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Department of
Agriculture

Animal and
Plant Health
Inspection
Service

**Veterinary
Services**

Part IV: Beef Cow/Calf Breeding Management

Beef
CHAPA
Cow/Calf Health & Productivity Audit

NAHMS

March 1994

Acknowledgements

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The Beef Cow/Calf Health and Productivity Audit was a cooperative effort between State and Federal animal health officials, university researchers, and extension personnel. We want to thank the State and Federal Veterinary Medical Officers (VMO's) who visited the farms and collected the data for their hard work and dedication to the National Animal Health Monitoring System (NAHMS).

The roles of the producer, Area Veterinarian in Charge (AVIC), NAHMS Coordinator, Veterinary Medical Officer (VMO), Animal Health Technician (AHT), and enumerators from the National Agricultural Statistics Service (NASS) were critical in providing quality data for this report. All participants are to be commended for their efforts, particularly the producers whose voluntary efforts made the study possible.

Table of Contents

Illustration: States participating in data collection for this report and percent of U.S. cow inventory, January 1, 1992 ii

Introduction 1

Illustration: Examples of 95% confidence intervals 2

Part IV: Participant profile 3

1. Beef cow herd size 3

Illustration: Percent of responding operations: Beef cow herd size 3

Part IV: Population estimates 4

1. Nutrition 4

Illustration: % operations allowing replacement heifers to graze by pasture type 4

2. Calving and health management 5

Illustrations:
- Calves born during first 6 months of 1993, percent by month 5
- Calf mortality during first 6 months 1993 6
- Percent of females requiring assistance during calving 7

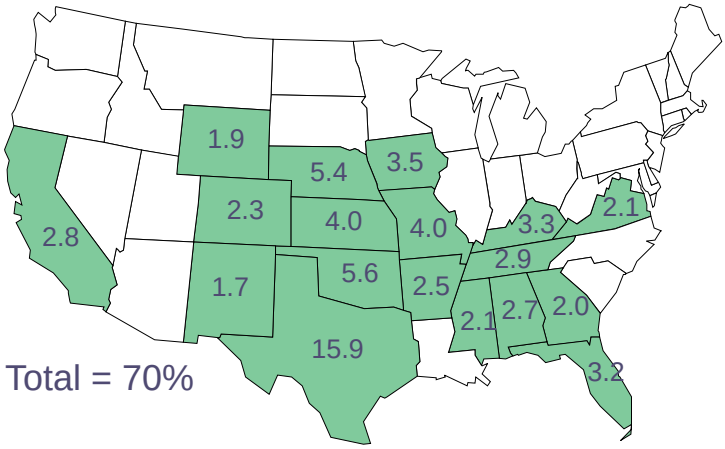
3. Breeding management 8

Illustrations:
- Semen testing and scrotal measuring 8
- % operations (and cows and bulls on these operations) performing selected procedures 9
- % operations and cows on these operations with 1 or more positive cultures for Trichomonas fetus 10
- Percent of operations by number of times cows are processed per year 11

4. Weak calf syndrome 12

Illustration: Producers' opinions of spring 1993 death losses compared with normal year 12

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



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 were released in August 1993 as *Part I: Beef Cow/Calf Herd Management Practices in the United States.*

Parts II and III were released in January of 1994. NASS enumerators collected data for *Part II: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 the 1992 calf crop born between January 1 and June 30, 1992. Data collection was limited to 18 of the largest cow/calf-producing States (facing page). The 18 States with producers participating represented 70 percent of the U.S. beef cow inventory.

The target population represented:

- 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

CHAPA Descriptive Results

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
- Date distributed: August 1993

Part II: Beef Cow/Calf Reproductive and 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: 11/9-12/4/93
- Date distributed: January 1994

from the subset described previously. Federal and State Veterinary Officers (VMO's) conducted personal interviews with the producers between January 4 and February 28, 1993.

Data for *Part IV: Beef Cow/Calf Breeding Management* were collected from 523 producers continuing in the program. VMO's conducted personal interviews with producers from July 1-30, 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 personal interview.
- **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).

Additional Beef CHAPA National 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

CHAPA Descriptive Results

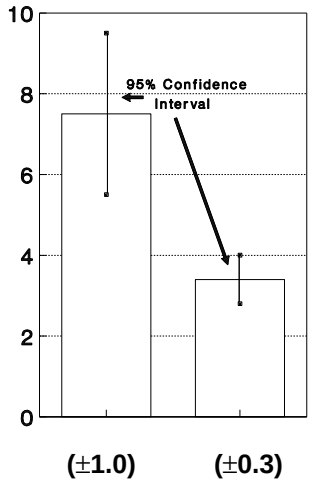
Part III: Beef Cow/Calf Health and Health Management

- States surveyed: 18
- Target population: Same as Part II
- Participating producers: 540
- Data collection period: 1/4-2/28/93
- Date distributed: January 1994

Part IV: Beef Cow/Calf Breeding Management

- States surveyed: 18
- Target population: Same as Parts II & III
- Participating producers: 523
- Data collection period: 7/1-7/30/93

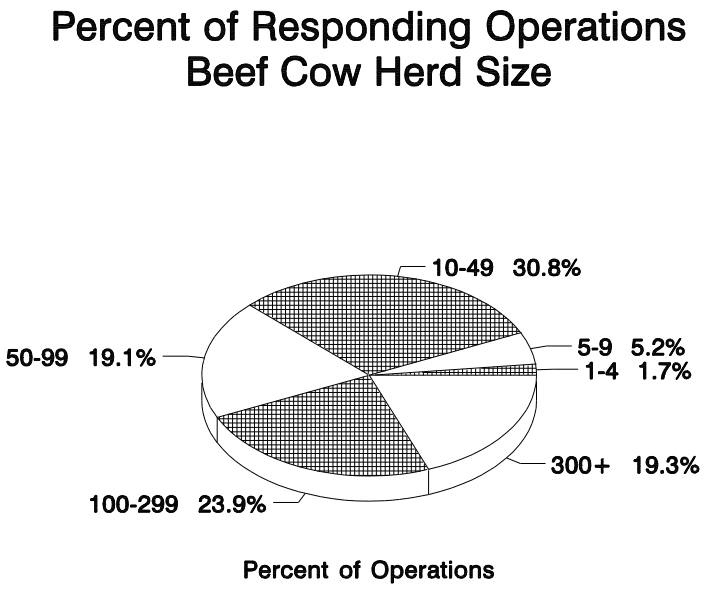
Examples of 95% Confidence Intervals



Part IV: Participant Profile[1]

1. Descriptive statistics of responding operations
   a. Beef cow herd size (as of 1/1/93):

Beef Cow Herd Size	Number of Operations
1-4	9
5-9	27
10-49	161
50-99	100
100-299	125
300+	101
Total	523



1 Actual study values; not population estimates.

Part IV: Population Estimates

1. Nutrition

a. Percent of operations allowing females to graze perennial, annuals, or aftermath pasture during the 60 days prior to calving in 1993:

	Replacement Heifers		Cows	
Pasture Type	Percent	Standard Error	Percent	Standard Error
Perennial (permanent) pasture	64.0	(±3.5)	88.8	(±1.7)
Annual (temporary) pasture	9.0	(±2.2)	12.1	(±2.6)
Aftermath (crop residues)	7.5	(±1.5)	10.8	(±1.5)
Other	3.3	(±1.3)	2.0	(±0.8)

b. Percent of operations allowing females to graze perennial, annual, or aftermath pasture during the 60 days after calving in 1993:

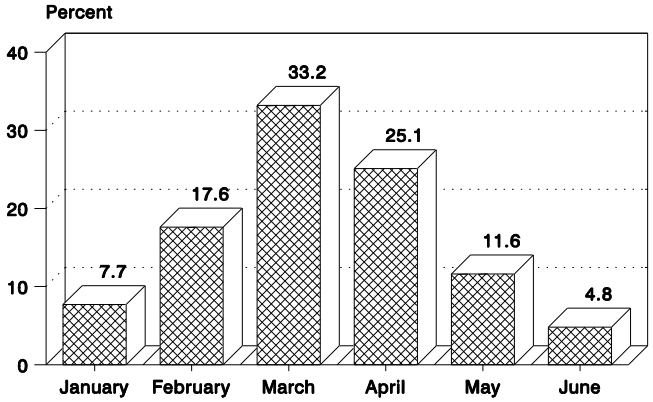
	Replacement Heifers		Cows	
Pasture Type	Percent	Standard Error	Percent	Standard Error
Perennial (permanent) pasture	70.4	(±3.5)	97.1	(±0.8)
Annual (temporary) pasture	7.5	(±1.9)	10.6	(±2.4)
Aftermath (crop residues)	3.3	(±1.2)	3.8	(±1.3)
Other	2.2	(±0.8)	2.2	(±0.8)

2. Calving and health management

a. Calves born during the first 6 months of 1993, percent by month:

Month	Percent	Standard Error
January	7.7	(±0.9)
February	17.6	(±1.3)
March	33.2	(±1.7)
April	25.1	(±1.4)
May	11.6	(±1.0)
June	4.8	(±0.5)
Total	100.0	

Calves Born During First
6 Months of 1993, Percent by Month



b. Percent of operations that finished calving by June 30:

Percent	Standard Error
36.5	(±3.7)

c. For those operations that finished calving by June 30, percent of these operations that finished calving in:

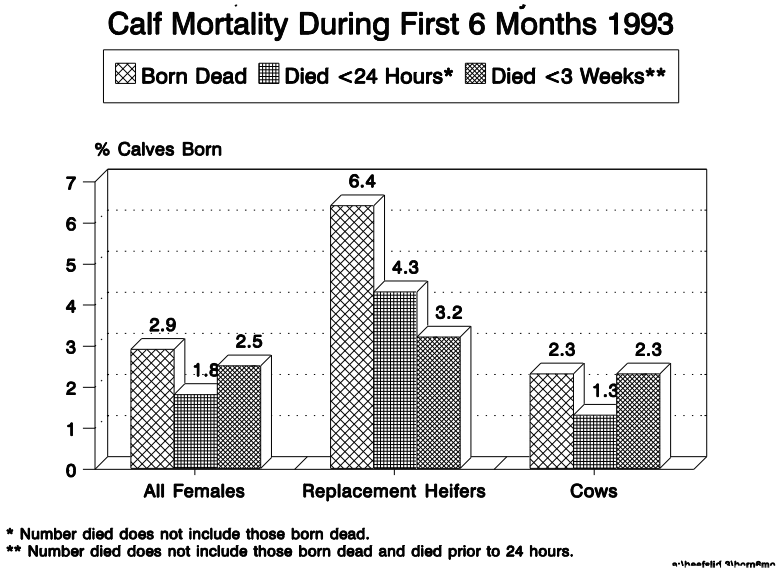
Month	Percent of Operations	Standard Error
January	0.0	(±0.0)
February	3.0	(±2.5)
March	7.5	(±3.0)
April	12.7	(±3.4)
May	32.7	(±6.0)
June	44.1	(±6.2)
Total	100.0	

2. Calving and health management (continued)

d. Calf mortality as a percent of those born during the first 6 months of 1993

i. Deaths by age:

	All Females		Replacement Heifers		Cows	
	Percent	Standard Error	Percent	Standard Error	Percent	Standard Error
Born dead	2.9	(±0.3)	6.4	(±0.9)	2.3	(±0.3)
Died within 24 hours of age[1]	1.8	(±0.2)	4.3	(±0.7)	1.3	(±0.1)
Died 24 hours - 3 weeks of age[2]	2.5	(±0.3)	3.2	(±0.5)	2.3	(±0.3)
ii. Cumulative deaths by age:						
All prior to 24 hours[3]	4.7	(±—)	10.7	(±—)	3.6	(±—)
All prior to 3 weeks[4]	7.2	(±—)	13.9	(±—)	5.9	(±—)



1 Number died does not include those born dead.

2 Number died does not include those born dead and died prior to 24 hours.

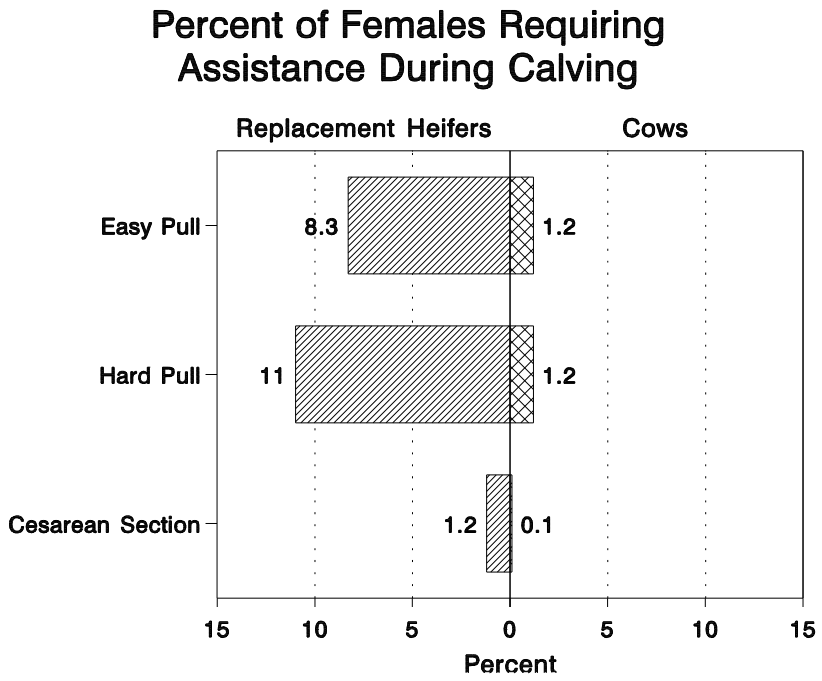
3 Includes those born dead.

4 Includes those born dead and died prior to 24 hours.

2. Calving and health management (continued)

e. Percent of females calving in the first 6 months of 1993 requiring various levels of assistance during calving:

	Replacement Heifers		Cows	
Level	Percent	Standard Error	Percent	Standard Error
No assistance	79.5	(±2.7)	97.5	(±0.2)
Easy pull	8.3	(±1.2)	1.2	(±0.1)
Hard pull	11.0	(±2.2)	1.2	(±0.2)
Cesarean section	1.2	(±0.4)	0.1	(±0.1)
Total	100.0		100.0	



3. Breeding management

a. Percent of operations that purchased, leased, or borrowed bulls in the preceding 6 months:

Percent	Standard Error
27.0	(±3.3)

i. For operations that purchased, leased, or borrowed bulls, percent of those operations (and cows and bulls on these operations) semen testing and/or scrotal measuring these bulls:

Procedure	Percent of Operations	Stand. Error	Percent of Cows	Stand. Error	Percent of Bulls	Stand. Error
Semen tested	60.1	(±7.1)	85.6	(±3.4)	80.2	(±4.6)
Scrotal measured	46.9	(±7.0)	74.4	(±5.0)	65.9	(±6.3)

ii. For operations that purchased, leased, or borrowed bulls, percent that added bulls older than 18 months of age or no longer considered virgin:

Percent	Standard Error
44.8	(±7.0)

iii. For operations that introduced bulls older than 18 months of age or no longer considered virgin, percent of operations testing all bulls for Trichomonas fetus:

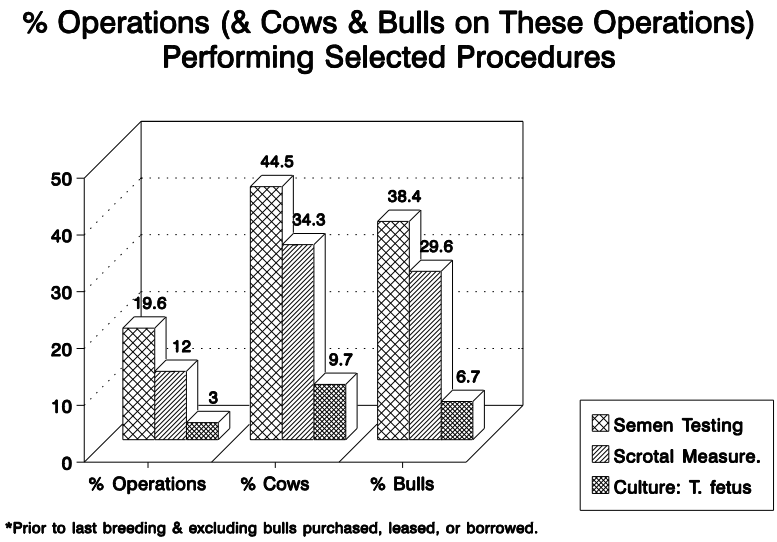
Percent	Standard Error
13.4	(±6.7)

3. Breeding management (continued)

b. Procedures performed on bulls prior to the last breeding (excluding bulls purchased, leased, or borrowed)

i. Percent of operations (and cows and bulls on these operations) performing the following procedures:

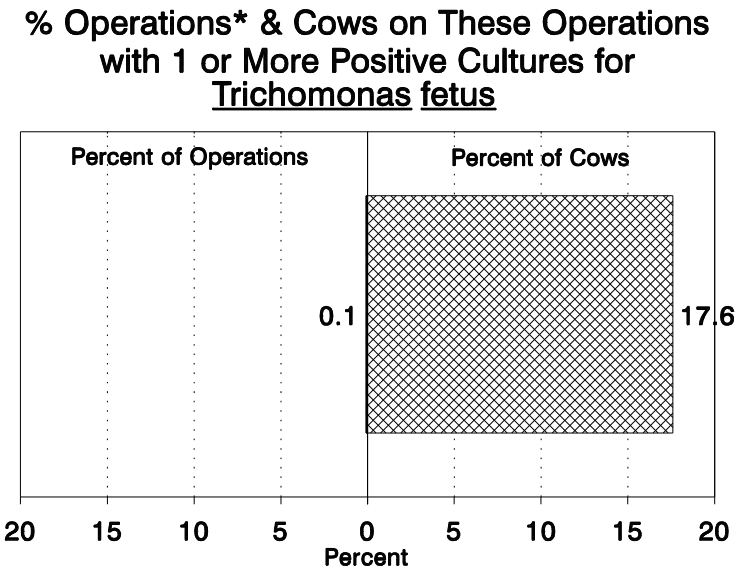
Procedure	Percent of Operations	Stand. Error	Percent of Cows	Stand. Error	Percent of Bulls	Stand. Error
Semen tested	19.6	(±2.9)	44.5	(±4.8)	38.4	(±4.4)
Scrotal measurement	12.0	(±2.4)	34.3	(±5.0)	29.6	(±4.4)
Culture for Trichomonas fetus	3.0	(±1.3)	9.7	(±4.3)	6.7	(±2.8)



3. Breeding management (continued)

ii. Percent of operations testing for Trichomonas fetus (and cows and bulls on these operations) that had one or more positive cultures:

Percent of Operations	Stand. Error	Percent of Cows	Stand. Error	Percent of Bulls	Stand. Error
0.1	(±0.1)	17.6	(±14.0)	14.1	(±10.3)



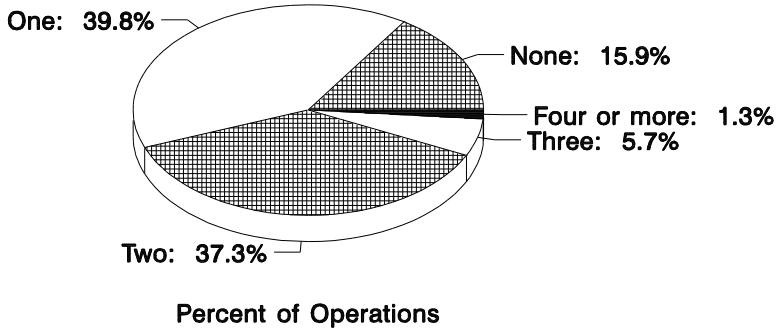
*Percent of operations testing for **Trichomonas fetus.**

3. Breeding management (continued)

c. Percent of operations (and cows on these operations) by number of times per year the cows are processed (such as vaccination, deworming, or palpation):

Times per Year	Percent of Operations	Standard Error	Percent of Cows	Standard Error
0	15.9	(±3.1)	7.6	(±1.7)
1	39.8	(±3.6)	31.7	(±3.1)
2	37.3	(±3.8)	44.5	(±3.8)
3	5.7	(±1.6)	13.6	(±3.2)
4 or more	1.3	(±0.4)	2.6	(±0.7)
Total	100.0		100.0	

Percent of Operations by Number of Times Cows Are Processed per Year



4. Weak calf syndrome: Deaths in first 6 months of 1993

a. Number of calves that died in first 3 days of life as a percent of all calves born alive by beef cow herd size:

Beef Cow Herd Size	Percent	Standard Error
1-19	2.9	(±0.8)
20-49	2.3	(±0.5)
50-99	2.5	(±0.4)
100-299	2.8	(±0.5)
300+	1.7	(±0.3)
Total	2.5	(±0.2)

b. Producer opinions of spring 1993 death losses compared with expected losses in a normal year:

Level	Percent	Standard Error
Above expected	25.5	(±3.6)
Less than expected	13.1	(±2.5)
About the same as expected	61.4	(±3.7)
Total	100.0	

c. Percent of producers who perceived that their herd experienced weak calf syndrome in spring 1993:

Percent	Standard Error
6.4	(±1.5)

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