranches with different levels of calf losses before weaning, feeder cattle businesses, U.S. beef cattle regions, 1975.

	Region					
Loss interval ¹ (percent)	South- east	North- central	Great Plains	South- west	West	All regions
Dogs—percent of farms and ranches						
No loss	90	96	98	96	99	96
Up to 5.0	9	4	2	4	1	4
Over 5.0	1					2
Total	100	100	100	100	100	100
Coyotes—percent of farms and ranches						
No loss	98	94	86	85	73	88
Up to 5.0	2	6	14	13	26	12
Over 5.0				2	1	2
Total	100	100	100	100	100	100
Other predators—percent of farms and ranches						
No loss	96	100	99	96	98	98
Up to 5.0	3		1	4	2	2
Over 5.0	1					2
Total	100	100	100	100	100	100

¹ Calves lost before weaning as a percentage of calves born alive.

² Values greater than zero but less than one when rounded to whole numbers.

or more. Calves were those weighing less than 500 pounds and produced on the farm or ranch. Calf losses occurring between birth and weaning were reported separately from losses of calves after weaning. This summary presents just those calf losses

which occurred prior to weaning.

Numbers of cattle and calves lost are producer best estimates. No means were available for verification of losses by a disinterested party.

Results

Farms and Ranches with Losses from Predators

Few producers (about 2%) report losses to predators of cattle weighing 500 pounds or over (Table 2). These livestock are large and strong enough to withstand most attacks. Calf deaths prior to weaning are much more common. For the combined regions, 12% of producers reported losses of calves to coyotes. Dogs and other predators (kinds were not specified in the survey) were problems to a smaller proportion of producers—4% and 2%, respectively. The greatest percentage of producers (27%) with coyote problems were in the West. A rapid decline occurs in percentages among regions from west to east. In contrast, dogs are a hazard for the largest segment of producers (10%) in the Southeast region but are less important in the more western regions.

These geographical differences are consistent with sheep statistics. Sheep and lamb deaths to coyotes are most serious in Western states but drop off rapidly in Central and Eastern States,

Table 4. Cattle and calf losses to various causes as a proportion of total losses, feeder cattle businesses, U.S. beef cattle regions, 1975.

Cause of loss	South-east	North-central	Region		West	All regions
			Great Plains	South-west		
Percent of cattle losses ¹						
Dog	1	3	3	1	3	3
Coyote	3		3	1	1	3
Other predators	2	3	3	2	3	1
All predators	3	3	1	4	1	2
All other causes	97	100	99	96	99	98
Total losses	100	100	100	100	100	100
Percent of calf losses ²						
Dog	13	2	3	2	4	2
Coyote	3	4	4	22	9	8
Other predators	4		3	5	3	1
All predators	20	6	5	29	13	11
All other causes	80	94	95	71	87	89
Total losses	100	100	100	100	100	100

¹ Loss of cattle weighing 500 pounds or more.

² Loss of calves prior to weaning.

³ Values greater than zero but less than one when rounded to whole numbers.

Table 5. Estimated numbers and value of cattle and calf losses to predators, feeder cattle businesses, U.S. beef cattle regions, 1975.

Item	South-east	North-central	Region		West	All regions
			Great Plains	South-west		
1,000 head of cattle						
Dog	3.3	.3	.2	.9	.3	5.0
Coyote	.3		.5	2.2	.6	3.6
Other predators	5.2	.3	.2	4.4	.2	10.1
Total	8.8	.6	.9	7.5	.9	18.7
1,000 head of calves						
Dogs	41.2	5.2	2.5	5.9	8.7	63.5
Coyote	8.3	13.1	27.4	67.4	16.9	133.1
Other predators	12.3		2.5	14.8	.6	30.2
Total	61.8	18.3	32.4	88.1	26.2	226.8
1,000 dollars cattle and calves ¹						
Dog	5,536.5	673.5	335.9	885.6	1,083.0	8,514.5
Coyote	1,036.2	1,532.7	3,314.3	8,363.2	2,107.5	16,353.9
Other predators	2,567.5	65.1	335.9	2,686.4	70.2	5,725.1
Total	9,140.2	2,271.3	3,986.1	11,935.2	3,260.7	30,593.5

¹ Based on national weighted average 1975 prices per head for cattle and calves.

² Less than .1 when rounded to one decimal place.

where dogs become the greatest problem (Gee 1977).

Magnitude of Losses

Predators killed less than 1% of the January 1 inventory of beef cattle in the survey population weighing 500 pounds or more. Calf deaths to this cause between birth and weaning were about 1% of calves born alive. In the West and Southwest regions, calf losses exceed the average, reaching 3.7% and 1.3%, respectively. Most producers with calf kills lose less than 5% of their calf crop to any one predator

(Table 3). This is much less than with sheep, where about one-third of producers lose in excess of 5% and one-fourth lose more than 10% of their lamb crop to coyotes (Gee July, 1977).

Losses to predators are not great when measured as a percentage of total losses among cattle and calves (Table 4). Just 2% of all cattle deaths and 11% of calf deaths prior to weaning are from this source. In two regions predators cause a much larger percentage of total calf loss: the Southeast (20%) due to the influence of dogs, and the Southwest (29%) because of coyotes.

Value of Losses

Estimated numbers of beef cattle and calves in the survey population killed by predators in 1975 are 18.7 thousand and 226.8 thousand, respectively, for a total of 245.5 thousand head (Table 5).

Deaths of beef cattle and calves may seem unimportant when expressed as percentages. But the total value lost by producers, \$31 million, is impressive (Table 5).² Slightly over \$16 million is attributed to coyotes and nearly \$9 million to dogs. Financial loss from coyotes is more than one-half of that lost to this predator by western sheep producers in 1974 (\$27 million). Cattle and calf loss to all predators is probably within 10-15% of the value of Western sheep and lambs lost to all predators, although precise dollar estimates for the latter value have not been made.

Discussion

These estimates of cattle and calf losses to predators are based on the sample survey method which relies on producer judgment of numbers lost to each cause. In addition to normal sampling errors, errors in estimation may occur due to deficiencies in producer memory and incorrect diagnosis as to cause of death. However, it is assumed that these errors are off-setting. There are as many producers who underestimate losses to a particular cause as there are producers who overestimate these numbers. It is important to recognize this assumption when using data collected through this method. The cost of eliminating these sources of error is so great as to be prohibitive in estimating industry losses where large samples are necessary.

² Cattle are valued at \$217 and calves \$117 per head. Weights are assumed to be 1,000 pounds, 650 pounds, and 450 pounds for mature cattle, yearlings, and calves, respectively. Prices are based on numbers for 1975 published in U.S. Dep. Agr., Econ. Res. Serv. Livestock and Meat Statistics-Supp. for 1976. Stat. Bull. No. 522, June 1977.

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