United States
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Animal and
Plant Health
Inspection
Service

**Veterinary
Services**

PART II: Beef Cow/Calf Reproductive & Nutritional Management Practices

Beef
CHAPA
Cow/Calf Health & Productivity Audit

January 1994

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Introduction

As part of the National Animal Health Monitoring System (NAHMS), USDA:APHIS: Veterinary Services conducted a National study of beef production designed to provide both participants and the industry with information on animal health, productivity, and management practices of cow/calf producers. The National Agricultural Statistics Service (NASS) collaborated with USDA:APHIS:VS to select a producer sample that was statistically designed to provide inferences about the nation's cow/calf population.

NASS enumerators contacted producers in the 48 continental States by computer-assisted telephone interview and asked them a series of questions about management practices and the health of their animals. The 3,397 cow/calf producers participating represented all U.S. cow/calf operations. Results of NASS telephone contacts for the Beef Cow/Calf Health and Productivity Audit (CHAPA) were released in August 1993 as *Part I: Beef Cow/Calf Herd Management Practices in the United States.*

NASS enumerators collected data for Part II of this report, *Nutritional & Reproductive Management Practices,* from November 9 through December 4, 1992, by personal interview from a subset of producers responding to the first NASS contact. Producers participating in this portion of the study were required to have five or more beef cows (or beef replacement heifers) and 50 percent or more of their 1992 calf crop born between January 1 and June 30, 1992. Data collection was limited to 18 of the largest cow/calf-producing States (shown on the next page). The 18 States with producers participating represented 70 percent of the U.S. beef cow inventory.

The target population represents:

- 49 percent of beef cows in the U.S.
- 42 percent of beef operations in the U.S.
- 71 percent of beef cows on predominantly spring calving beef operations in the U.S. with 5 or more beef cows (or replacement heifers).
- 75 percent of predominantly spring calving beef operations in the U.S. with 5 or more beef cows (or replacement heifers).

Data for *Part III: Beef Cow/Calf Health & Health Management* were collected from 540 producers from the subset described above. Federal and State Veterinary

Part I: Beef Cow/Calf Herd Management Practices in the U.S.

- States surveyed: 48
- Target population: all U.S. beef cow/calf producers
- Participating producers: 3,397
- Data collection period: 9/29-10/9/92

Part II: Beef Cow/Calf Reproductive & Nutritional Management Practices

- States surveyed: 18
- Target population: beef cow/calf producers with 5 or more beef cows and with 50 percent or more of 1992 calves born from January through June
- Participating producers: 799
- Data collection period: 11/9-12/4/92

Part III: Beef Cow/Calf Health & Health Management

- States surveyed: 18
- Target population: beef cow/calf producers with 5 or more beef cows and with 50 percent or more of 1992 calves born from January through June
- Participating producers: 540

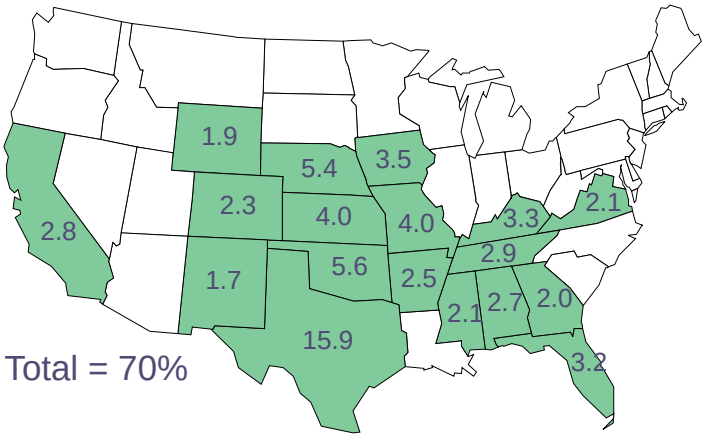
Officers (VMO's) conducted personal interviews with the producers between January 4 and February 28, 1993.

Descriptive tables in this report are divided into two parts:

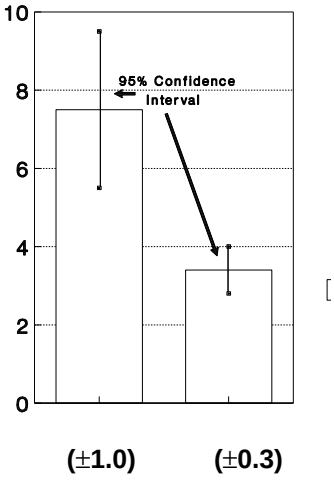
- The **Participant Profile** contains descriptive results from only the subset of operations that completed the respective personal interviews for Parts II and III.

- **Population Estimates Based on Data Collected** are population estimates, such as averages and proportions which have been weighted to represent the cow/calf population. Most of the estimates are provided with a measure of variability called the standard error and denoted by (±). Chances are 95 out of 100 that the interval created by the estimate plus or minus two standard errors will contain the true population value. In the example at right, an estimate of 7.5 with a standard error of ±1.0 results in a range of 5.5 to 9.5 (two times the standard error above and below the estimate).

States Participating in Data Collection for this Report and Percent of U.S. Cow Inventory, January 1, 1992



Examples of 95% Confidence Intervals



Subsequent Beef CHAPA activities collected additional data from 540 producers in the 18 States. Additional Beef Cow/Calf Health and Productivity Audit (CHAPA) results will be released as they are completed. If you have questions about this report contact NAHMS at:

Centers for Epidemiology and Animal Health
USDA:APHIS:VS, Attn. NAHMS
555 South Howes, Suite 200
Fort Collins, Colorado 80521
(303) 490-7800

Part II: A. Participant Profile[1]

1. Descriptive statistics of responding operations

a. Beef cow herd size:

	Number of Operations
1-4	15
5-9	41
10-49	255
50-99	148
100-299	187
300+	153
Total	799

b. Breed make-up - majority of cows:

	Number of Operations
Purebred or straightbred (only one breed)	142
Crossbred (two breeds)	359
Crossbred (three or more breeds)	298
Total	799

c. Number of head reported:

	Number of Head
Cows	245,273
Calf crop	224,315
Cows and replacement heifers	287,184

1 Actual sample values; not population estimates.

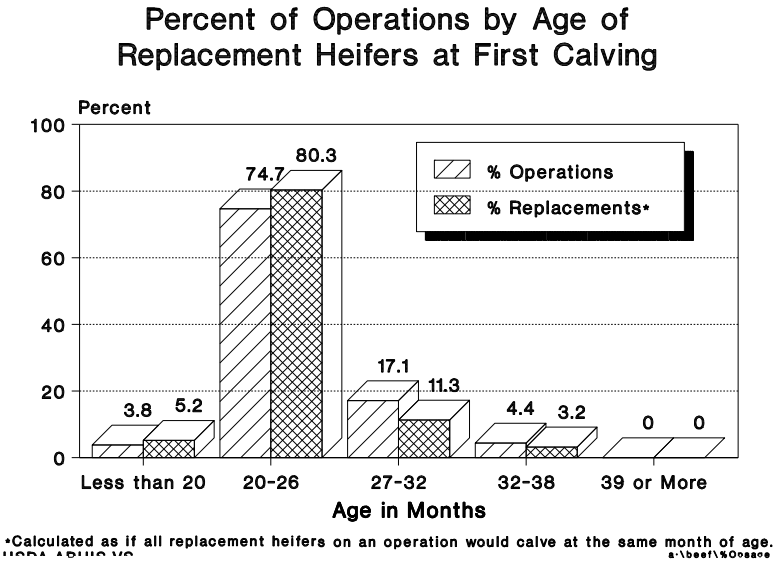
Part II: B. Population Estimates Based on Data Collected

1. Calving management
   a. First calving
      i. Age of replacement heifers at first calving:

	Number of Months	Standard Error
Operation average	25.2	(±0.2)
Replacement heifer average[1]	24.8	(±0.2)

ii. Percent of operations (and percent of replacement heifers on these operations) by age of replacement heifers at first calving:

Age in Months	Percent of Operations	Standard Error	Percent of Replacement Heifers[1]	Standard Error
Less than 20	3.8	(±1.3)	5.2	(±2.1)
20-26	74.7	(±2.8)	80.3	(±2.9)
27-32	17.1	(±2.5)	11.3	(±1.9)
32-38	4.4	(±1.3)	3.2	(±0.9)
39 or more	0.0	(±0.0)	0.0	(±0.0)
Total	100.0		100.0	



iii. Percent of operations separating replacement heifers from cows, at least:

	Percent of Operations	Standard Error
30 days before calving	35.9	(±2.8)
30 days after calving	21.4	(±2.4)

1 Calculated if all replacement heifers on an operation would calve at the same month of age.

1. Calving management (continued)

b. Calving location

i. Percent of operations that separate cow/calf pairs from pregnant cows within a week after calving:

	Percent	Standard Error
Percent of operations	14.9	(±2.1)

ii. Percent of cows on operations that separate cow/calf pairs from pregnant cows within a week after calving: 25.7 (±2.9)

iii. Percent of operations where one or more calves were born in each location in the last 12 months:

Location	Percent of Operations	Standard Error
Special calving pastures that allow increased observation and/or shelter	32.8	(±2.7)
Calving lots	8.5	(±1.5)
Individual calving pens	1.6	(±0.6)
Covered sheds or barns	5.9	(±1.4)
Other locations	76.7	(±2.3)

iv. Percent of calves born by location:

Location	Percent of Calves	Standard Error	Operation Average Percent	Standard Error
Special calving pastures that allow increased observation and/or shelter	33.5	(±2.6)	21.8	(±2.1)
Calving lots	8.1	(±1.4)	4.3	(±0.7)
Individual calving pens	0.8	(±0.3)	0.6	(±0.3)
Covered sheds or barns	2.9	(±1.2)	1.8	(±0.6)
Other locations	54.7	(±2.7)	71.5	(±2.3)
Total	100.0		100.0	

1. Calving management (continued)

c. Observing females during calving season

i. Operation average number of times females were observed over a 24-hour period during the calving season:

Female Group	Number of Times	Standard Error
Replacement heifers	2.9[1]	(±0.2)
Mature cows	1.9	(±0.1)

ii. Percent of operations by number of times females were observed over a 24-hour period:

	Replacement Heifers[1]		Mature Cows	
Number of Times Observed	Percent of Operations	Standard Error	Percent of Operations	Standard Error
0	4.7	(±1.7)	7.8	(±1.5)
1-2	57.2	(±3.5)	72.9	(±2.5)
3-4	21.7	(±2.8)	13.5	(±1.9)
5 or more	16.4	(±2.3)	5.8	(±1.0)
Total	100.0		100.0	

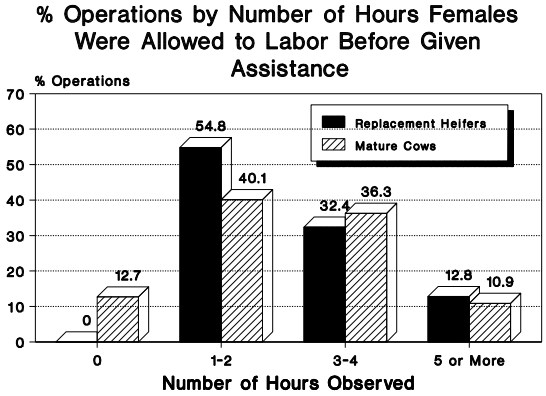
d. Calving assistance

i. Operation average number of hours females were allowed to labor before given assistance:

	Number of Hours	Standard Error
Replacement heifers	2.9[1]	(±0.1)
Mature cows	2.6	(±0.1)

ii. Percent of operations by number of hours females were allowed to labor before given assistance:

	Replacement Heifers[1]		Mature Cows	
Number of Hours Observed	Percent of Operations	Standard Error	Percent of Operations	Standard Error
0	0.0	(±0.0)	12.7	(±2.2)
1-2	54.8	(±3.3)	40.1	(±2.9)
3-4	32.4	(±3.3)	36.3	(±3.0)
5 or more	12.8	(±2.3)	10.9	(±1.9)
Total	100.0		100.0	



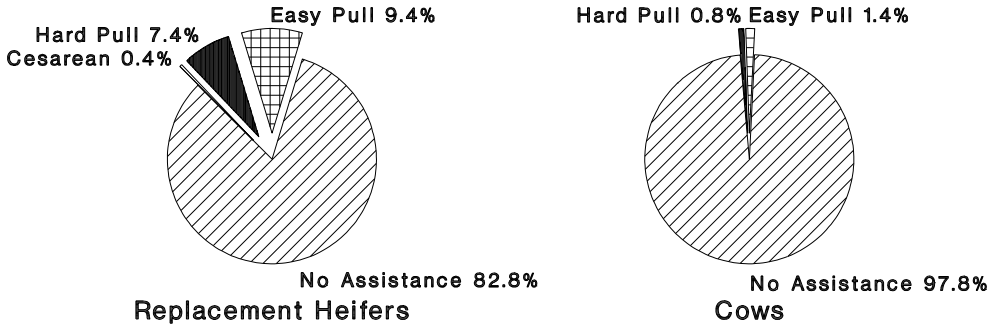
1 Only included operations with replacement heifers.

1. Calving management (continued)

iii. Percent of females requiring various levels of assistance during calving:

	Replacement Heifers [1]		Mature Cows	
	Percent	Standard Error	Percent	Standard Error
No assistance	82.8	(±1.6)	97.8	(±0.2)
Easy pull	9.4	(±1.4)	1.4	(±0.2)
Hard pull	7.4	(±0.8)	0.8	(±0.1)
Cesarean section	0.4	(±0.1)	0.0	(±0.0)
Total	100.0		100.0	

Percent of Females Requiring Various Levels of Assistance During Calving



iv. Operation average percent of assisted births attended by a veterinarian:

Percent of Assisted Births	Standard Error
12.8	(±1.7)

v. Percent of assisted births attended by a veterinarian:

Percent of Assisted Births	Standard Error
15.3	(±2.0)

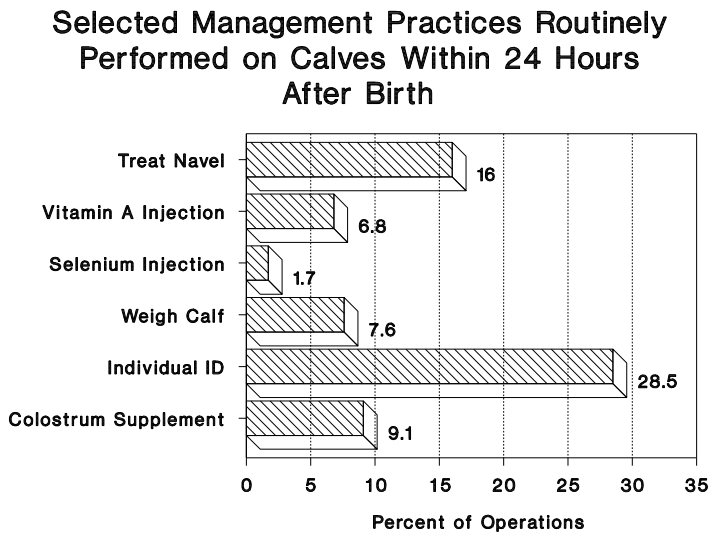
1 Only included operations with replacement heifers.

1. Calving management (continued)

e. Management practices at birth

i. Percent of operations where selected management practices were routinely performed on calves within 24 hours after birth:

Management Practices	Percent of Operations	Standard Error
Treat navel with disinfectant	16.0	(±2.2)
Vitamin A injection	6.8	(±1.4)
Selenium injection	1.7	(±0.6)
Weigh calf	7.6	(±1.5)
Individual identification	28.5	(±2.5)
Provide a colostrum supplement	9.1	(±1.7)



f. Factors determining calving season

i. Percent of operations by the most used factor in determining the timing of the 1992 calving season:

Determining Factor	Percent of Operations	Standard Error
No set calving season	52.7	(±2.9)
Market cycle	4.9	(±1.4)
Maximize age/weight at weaning	5.2	(±1.3)
Forage availability	5.6	(±1.1)
Tradition	11.9	(±1.7)
Labor availability	2.9	(±0.9)
Time of cattle movement	0.8	(±0.4)
Weather during calving	14.2	(±1.9)
Other	1.8	(±0.7)
Total	100.0	

2. Replacement management during 1992
   a. Source of replacement females
      i. Operation average percent of replacement females:

Source	Percent of Females	Standard Error
Purchased	21.1	(±2.2)
Raised	78.9	(±2.2)
Total	100.0	

      ii. Percent of replacement females:

Source	Percent of Females	Standard Error
Purchased	11.6	(±1.9)
Raised	88.4	(±1.9)
Total	100.0	

   b. Importance of factors in purchasing or selecting females:

	Percent of Operations by Level of Importance			
Factors	Not	Moderate	Very	Extreme
Breed	13.5	30.8	33.1	22.6
Standard Error	(±2.1)	(±3.0)	(±3.0)	(±2.4)
Reputation of breeder	38.1	20.8	28.1	13.0
Standard Error	(±3.1)	(±2.3)	(±2.9)	(±2.1)
Birth weight	34.9	27.9	28.1	9.1
Standard Error	(±3.1)	(±2.9)	(±2.8)	(±1.5)
Weaning weight/yearling weight	25.7	21.7	37.6	15.0
Standard Error	(±2.8)	(±2.6)	(±3.0)	(±2.1)
Hip height/frame score	27.0	29.9	34.3	8.8
Standard Error	(±2.9)	(±2.8)	(±3.0)	(±1.4)
Price	19.9	18.4	35.2	26.5
Standard Error	(±2.2)	(±2.2)	(±3.2)	(±2.8)
Pelvic area	23.9	30.4	33.3	12.4
Standard Error	(±2.6)	(±3.0)	(±2.9)	(±1.8)
Reproductive tract score	32.4	26.5	30.9	10.2
Standard Error	(±3.0)	(±2.7)	(±3.2)	(±1.7)
Appearance	4.2	17.5	53.6	24.7
Standard Error	(±1.1)	(±2.2)	(±3.2)	(±2.6)
Temperament	7.9	14.5	44.4	33.2
Standard Error	(±1.8)	(±2.1)	(±3.1)	(±2.8)
Sire information	20.5	23.6	36.1	19.8
Standard Error	(±2.4)	(±2.8)	(±3.1)	(±2.3)
Longevity of reproductive life	19.8	21.4	42.0	16.8
Standard Error	(±2.5)	(±2.6)	(±3.2)	(±2.2)

2. Replacement management during 1992 (continued)

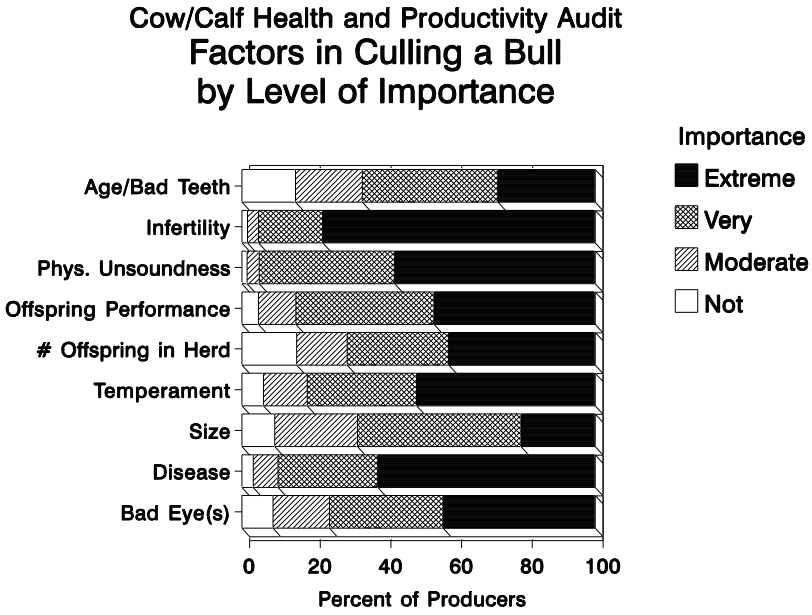
c. Importance of factors in purchasing or selecting a bull:

	Percent of Operations by Level of Importance			
Factors	Not	Moderate	Very	Extreme
Breed	3.1	8.9	36.3	51.7
Standard Error	(±1.1)	(±1.7)	(±3.0)	(±3.1)
Reputation of breeder	15.8	22.3	41.7	20.2
Standard Error	(±2.2)	(±2.7)	(±3.2)	(±2.1)
Birth weight	20.3	20.0	38.0	21.7
Standard Error	(±2.5)	(±2.5)	(±3.0)	(±2.3)
Weaning weight/yearling weight	20.2	15.7	42.9	21.2
Standard Error	(±2.5)	(±2.2)	(±3.0)	(±2.5)
Hip height/frame score	14.2	27.0	42.6	16.2
Standard Error	(±2.1)	(±2.7)	(±3.1)	(±2.1)
Expected progeny difference (EPD)	30.5	25.3	31.5	12.7
Standard Error	(±3.0)	(±2.8)	(±3.0)	(±1.7)
Temperament	2.8	10.9	37.0	49.3
Standard Error	(±1.0)	(±1.9)	(±3.0)	(±3.0)
Scrotal circumference	19.2	23.6	42.2	15.0
Standard Error	(±2.4)	(±2.5)	(±3.0)	(±2.0)
Price	8.1	23.7	37.9	30.3
Standard Error	(±1.6)	(±2.6)	(±2.9)	(±2.9)
Structural soundness/appearance	2.5	3.0	43.3	51.2
Standard Error	(±0.9)	(±1.0)	(±3.2)	(±3.2)

2. Replacement management during 1992 (continued)

d. Importance of factors in culling bulls:

	Percent of Operations by Level of Importance			
Factors	None	Moderate	Very	Extreme
Age/bad teeth	15.2	18.9	38.4	27.5
Standard Error	(±2.1)	(±2.4)	(±3.0)	(±2.7)
Infertility	1.6	3.1	18.2	77.1
Standard Error	(±0.5)	(±1.3)	(±2.6)	(±2.8)
Physical unsoundness (injury/lameness)	1.5	3.4	38.4	56.7
Standard Error	(±0.5)	(±1.2)	(±3.1)	(±3.1)
Performance of offspring	4.7	10.6	39.1	45.6
Standard Error	(±1.3)	(±2.0)	(±3.1)	(±3.1)
Too many offspring in herd	15.5	14.3	28.8	41.4
Standard Error	(±2.2)	(±2.1)	(±2.9)	(±3.0)
Temperament	6.1	12.4	31.0	50.5
Standard Error	(±1.6)	(±2.0)	(±2.9)	(±3.1)
Size	9.3	23.4	46.3	21.0
Standard Error	(±2.0)	(±2.6)	(±3.1)	(±2.4)
Disease	3.2	7.1	28.2	61.5
Standard Error	(±0.7)	(±1.7)	(±2.9)	(±3.1)
Bad eye(s)	8.8	16.0	32.2	43.0
Standard Error	(±1.8)	(±2.3)	(±2.9)	(±3.1)



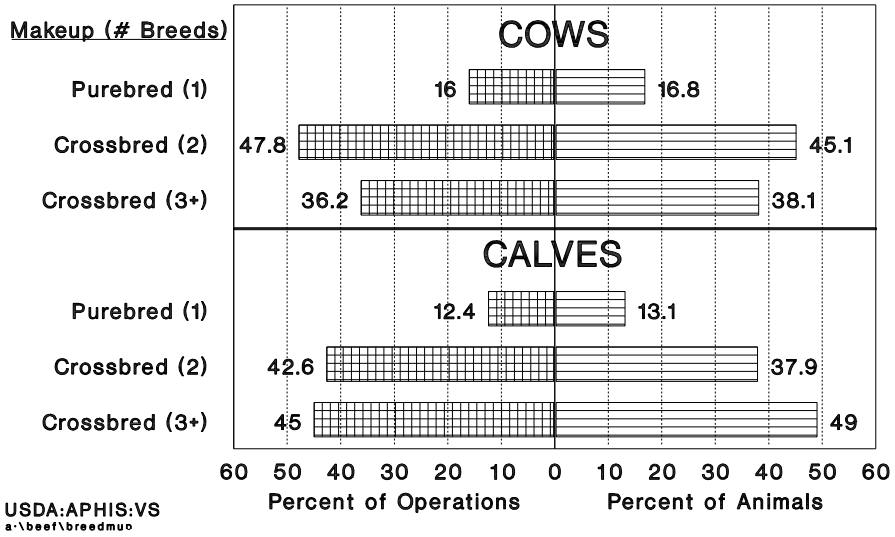
2. Replacement management during 1992 (continued)

e. Breed makeup

i. Percent of operations (and percent of cows on these operations) by breed makeup of the majority of the cows:

Breed Makeup of Cows	Percent of Operations	Standard Error	Percent of Cows	Standard Error
Purebred or straightbred (only one breed)	16.0	(±2.1)	16.8	(±2.0)
Crossbred (two breeds)	47.8	(±3.1)	45.1	(±3.0)
Crossbred (three or more breeds)	36.2	(±3.0)	38.1	(±2.9)
Total	100.0		100.0	

Percent of Operations by the Majority of Breed Makeup of Cows & Calves



ii. Percent of operations (and percent of calves on these operations) by breed makeup of the majority of the 1992 calf crop:

Breed Makeup of Calf Crop	Percent of Operations	Standard Error	Percent of Calves	Standard Error
Purebred or straightbred (only one breed)	12.4	(±1.8)	13.1	(±1.7)
Crossbred (two breeds)	42.6	(±3.2)	37.9	(±3.0)
Crossbred (three or more breeds)	45.0	(±3.0)	49.0	(±3.1)
Total	100.0		100.0	

2. Replacement management during 1992 (continued)

f. Factors determining weaning time

i. Percent of operations by the most important factor for determining when to wean calves:

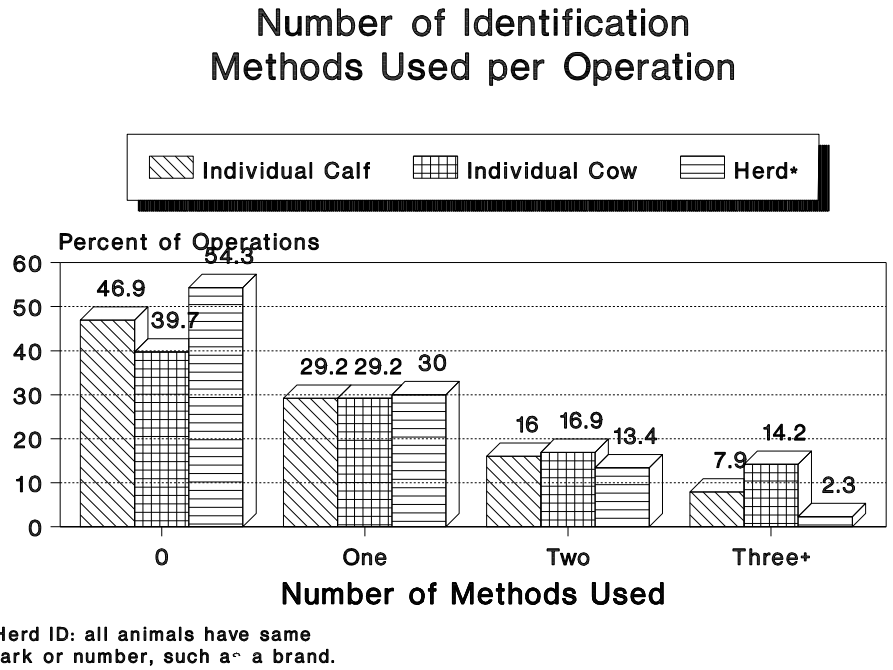
Determining Factor	Percent of Operations	Standard Error
Calf age/weight	52.9	(±3.1)
End of grazing lease or permit	2.3	(±0.9)
Forage availability	7.0	(±1.4)
Body condition of dam	6.8	(±1.7)
Market price or contract	9.0	(±2.2)
Cash flow	7.2	(±1.9)
Tradition	14.8	(±2.0)
Total	100.0	

g. Fall weight of mature cows (producer estimates)

i. Average weight of mature cows in the fall:	Pounds per Cow	Standard Error
Operation average mature cow weight	1,022.9	(±9.7)
Mature cow average weight	1,047.2	(±7.5)

3. Operation records and marketing
   a. Methods of identification
      i. Number of identification methods used per operation:

Number	Individual Calf		Individual Cow		Herd[1]	
Method	Percent of Operations	Stand. Error	Percent of Operations	Stand. Error	Percent of Operations	Stand. Error
0	46.9	(±2.9)	39.7	(±3.1)	54.3	(±3.0)
One	29.2	(±2.6)	29.2	(±2.7)	30.0	(±2.7)
Two	16.0	(±1.9)	16.9	(±2.0)	13.4	(±1.8)
Three or more	7.9	(±1.4)	14.2	(±1.8)	2.3	(±0.7)
Total	100.0		100.0		100.0	

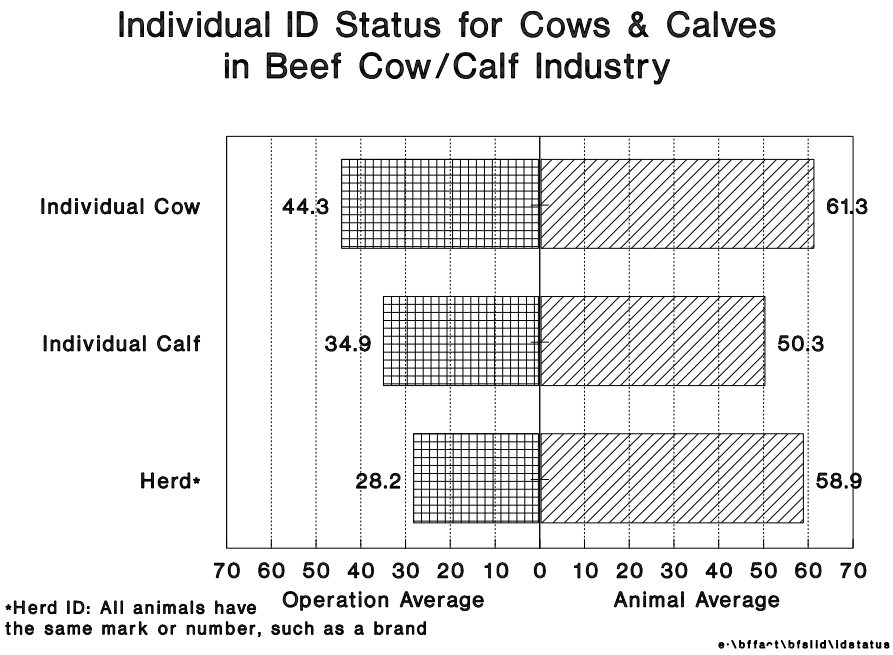


1 A herd level identification is one where all animals have the same mark or number, such as a brand.

3. Operation records and marketing (continued)

ii. Percent of operations using the following methods of identification:

	Individual Calf		Individual Cow		Herd[1]	
Method	Percent of Operations	Stand. Error	Percent of Operations	Stand. Error	Percent of Operations	Stand. Error
Brucellosis ear tag	21.7	(±2.2)	28.3	(±2.4)	NA[2]	NA[2]
Other metal ear tag	1.4	(±0.5)	1.5	(±0.5)	1.0	(±0.4)
Plastic ear tag	40.8	(±2.8)	45.3	(±3.0)	27.1	(±2.7)
Ear tattoo	10.2	(±1.5)	12.9	(±1.7)	6.8	(±1.2)
Hot iron brand	12.1	(±1.7)	17.9	(±2.1)	21.4	(±2.2)
Freeze brand	0.5	(±0.3)	2.1	(±0.8)	1.2	(±0.5)
Microchip transponder	0.4	(±0.4)	0.7	(±0.5)	0.4	(±0.4)
Neck chain	0.0	(±0.0)	0.4	(±0.4)	0.0	(±0.0)
Horn brand	0.0	(±0.0)	0.4	(±0.4)	0.1	(±0.1)
Ear notch	NA[2]	NA[2]	NA[2]	NA[2]	6.5	(±1.1)
Brisket tag	0.0	(±0.0)	0.4	(±0.4)	0.0	(±0.0)
None	46.9	(±2.9)	39.7	(±3.1)	54.3	(±3.0)



1 A herd level identification is one where all animals have the same mark or number, such as a brand.

2 NA: Not applicable.

3. Operation records and marketing (continued)

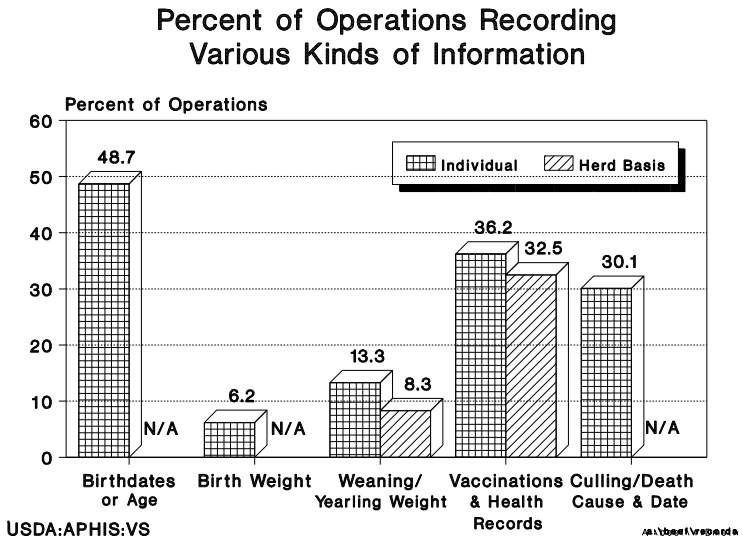
iii. Percent of animals (calves, cows, and total cattle) on operations using the following methods of identification:

Method	Individual Calf Percent of Calves	Individual Calf Stand. Error	Individual Cow Percent of Cows	Individual Cow Stand. Error	Herd Percent of Total Cattle	Herd Stand. Error
Brucellosis ear tag	30.4	(±2.8)	40.3	(±3.1)	NA[1]	NA[1]
Other metal ear tag	2.1	(±0.6)	2.4	(±0.8)	1.6	(±0.6)
Plastic ear tag	55.9	(±2.9)	61.3	(±2.8)	32.8	(±2.9)
Ear tattoo	13.6	(±1.7)	20.2	(±2.5)	11.3	(±2.2)
Hot iron brand	22.0	(±2.8)	31.3	(±3.1)	40.2	(±2.8)
Freeze brand	0.9	(±0.5)	2.6	(±1.1)	1.5	(±0.6)
Mircrochip transponder	0.5	(±0.4)	0.4	(±0.3)	0.2	(±0.2)
Neck chain	0.2	(±0.2)	0.4	(±0.3)	0.1	(±0.1)
Horn brand	0.2	(±0.2)	0.2	(±0.2)	0.3	(±0.2)
Ear notch	NA[1]	NA[1]	NA[1]	NA[1]	17.5	(±2.1)
Brisket tag	0.2	(±0.2)	0.7	(±0.3)	0.3	(±0.2)
None	29.8	(±2.6)	21.5	(±2.2)	34.1	(±2.9)

b. Record keeping

i. Percent of operations recording the following information for individual animals or on a herd basis:

Information Type	Percent of Operations Individual	Stand. Error	Basis	Stand. Error
Birthdates or age	48.7	(±3.2)	NA[1]	NA[1]
Birth weight	6.2	(±1.1)	NA[1]	NA[1]
Weaning weight/yearling weight	13.3	(±1.9)	8.3	(±1.3)
Vaccinations and health records	36.2	(±2.9)	32.5	(±2.9)
Culling/death cause and date	30.1	(±2.7)	NA[1]	NA[1]

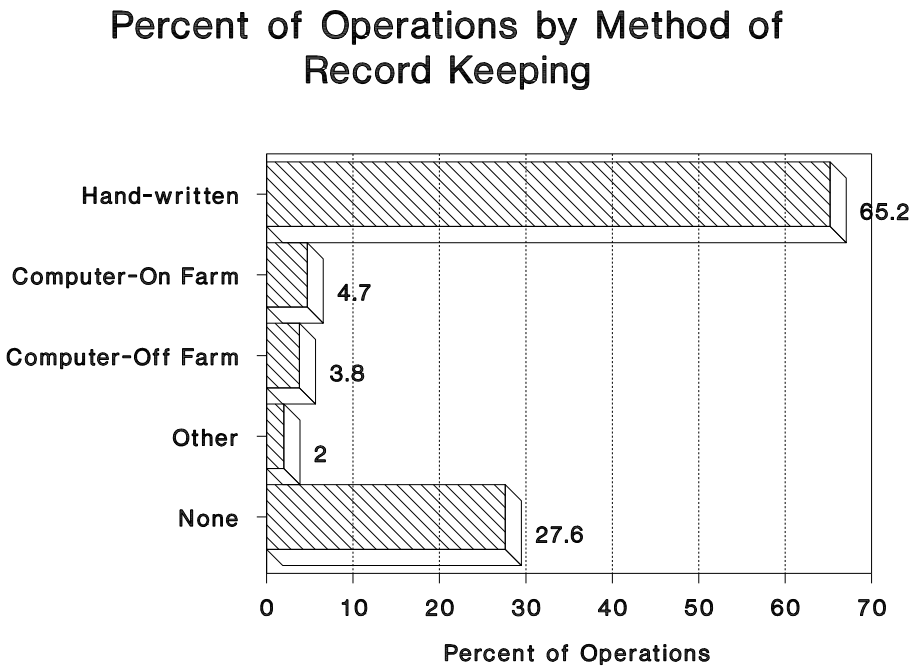


1 NA: Not applicable.

3. Operation records and marketing (continued)

ii. Percent of operations using the following methods to keep records:

Record Type	Percent of Operations	Standard Error
Hand-written records	65.2	(±3.1)
Computer located on-farm	4.7	(±1.1)
Computer located off-farm	3.8	(±1.1)
Other	2.0	(±0.6)
No records are kept	27.6	(±3.2)

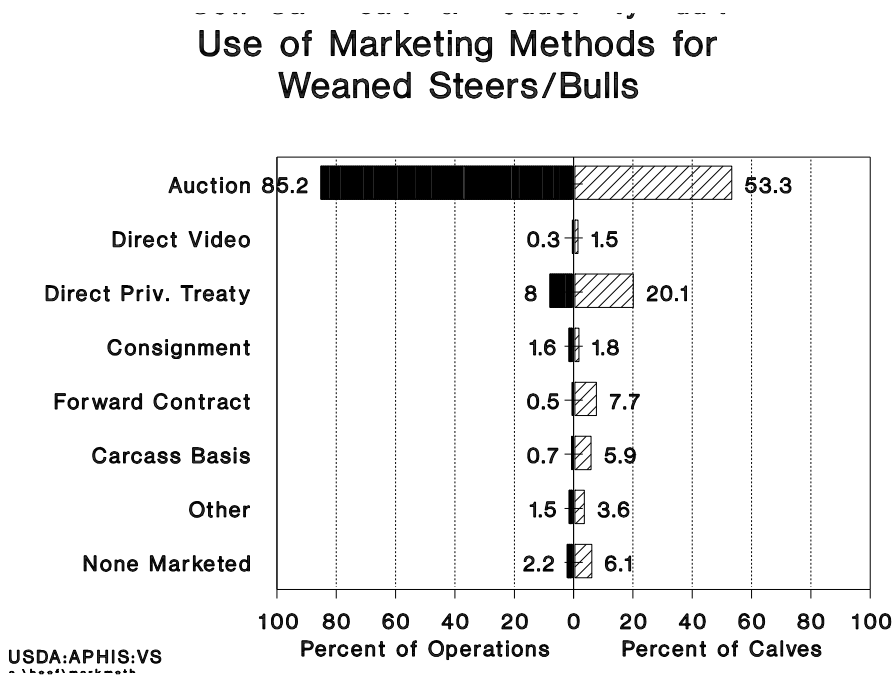


3. Operation records and marketing (continued)

c. Marketing methods in 1992

i. Percent of operations using the following methods by class of animal:

	Percent of Operations			
Marketing Methods	Weaned Steers/Bulls	Weaned Heifers	Cull Cows	Cull Bulls
Auction	85.2	84.0	94.3	90.6
Standard Error	(±1.9)	(±2.1)	(±1.4)	(±1.7)
Direct video	0.3	0.2	0.0	0.0
Standard Error	(±0.1)	(±0.1)	(±0.0)	(±0.0)
Direct private treaty	8.0	7.8	0.6	2.8
Standard Error	(±1.5)	(±1.5)	(±0.2)	(±0.9)
Consignment	1.6	1.1	0.2	0.0
Standard Error	(±0.6)	(±0.5)	(±0.1)	(±0.0)
Forward contract	0.5	0.2	0.0	0.0
Standard Error	(±0.3)	(±0.1)	(±0.0)	(±0.0)
Carcass basis	0.7	0.6	0.3	0.3
Standard Error	(±0.5)	(±0.5)	(±0.1)	(±0.1)
Another method	1.5	1.4	0.6	0.8
Standard Error	(±0.5)	(±0.5)	(±0.3)	(±0.5)
None marketed	2.2	4.7	4.0	5.5
Standard Error	(±0.8)	(±1.2)	(±1.4)	(±1.4)
Total	100.0	100.0	100.0	100.0



3. Operation records and marketing (continued)

ii. Percent of animals on operations (as a percent of all animals) using the following methods by class of animal:

Marketing Methods	Percent of Operations: Weaned Steers/Bulls	Weaned Heifers	Cull Cows	Cull Bulls
Auction	53.3	67.8	93.4	89.4
Standard Error	(±7.1)	(±3.6)	(±1.2)	(±1.9)
Direct video	1.5	1.4	0.1	0.1
Standard Error	(±0.6)	(±0.5)	(±0.0)	(±0.0)
Direct private treaty	20.1	16.8	2.7	4.3
Standard Error	(±5.7)	(±2.8)	(±0.6)	(±1.4)
Consignment	1.8	0.7	0.1	0.2
Standard Error	(±1.2)	(±0.3)	(±0.1)	(±0.2)
Forward contract	7.7	3.6	0.0	0.0
Standard Error	(±3.8)	(±2.0)	(±0.0)	(±0.0)
Carcass basis	5.9	1.3	1.3	2.2
Standard Error	(±2.8)	(±0.6)	(±0.3)	(±1.0)
Another method	3.6	2.4	0.9	0.5
Standard Error	(±2.3)	(±0.9)	(±0.4)	(±0.2)
None marketed	6.1	6.0	1.5	3.3
Standard Error	(±2.5)	(±1.5)	(±0.9)	(±0.9)
Total	100.0	100.0	100.0	100.0

d. Forward pricing of 1992 calf crop

	Percent	Standard Error
i. Percent of operations forward pricing:	2.0	(±1.0)
ii. Operation average percent of calves forward priced:	1.6	(±0.9)
iii. Percent of all calves forward priced:	5.0	(±1.3)

iv. Percent of operations and percent of all calves using forward pricing by size of cow herd:

Cow Herd Size Group	Percent of Operations	Standard Error	Percent of All Calves	Standard Error
1-4	0.0	(±0.0)	0.0	(±0.0)
5-9	0.0	(±0.0)	0.0	(±0.0)
10-49	2.1	(±1.7)	3.6	(±3.4)
50-99	1.7	(±1.5)	1.9	(±1.7)
100-299	3.3	(±1.2)	3.6	(±1.2)
300 or more	16.2	(±4.8)	20.9	(±5.1)

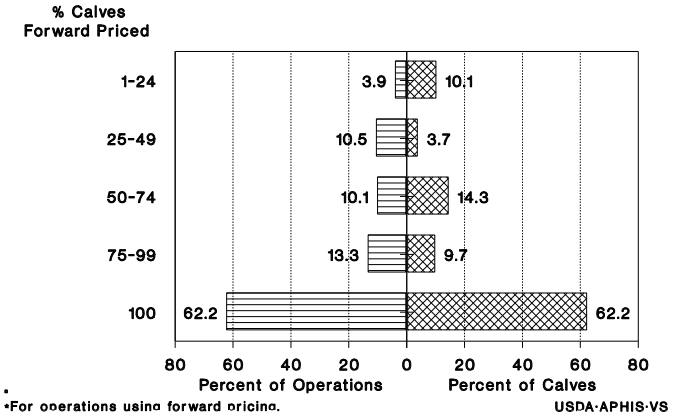
v. For operations using forward pricing, percent of calves forward priced: 82.5 (±9.9)

3. Operation records and marketing (continued)

vi. For operations using forward pricing, percent of operations and percent of calves by percent of calves forward priced:

Reported Percent of Calves Forward Priced (Interval)	Percent of Operations	Standard Error	Percent of Calves	Standard Error
1-24	3.9	(±2.8)	10.1	(±4.6)
25-49	10.5	(±9.9)	3.7	(±2.7)
50-74	10.1	(±6.3)	14.3	(±5.4)
75-99	13.3	(±11.7)	9.7	(±6.1)
100	62.2	(±19.9)	62.2	(±9.9)
Total	100.0		100.0	

Percent of Operations and Calves by Percent of Calves Forward Priced*



vii. For operations using forward pricing, operation average percent of forward priced contracts (and percent of calves on these operations) that were:

	Percent of Contracts	Standard Error	Percent of Calf Crop	Standard Error
Forward cash	37.4	(±18.6)	54.7	(±10.6)
Future contract	11.4	(±7.3)	13.8	(±5.0)
Options	48.5	(±24.9)	25.4	(±12.2)
Another technique	2.7	(±2.3)	6.1	(±4.0)
Total	100.0		100.0	

4. Nutrition

a. Nutritional analysis

i. Percent of operations (and cows on these operations) that calculate a winter feed schedule or ration based on the animals' requirements and the quality of the feedstuffs available:

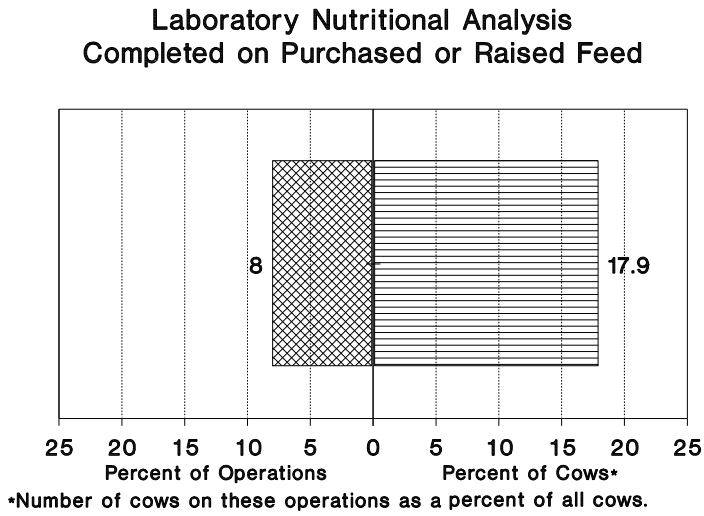
	Percent	Standard Error
Percent of operations	48.7	(±3.1)
Number of cows on these operations as a percent of cows on all operations	56.7	(±3.0)

4. Nutrition (continued)

ii. Percent of operations (and cows on these operations) having a laboratory nutritional analysis completed on purchased or raised feed in the last 12 months:

	Percent	Standard Error
Percent of operations	8.0	(±1.3)
Number of cows on these operations as a percent of cows on all operations	17.9	(±2.0)

b. Supplements and feed fed



i. Percent of operations feeding the following to the cow herd in the previous 12 months:

	Percent of Operations			
Compound/Element	Fall/Winter (10/91 - 3/92)	Stand. Error	Spring/Summer (4/92-9/92)	Stand. Error
Salt	63.0	(±3.0)	62.2	(±3.0)
Trace mineral salt	82.1	(±2.3)	78.6	(±2.5)
Phosphorus	35.5	(±2.8)	31.0	(±2.6)
Magnesium	41.3	(±3.1)	46.1	(±3.0)

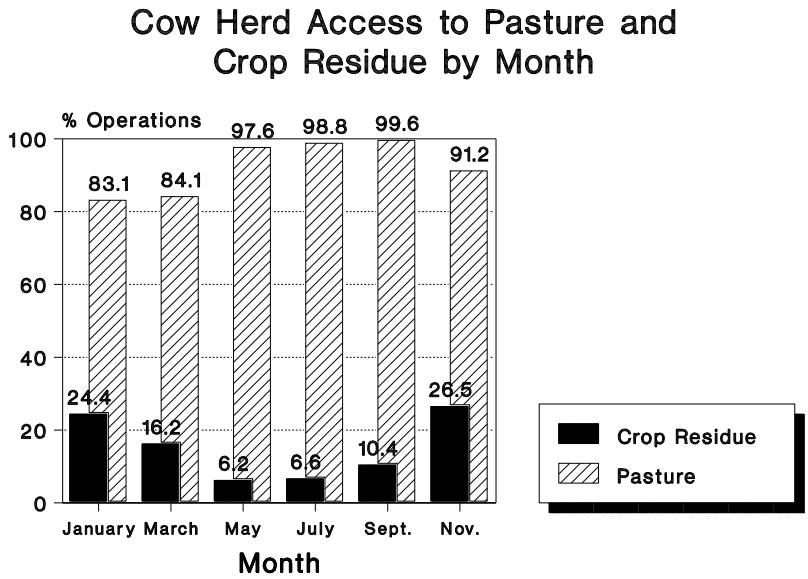
ii. Percent of operations where Vitamin A is supplied to the cow herd by:

Method of Delivery	Percent of Operations	Standard Error
Feeding alfalfa hay	29.1	(±2.6)
Using a mineral mix containing Vitamin A	49.9	(±3.1)
Injecting Vitamin A	7.4	(±1.6)
Using a protein supplement containing Vitamin A	42.6	(±3.0)

4. Nutrition (continued)

iii. Percent of operations providing the cow herd with access to pasture or crop residue by month:

	Percent of Operations			
Month	Pasture	Standard Error	Crop Residue	Standard Error
January	83.1	(±1.9)	24.4	(±2.3)
March	84.1	(±1.8)	16.2	(±2.0)
May	97.6	(±1.1)	6.2	(±1.8)
July	98.8	(±0.8)	6.6	(±2.0)
September	99.6	(±0.2)	10.4	(±1.9)
November	91.2	(±1.5)	26.5	(±2.5)



iv. Percent of operations feeding the following to the cow herd during 1992 by month:

	Percent of Operations Feeding			
Month	Hay	Silage	Supplements	Grain
January	91.9	6.1	53.3	28.5
Stand. Error	(±1.4)	(±1.3)	(±3.0)	(±2.8)
March	89.7	5.9	51.6	27.3
Stand. Error	(±1.8)	(±1.3)	(±3.0)	(±2.8)
May	20.3	3.8	17.9	7.8
Stand. Error	(±2.4)	(±1.1)	(±2.3)	(±1.6)
July	4.9	2.6	13.2	4.5
Stand. Error	(±1.3)	(±1.0)	(±1.9)	(±1.3)
September	11.6	2.6	19.2	7.0
Stand. Error	(±2.0)	(±1.0)	(±2.6)	(±1.8)
November	66.2	3.4	44.6	18.9
Stand. Error	(±2.8)	(±1.0)	(±3.0)	(±2.5)

4. Nutrition (continued)

v. For operations feeding the following feedstuffs in the indicated month, average pounds fed per head per day to the cow herd during 1992 by month:

	Average Pounds per Head per Day			
Month	Hay	Silage	Supplements	Grain
January	23.7	14.8	2.9	4.0
Stand. Error	(±0.9)	(±2.2)	(±0.4)	(±0.3)
March	23.4	14.7	2.9	4.0
Stand. Error	(±0.9)	(±2.2)	(±0.4)	(±0.3)
May	12.7	10.9	2.1	3.2
Stand. Error	(±1.2)	(±2.7)	(±0.2)	(±0.3)
July	8.3	4.5	1.8	2.8
Stand. Error	(±2.4)	(±1.6)	(±0.2)	(±0.3)
September	14.9	5.7	1.8	3.1
Stand. Error	(±2.0)	(±2.5)	(±0.2)	(±0.5)
November	20.2	9.8	2.7	3.8
Stand. Error	(±1.2)	(±2.8)	(±0.4)	(±0.4)

vi. Percent of operations (and replacement heifers on these operations) that fed an ionophore to replacement heifers in the previous 12 months:

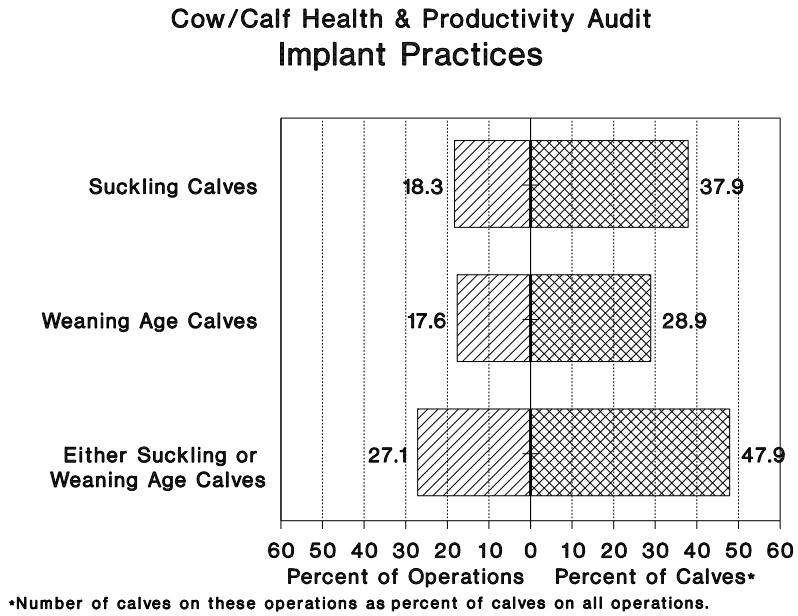
	Percent	Standard Error
Operations	7.3	(±1.4)
Number of replacement heifers on those operations as a percent of replacement heifers on all operations	17.7	(±2.7)

4. Nutrition (continued)

c. Implants

i. Percent of operations (and animals on these operations) that implant:

	Percent					
	Suckling Calves	Stand. Error	Weaning Age Calves	Stand. Error	Either Suckling or Weaning Age Calves	Stand. Error
Operations	18.3	(±2.1)	17.6	(±1.9)	27.1	(±2.4)
Number of calves on those operations as a percent of calves on all operations	37.9	(±3.1)	28.9	(±2.5)	47.9	(±3.0)



ii. Of those operations that implant, the percent of operations that implant heifers for replacement purposes (and animals on those operations):

	Percent			
	Suckling Calves	Standard Error	Weaning Age Calves	Standard Error
Operations	38.7	(±6.0)	17.0	(±5.2)
Number of calves on these operations as a percent of calves on operations that implant	47.3	(±5.6)	14.3	(±3.0)

d. Creep feeding

i. Percent of operations providing unweaned calves with access to creep feed:

Percent of Operations	Standard Error
27.4	(±2.7)

4. Nutrition (continued)

ii. Operation average number of days unweaned calves had access to creep feed:

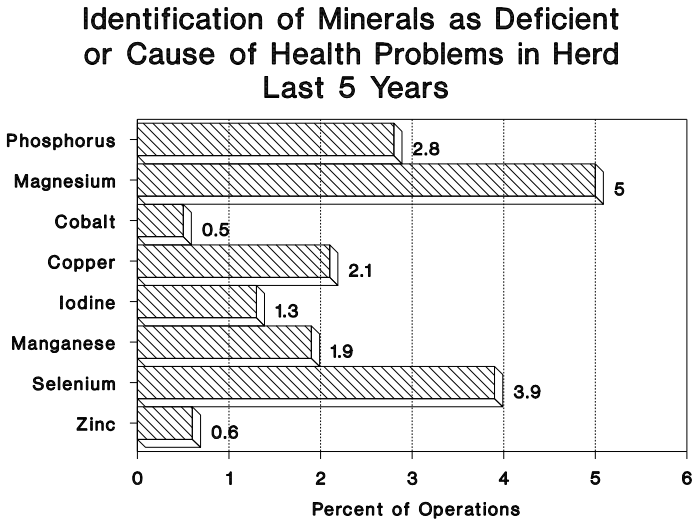
Number of Days	Standard Error
113.7	(±10.9)

5. Animal health

a. Mineral deficiencies

i. Percent of operations identifying the following minerals as deficient or a cause of health problems in the herd over the previous 5 years:

Mineral	Percent of Operations	Standard Error
Phosphorus	2.8	(±1.2)
Magnesium	5.0	(±1.3)
Cobalt	0.5	(±0.5)
Copper	2.1	(±0.8)
Iodine	1.3	(±0.6)
Manganese	1.9	(±0.8)
Selenium	3.9	(±1.1)
Zinc	0.6	(±0.5)



ii. Percent of operations reporting a toxic level of selenium in tissue or body fluid samples from the herd in the last 5 years:

Percent of Operations	Standard Error
0.3	(±0.3)

b. Deworming

i. Percent of operations deworming one or more class of beef cattle:

Percent of Operations	Standard Error
77.4	(±2.6)

5. Animal health (continued)

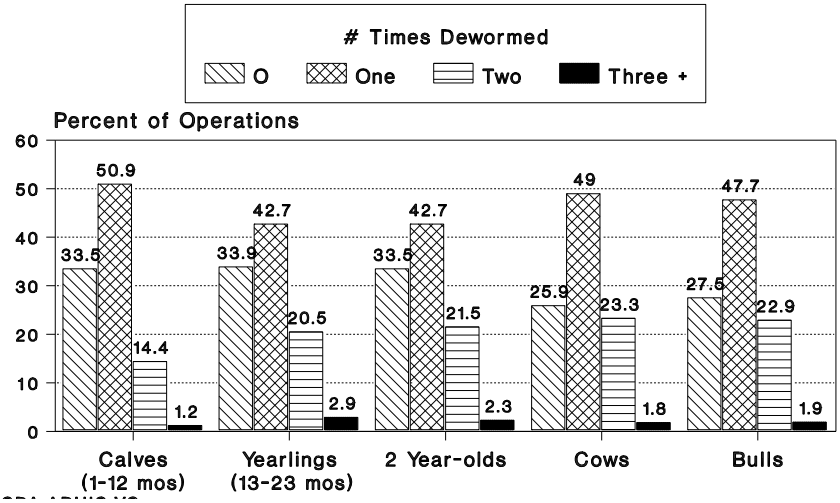
ii. Operation average number of times animals were dewormed in the previous 12 months:

Group	Number of Times	Standard Error
Calves (1-12 months)	0.8	(±0.0)[1]
Yearlings (13-23 months)	0.9	(±0.1)
2 year-olds	0.9	(±0.0)[1]
Cows	1.0	(±0.0)[1]
Bulls	1.0	(±0.0)[1]

iii. Percent of operations by number of times animals were dewormed in the last 12 months:

	Percent of Operations				
	Reported Number of Times Dewormed				
Group	0	1	2	3 or More	Total
Calves (1-12 months)	33.5	50.9	14.4	1.2	100.0
Stand. Error	(±3.1)	(±3.1)	(±2.1)	(±0.5)	
Yearlings (13-23 months)	33.9	42.7	20.5	2.9	100.0
Stand. Error	(±3.0)	(±3.0)	(±2.5)	(±1.0)	
2 Year-olds	33.5	42.7	21.5	2.3	100.0
Stand. Error	(±2.9)	(±3.0)	(±2.5)	(±0.8)	
Cows	25.9	49.0	23.3	1.8	100.0
Stand. Error	(±2.8)	(±3.1)	(±2.7)	(±0.7)	
Bulls	27.5	47.7	22.9	1.9	100.0
Stand. Error	(±2.7)	(±3.1)	(±2.6)	(±0.7)	

Percent of Operations by Deworming Practice



1 Standard error values rounded to zero.

5. Animal health (continued)

iv. Importance of factors in deworming cattle:

Factors	Percent of Operations by Level of Importance: Not	Moderate	Very	Extreme
Always have dewormed cattle (tradition)	18.3	13.6	35.8	32.3
Standard Error	(±2.4)	(±2.3)	(±3.3)	(±3.3)
Recommendation of veterinarian	31.0	20.5	28.3	20.2
Standard Error	(±3.2)	(±3.0)	(±3.2)	(±2.5)
Recommendation of another consultant or friend	55.7	25.4	14.5	4.4
Standard Error	(±3.3)	(±3.0)	(±2.8)	(±1.5)
Animals have loose feces (diarrhea)	38.1	16.1	24.3	21.5
Standard Error	(±3.3)	(±2.4)	(±3.0)	(±3.1)
Animals were looking poor (rough hair coat, weight loss, anemia, bottle jaw)	24.6	8.2	26.9	40.3
Standard Error	(±2.9)	(±1.7)	(±3.1)	(±3.5)
Fecal egg count	64.6	9.7	11.7	14.0
Standard Error	(±3.3)	(±2.0)	(±2.5)	(±2.2)

c. Treatment - grubs, ticks, lice, and flies

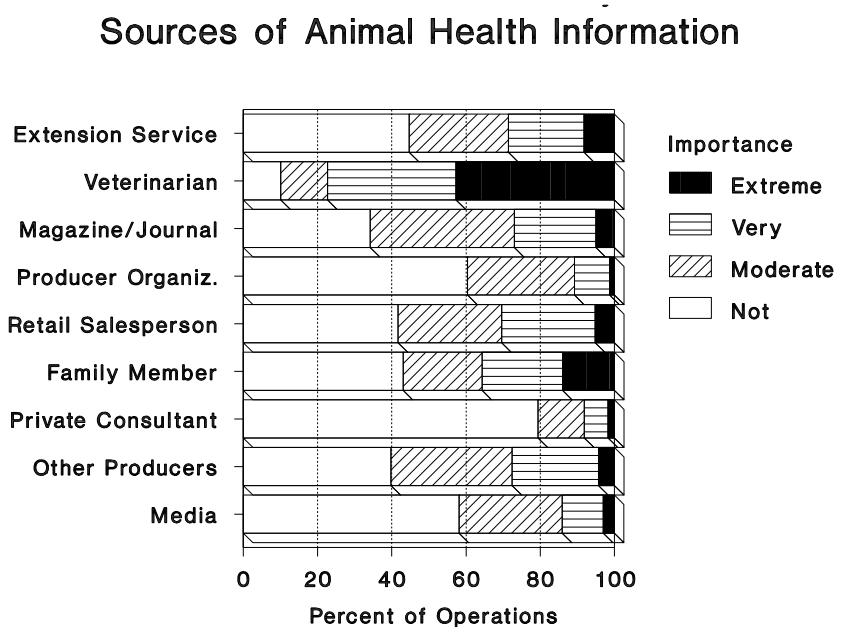
i. Percent of operations treating (using dips, sprays, insecticides, eartags, powders, injections, etc.) cattle over the previous 12 months for:

	Percent of Operations	Standard Error
Cattle grubs (warbles, hypoderma)	60.8	(±3.1)
Ticks	59.7	(±3.1)
Cattle lice	73.7	(±2.9)
Flies	84.1	(±2.5)

6. Sources of animal health or beef production information

a. Importance of sources of animal health information:

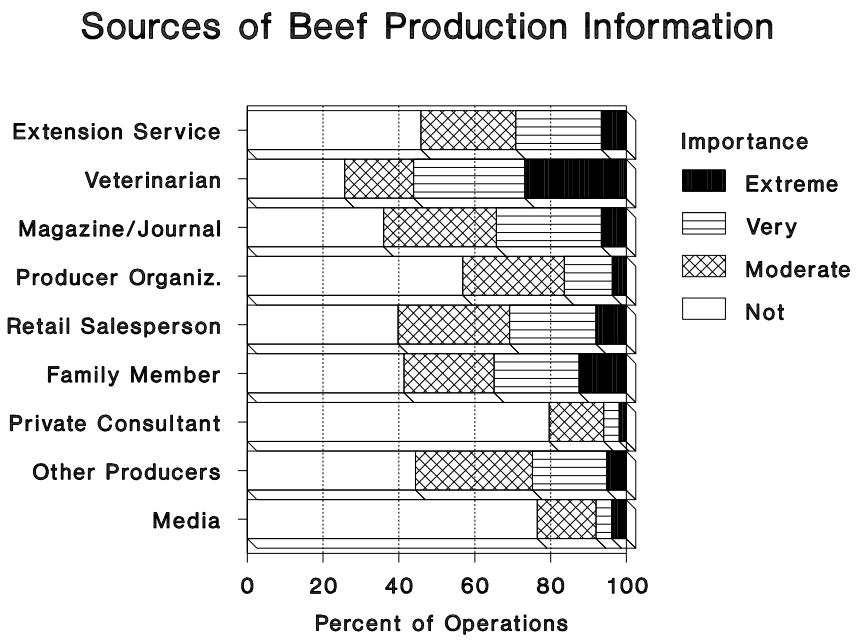
Source	Percent of Operations by Level of Importance			
	Not	Moderate	Very	Extreme
Cooperative Extension Service or university specialists	44.7	26.7	20.4	8.2
Standard Error	(±3.0)	(±2.6)	(±2.6)	(±1.6)
Veterinarian	10.1	12.6	34.6	42.7
Standard Error	(±2.1)	(±2.0)	(±2.9)	(±3.0)
Beef magazine or agricultural journal	34.2	38.8	22.0	5.0
Standard Error	(±2.9)	(±2.9)	(±2.5)	(±1.1)
Producer organization	60.4	28.8	9.5	1.3
Standard Error	(±3.0)	(±2.7)	(±1.8)	(±0.5)
Retail salespeople (feed, vaccines, etc.)	41.7	27.9	25.2	5.2
Standard Error	(±2.9)	(±2.8)	(±2.8)	(±1.3)
Family member	43.1	21.2	21.7	14.0
Standard Error	(±3.0)	(±2.6)	(±2.7)	(±2.1)
Private consultant	79.4	12.5	6.4	1.7
Standard Error	(±2.6)	(±2.0)	(±1.8)	(±0.8)
Other producers	39.8	32.6	23.3	4.3
Standard Error	(±3.1)	(±2.9)	(±2.7)	(±1.1)
Radio/television/newspaper	58.1	27.8	11.1	3.0
Standard Error	(±3.1)	(±2.8)	(±1.8)	(±1.1)
Other source	77.2	15.3	3.8	3.7
Standard Error	(±2.6)	(±2.0)	(±1.2)	(±1.2)



6. Sources of animal health or beef production information (continued)

b. Importance of sources of beef production information:

Source	Percent of Operations by Level of Importance: Not	Moderate	Very	Extreme
Cooperative Extension Service or university specialists	45.8	25.0	22.6	6.6
Standard Error	(±3.0)	(±2.6)	(±2.6)	(±1.4)
Veterinarian	25.7	18.2	29.3	26.8
Standard Error	(±2.8)	(±2.2)	(±2.7)	(±2.6)
Beef magazine or agricultural journal	36.0	29.7	27.7	6.6
Standard Error	(±2.9)	(±2.6)	(±2.7)	(±1.3)
Producer organization	56.8	26.8	12.7	3.7
Standard Error	(±3.0)	(±2.7)	(±1.8)	(±1.1)
Retail salespeople (feed, vaccines, etc.)	39.8	29.4	22.8	8.0
Standard Error	(±2.9)	(±2.9)	(±2.8)	(±1.6)
Family member	41.4	23.7	22.4	12.5
Standard Error	(±2.9)	(±2.7)	(±2.6)	(±2.0)
Private consultant	79.6	14.4	4.1	1.9
Standard Error	(±2.5)	(±2.3)	(±1.1)	(±0.9)
Other producers	44.4	30.8	19.6	5.2
Standard Error	(±3.0)	(±2.9)	(±2.4)	(±1.2)
Radio/television/newspaper	59.0	26.2	13.0	1.8
Standard Error	(±3.0)	(±2.8)	(±2.0)	(±0.8)
Other source	76.5	15.5	4.1	3.9
Standard Error	(±2.6)	(±2.3)	(±1.2)	(±1.3)



6. Sources of animal health or beef production information (continued)

c. Importance of sources of nutritional information:

Source	Percent of Operations by Level of Importance			
	Not	Moderate	Very	Extremely
Private nutritionist	80.9	11.1	6.2	1.8
Standard Error	(±2.6)	(±2.2)	(±1.4)	(±0.8)
Feed salesman or feed retailer	27.6	28.8	32.1	11.5
Standard Error	(±2.7)	(±2.7)	(±3.0)	(±2.1)
Extension agent	50.8	25.8	20.2	3.2
Standard Error	(±3.0)	(±2.8)	(±2.2)	(±1.1)
Veterinarian	26.6	19.1	30.7	23.6
Standard Error	(±2.9)	(±2.3)	(±2.7)	(±2.6)
Friend or neighbor	39.5	35.2	18.4	6.9
Standard Error	(±2.9)	(±3.0)	(±2.3)	(±1.6)
Producer magazine	48.2	35.1	15.0	1.7
Standard Error	(±3.0)	(±3.0)	(±2.0)	(±0.7)
Personal knowledge/education	6.4	7.0	32.9	53.7
Standard Error	(±1.5)	(±1.8)	(±2.9)	(±3.1)

d. Nutrition consultants

i. Percent of operations consulting an animal nutritionist in the previous 12 months:

Percent of Operations	Standard Error
10.6	(±1.7)

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