Cattle



United States Department of Agriculture

Washington, D.C.

Released July 29, 1991, by the Agricultural Statistics Board. Inventory estimates refer to July 1. Calf Crop estimates are for the 1991 year. Number of operations and Inventory estimates by size group are for the 1989 and 1990 calendar years.

July 1 Cattle Inventory Up 2 Percent

All cattle and calves in the United States as of July 1, 1991, totaled 110 million head, up 2 percent from the July 1 level of both a year ago and two years ago. This is the largest July 1 inventory since July 1 1986.

Class estimates and the percentage changes from July 1 last year and two years ago, respectively, are as follows:

- -- All cows and heifers that have calved, 44.5 million, up 1 percent from both years. Beef cows, 34.5 million, up 2 percent from both years. Milk cows, 10.0 million, down 1 percent from both years.
- All heifers 500 pounds and over, 17.0 million, up 3 percent and up 2 percent. Beef replacement heifers, 5.30 million, up 4 percent and up 8 percent. Milk replacement heifers, 4.20 million, unchanged and down 7 percent. Other heifers, 7.50 million, up 4 percent from both years.
- -- Steers weighing 500 pounds and over, 15.2 million, up 4 percent and 6 percent.
- -- Bulls weighing 500 pounds and over, 2.20 million, unchanged from both years.
- -- Calves under 500 pounds, 30.9 million, up 1 percent from both years.

Calf Crop Up 1 Percent

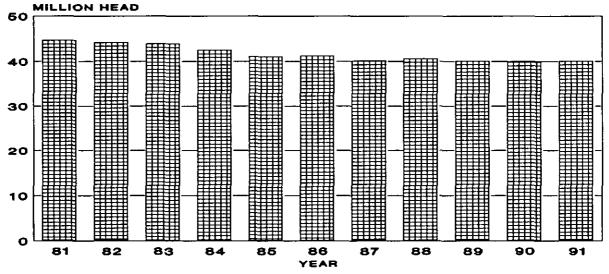
The 1991 calf crop is expected to be 40.1 million head, up 1 percent from 1990 and virtually unchanged from 1989. Calves born during the first half of the year are estimated at 29.3 million, up slightly from both 1990 and 1989.

For information, call Bob Cole (202) 447-3121. Office hours are 8:00 a.m. to 4:30 p.m. ET.

Cattle and Calves: Number by Class and Calf Crop, United States, July 1, 1989-91

				· -			
Class	:	1989	:	1990	:	1991	1991 as % 1990
	:			1,000 Hea	ıd		 Percent
Cattle and Calves	:	107,700		107,900		109,800	102
Cows and Heifers That Have Calved: Beef Cows Milk Cows		43,900 33,800 10,100		44,000 33,900 10,100		44,500 34,500 10,000	101 102 99
Heifers 500 Pounds and Over For Beef Cow Replacement For Milk Cow Replacement Other Heifers		16,600 4,900 4,500 7,200		16,500 5,100 4,200 7,200		17,000 5,300 4,200 7,500	103 104 100 104
Steers 500 Pounds and Over Bulls 500 Pounds and Over Calves Under 500 Pounds	:	14,400 2,200 30,600		14,600 2,200 30,600		15,200 2,200 30,900	104 100 101
Calf Crop	:	40,102		39,879		40,100	101

CALF CROP, UNITED STATES BY YEARS



This report was approved on July 29, 1991, by the Acting Secretary of Agriculture and the National Agricultural Statistics Service's Agricultural Statistics Board.

Acting Secretary of Agriculture Bruce L. Gardner

Agricultural Statistics Board Chairperson Rich Allen

NASS, USDA

Agricultural Statistics Board Cattle July 1991 2

Calf Crop: Number and Percent of Total by Six Month Period United States, 1989-91

	:	1989	: 1	990 :	1991	
Period				: % of : : Total :	Number : (000) :	% of Total
Jan 1 - Jun 30 Jul 1 - Dec 31	: 29,20 : 10,90		29,200 10,679		29,300 10,800	73.1 26.9
Total <u>l</u> /	40,10	2 100.0	39,879	100.0	40,100	100.0

^{1/} Expected calf crop for 1991.

United States Balance Sheet Cattle and Calves
January 1 - June 30 1/

		-		<i>_</i> /				
Item	:	1989	:	1990	:	1991		
	:	Million Head						
January 1 Inventory Calf Crop and Imports	:	98.1 30.0		98.2 30.3		99.4 30.5		
Total Supply <u>2</u> /	:	128.1		128.5		130.0		
Slaughter Deaths and Exports	:	18.1 2.6		17.7 2.5		17.0 2.5		
Total Disappearance <u>2</u> /	:	20.7		20.2		19.5		
Residual <u>2</u> /	:	.3		4		7		
July 1 Inventory	: :	107.7		107.9		109.8		

 $[\]frac{1}{2}$ / Preliminary. $\frac{1}{2}$ / Totals may not add due to rounding.

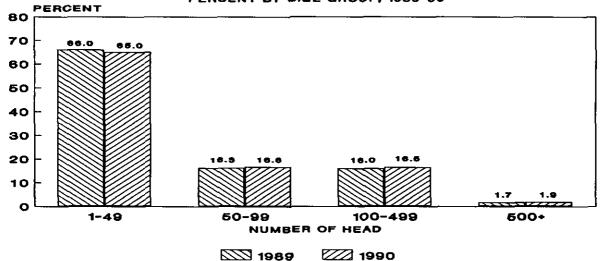
Number of Operations With Cattle 1989-90 $\underline{1}/$, and Cattle Inventory, January 1, 1990-91, Selected States

State	: Operations	With Cattle	: Janu	ary 1 Catt	le Inventory
Juace	1989	1990	: 19	90 :	1991
	:Nur	nber		1,000	 Head
AL	37,000	37,000		750	1,800
AR	: 34,000	34,000		700	1,690
CA	: 30,000	29,000		800	4,750
CO	: 15,000	15,000	2,	900	2,800
FL	: 21,000	21,000		925	1,900
GA	: 32,000	30,000		400	1,420
ID	: 16,000	15,000	1,	660	1,740
	:				
ΙL	: 34,000	33,000		950	2,000
IN	: 36,000	34,000		250	1,225
IA	: 52,000	49,000		500	4,750
KS	: 41,000	38,000		700	5,700
KY	: 59,000	57,000		420	2,500
MN	: 43,000	40,000		600	2,760
MS	: 29,000	27,000	1,	370	1,290
МО	83,000	82,000	Δ	400 .	4,500
MT	: 14,700	14,000		300	2,400
NE	: 31,000	31,000		800	6,000
NM	9,000	9,000		360	1,340
ЙŸ	: 23,000	22,000		540	1,550
ND	: 16,300	16,300		700	1,700
OH	: 42,000	43,000		650	1,580
0.,	:	.4,000	-,		1,000
OK	: 61,000	62,000	5.	250	5,550
PA	: 40,000	38,000		860	1,820
SD	: 23,000	23,000		380	3,400
TN	: 66,000	68,000	2,	300	2,250
ΤX	: 142,000	136,000		200	13,400
WI	: 57,000	56,000		170	4,170
WY	: 5,900	5,900		220	1,190
28 Sts	1,092,900	1,065,200	86,	055	87,175
22 Sts	: : 230,400	223,410	12,	107	12,261
US	: : 1,323,300	1,288,610	98,	162	99,436

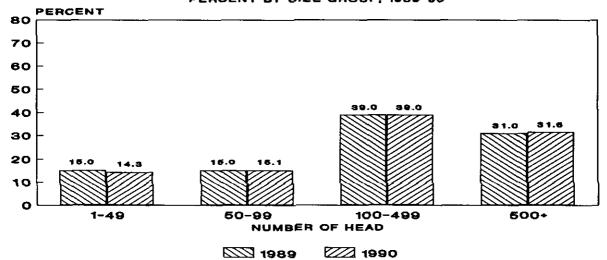
 $[\]underline{1}/$ An operation is any place having one or more head of the species on hand at any time during the year.

U.S. CATTLE OPERATIONS

PERCENT BY SIZE GROUP, 1989-90



U.S. CATTLE INVENTORY PERCENT BY SIZE GROUP, 1989-90



Cattle and Calves: Percent of Operations by Size Groups, 1989-90 Selected States, Regions, and U.S. $\underline{1}/$

	:	Operation	s Having	
State	1-49 Head	: 50-99 Head	: 100-499 Head :	500+ Head
	: 1989 : 1990	: 1989 : 1990	: 1989 : 1990 :	1989 : 1990
	· ·	Per	cent	
FL GA	: 67.6 67.7 : 70.0 69.0 : 45.3 46.7 : 79.5 77.1	19.0 18.0 19.0 19.1 7.7 8.6 18.0 17.3 8.6 10.0 13.0 13.0 12.9 12.7	13.4 13.2 14.7 14.1 30.0 29.3 9.0 10.0 9.7 9.7	2/ 2/ 7.6 8.3 6.7 6.7 2.9 2.9 0.6 0.6
IN IA KS KY MN	: 75.0 74.0 : 56.0 50.0	11.9 13.5	9.7 10.0 29.0 29.5 26.0 29.8 9.6 10.4 19.0 21.5	$\begin{array}{ccc} \frac{2}{1.6} & \frac{2}{1.6} \\ 1.6 & 2.0 \\ 4.2 & 4.2 \\ \frac{2}{1.6} & \frac{2}{1.6} \\ 0.5 & 0.5 \end{array}$
MT NE NM NY ND	: 46.0 34.5 : 37.0 37.0 : 51.3 57.0 : 53.5 52.3	22.9 22.0 21.0 13.0 24.2 23.4 22.0 23.3	33.0 34.0 34.0 34.5 21.0 22.0 21.7 23.6	7.2 8.5 6.1 6.5 6.7 8.0 0.6 0.7 2.0 1.9
PA SD TN	: 30.0 31.0 : 79.0 80.9	19.8 19.7 23.0 22.0 13.0 12.1 15.0 15.3 31.7 31.0	12.2 12.3 42.2 42.0 8.0 7.0 13.6 16.2 26.3 25.3	2/ 4.8 5.0 2/ 2/ 2.4 2.5
28 Sts	: : 64.0 62.4 :	17.0 17.9	17.2 17.7	1.8 2.0
22 Sts	: : 77.0 77.5	11.7 10.5	10.0 10.8	1.3 1.2
US	: : 66.0 65.0	16.3 16.6	16.0 16.5	1.7 1.9

^{1/} An operation is any place having one or more cattle on hand during the year. Percents reflect average distributions of various probability surveys conducted during the year but are based primarily on end-of-year surveys.

^{2/} Combined with other size groups.

Cattle and Calves: Percent of Inventory by Size Groups, 1989-90 Selected States, Regions, and U.S. $\underline{1}/$

			inventory	on Oper	ations H	aving		
State	1-49 H	lead :	50-99 H	lead :	100-499	Head:	500+ I	 -lead
	: 1989 :	1990 :	1989 :	1990 :	1989 :	1990 :	1989 :	1990
	: :			Perc	ent			
AL AR CA CO FL GA ID	25.0 24.4 4.3 3.1 10.2 28.0 7.5	4.0 3.6 11.1 32.4	6.2 6.8	24.0 26.1 3.6 6.2 7.5 18.6 7.2	34.0 42.0 22.3 31.0 21.0 41.0 38.4		14.0 8.6 70.0 59.7 62.0 11.0 46.0	14.0 8.3 72.0 58.4 57.5 11.0 48.0
IL IN IA KS KY MN MS	24.0 27.0 11.0 7.5 32.0 14.0 22.0	23.5 30.6 8.5 6.0 32.0 14.0 23.0	21.0 23.0 18.0 9.1 26.0 27.4 18.0	22.0 24.1 17.5 9.0 24.0 29.0 18.0	44.0 41.4 54.0 35.0 37.3 52.0 41.0		11.0 8.6 17.0 48.4 4.7 6.6 19.0	11.5 7.3 23.0 50.0 4.8 7.0 19.0
MO MT NE NM NY ND OH	23.0 4.8 4.5 5.0 13.0 7.0 33.0	22.5 4.0 4.3 5.0 12.0 7.5 33.0	22.7 6.2 8.5 9.0 26.0 16.0 20.0	22.2 9.0 8.0 6.0 23.5 16.0 19.5	46.0 44.0 35.0 28.0 54.0 64.0	46.0 41.0 34.7 26.0 56.0 65.0 40.5	8.3 45.0 52.0 58.0 7.0 13.0 6.0	9.3 46.0 53.0 63.0 8.5 11.5 7.0
OK PA SD TN TX WI WY	: 15.0 : 23.0 : 4.8 : 35.0 : 15.0 : 11.0 : 3.7	14.6 22.0 4.8 39.6 13.6 13.5 2.9	30.0 10.2	23.6	40.0 43.3 55.0 35.0 30.0 55.0 36.0	54.0 32.4	30.0 3.7 30.0 4.3 44.0 3.4 57.0	4.4
28 Sts	14.0	13.7	16.0	15.4	39.0	39.1	31.0	31.8
22 Sts	18.0	18.9	16.0	13.3	37.0	38.1	29.0	29.7
US	15.0	14.3	15.0	15.1	39.0	39.0	31.0	31.6

Percents reflect average distributions of various probability surveys conducted during the year but are based primarily on end-of-year surveys.

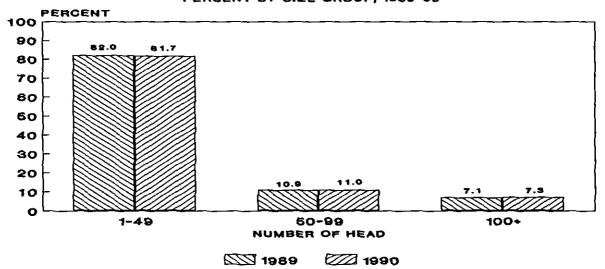
Number of Operations With Beef Cows 1989-90 $\underline{1}/$, and Beef Cow Inventory, January 1, 1990-91, Selected States

State	: Operations	With Beef Cows	<u>2</u> /: January	1 Beef Cow Inventory			
State	1989	: 1990	: 1990	: 1991			
	:	Number	*	1,000 Head			
AL	36,000	36,000	870	917			
AR	: 29,000	29,000	901	848			
CA	: 18,000	18,000	935	940			
CO	: 10,800	10,800	774	773			
FL	: 18,000	18,000	1,083	1,065			
GA	: 28,000	27,000	646	657			
ID	: 9,000	8,500	530	545			
	:						
ΙL	: 21,000	21,000	555	570			
IN	20,000	20,000	370	345			
IA	: 33,000	31,000	1,122	1,163			
KS	: 32,000	30,000	1,390	1,350			
KY	: 47,000	46,000	1,040	1,100			
MN	: 16,000	15,000	350	375			
MS	: 27,000	25,000	707	707			
МО	: : 67,000	67,000	1,964	2,040			
MT	: 12,800	12,300	1,328	1,428			
NE	: 24,000	24,000	1,755	1,827			
NM	: 7,000	7,000	589	571			
NY	: 8,300	8,000	75	70			
ND	: 13,900	14,000	872	875			
OH	: 24,000	23,000	380	370			
ОК	: : 50,000	51,000	1,880	1,870			
PA	: 16,000	15,000	176	184			
SD	: 18,500	18,500	1,505	1,513			
TN	: 56,000	59,000	1,005	975			
TX	: 125,000	120,000	5,210	5,360			
WI	: 10,000	9,700	180	175			
WY	: 5,100	5,100	650	650			
28 Sts	: : 782,400	768,900	28,842	29,263			
22 Sts	: : 166,740	163,120	4,358	4,357			
US	: : 949,140	932,020	33,200	33,620			

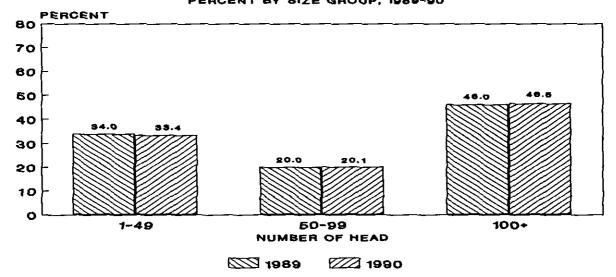
 $[\]underline{1}/$ An operation is any place having one or more beef cows on hand at any time during the year.

^{2/} Included in operations with cattle.

U.S. BEEF COW OPERATIONS PERCENT BY SIZE GROUP, 1989-90



U.S. BEEF COW INVENTORY PERCENT BY SIZE GROUP, 1989-90



Beef Cows: Percent of Operations by Size Groups, 1989-90 Selected States, Regions, and U.S. $\underline{1}/$

:			Operations	Having			
State :	1-49	Head	: 50-99	Head	:	100	0 + Head
:	1989	: 1990	: 1989 :	1990	:	1989	: 1990
:			Perc	ent			
AL :	88.9	86.0	7.5			3.6	4.0
AR :	79.0	76.0	15.8	19.0		5.2	5.0
CA :	77.8	79.4		7.8		13.3	
co :	58.0	59.3	18.0	18.5		24.0	
FL:	81.0	80.0	7.8	8.9		11.2	11.1
GA :	86.8	87.8	9.3	8.9		3.9	3.3
ID :	71.0	69.0	12.0	13.0		17.0	18.0
IL :	89.5	89.0	8.1	8.4		2.4	2.6
IN :	93.0	94.0	5.5	5.0		1.5	1.0
IA :	76.0	73.5	18.2	20.0		5.8	6.5
KS:	69.0	68.0	19.0	19.0		12.0	
KY :	89.4	87.0	8.5	10.0		2.1	
MN :	88.7	87.0	9.1	10.0		2.2	3.0
MS :	86.7	86.0	9.6	10.0		3.7	4.0
MO :	85.0	85.0	10.4	10.0		4.6	5.0
MT :	50.0	39.0	17.0	28.0		33.0	33.0
NE :	59.0	58.0	20.0	20.0		21.0	22.0
NM :	57.0	67.0	20.0	15.0		23.0	18.0
NY :	97.6	97.5	1.9	1.8		0.5	0.7
ND :	50.0	52.0	27.0	27.0		23.0	21.0
OH :	95.8	95.6	3.3	3.4		0.9	1.0
OK :	75.0	76.5	17.2	16.0		7.8	7.5
PA :	97.5	97.4	1.9	1.9		0.6	0.7
SD :		53.0	22.0	22.0		26.0	
TN :	91.1	93.2	7.1	5.4		1.8	1.4
TX :			11.0			7.6	
WI :	94.0	94.0	4.0	4.0		2.0	2.0
WY :	55.0	43.0	10.0	16.0		35.0	41.0
28 Sts :	81.0	80.1	11.3	12.0		7.7	7.9
22 Sts :	89.1	89.3	6.6	6.1		4.3	4.6
us :	82.0	81.7	10.9	11.0		7.1	7.3

^{1/} An operation is any place having one or more beef cows on hand during the year. Percents reflect average distributions of various probability surveys conducted during the year but are based primarily on end-of-year surveys.

Beef Cows: Percent of Inventory by Size Groups, 1989-90 Selected States, Regions, and U.S. $\underline{1}/$

	Je 1				3. <u>1</u> / 	
	:	Invent	ory on Ope	rations H	aving	
State	1-49	Head :	50-99	Head	: 100 +	+ Head
	: 1989	: 1990 :	1989	: 1990	: 1989 :	1990
	•		Per	cent		
AL AR	50.0 42.0		22.0 31.0			29.0 25.5
CA	: 14.0	15.0		10.0	75.0	75.0
FL	: 15.0	15.2		10.0 24.0	76.7 27.0	74.8
	: 15.0 :	14.0	13.0	14.0	72.0	72.0
IN		74.0		16.5	17.0	16.0 9.5
IA KS		28.0		26.0	48.0	26.0 46.0
KY MN	: 59.0	55.0	25.0 26.0	27.0	15.0	18.0
MS MO	: 45.0 : 50.0		25.0 24.0	26.0 22.6		30.0
MT	: 7.8 : 18.0	7.0		16.0	83.0	28.4 77.0 66.0
NM	: 11.0 : 81.3	11.0	16.0 12.0	12.0	73.0	77.0 10.0
ND		18.5	28.0 16.0	27.5	54.0	54.0 11.0
OK	: : 35.0		27.0		38.0	36.0
SD		80.0 15.0 68.0	18.0	19.0	7.7 67.0 14.0	9.8 66.0 12.0
TX WI	: 33.0 : 66.0	31.0 64.0	19.0 14.0	19.0 17.0	48.0 20.0	50.0 19.0
MÅ	: 6.0	4.6	7.4	7.7	86.6	87.7
28 Sts	: 34.0 :	32.8	20.0	20.9	46.0	46.3
22 Sts	: 37.0 :	37.3	16.0	14.9	47.0	47.8
US	: 34.0	33.4	20.0	20.1	46.0	46.5

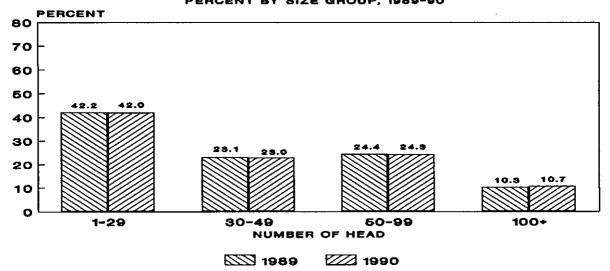
^{1/} Percents reflect average distributions of various probability surveys conducted during the year but are based primarily on end-of-year surveys.

Number of Operations With Milk Cows 1989-90 $\underline{1}/$, and Milk Cow Inventory, January 1, 1990-91, Selected States

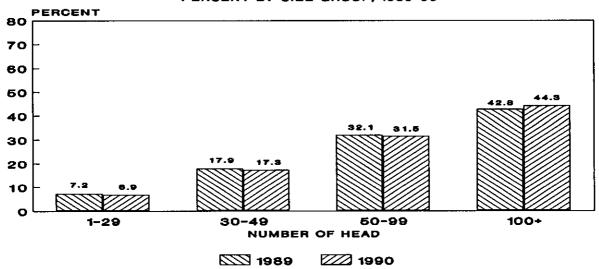
State	: Operations	With Milk Cows <u>2</u> /	: January 1 M	ilk Cow Inventory
State	1989	: 1990	: 1990	: 1991
	:	Number	1,00	0 Head
CA	4,700	4,500	1,115	1,150
FL	: 1,200	1,200	182	185
ID	: 2,500	2,200	170	185
ĪL	: 4,100	3,900	195	195
IN	: 5,300	5,000	160	155
IA	: : 7,800	7,800	308	302
KY	: 7,000	6,500	210	200
MD	: 1,900	1,800	106	108
MI	: 6,500	6,500	344	343
MN	: 16,500	15,500	715	690
МО	8,500	8,000	226	230
NY	: 13,500	13,000	790	775
NC	: 2,500	2,000	101	101
OH	: 9,200	9,000	354	340
PA	: 16,500	15,500	694	686
TN	5,000	4,500	195	195
TX	: 6,000	5,700	390	390
٧T	: 2,800	2,700	167	164
VA	: 3,500	3,000	141	141
WA	: 3,000	3,000	225	241
WI	: 34,000	33,000	1,760	1,765
21 Sts	162,000	154,300	8,548	8,541
29 Sts	: : 41,710	39,490	1,605	1,618
US	203,710	193,790	10,153	10,159

^{1/} An operation is any place having one or more milk cows on hand during the
 year, excluding cows used to nurse calves.
2/ Included in operations with cattle.

U.S. MILK COW OPERATIONS PERCENT BY SIZE GROUP, 1989-90



U.S. MILK COW INVENTORY PERCENT BY SIZE GROUP, 1989-90



Milk Cows: Percent of Operations by Size Groups, 1989-90 Selected States, Regions, and U.S. $\underline{1}/$

	: Operations Having									
State	1-29	Head :	30-49	Head	: 50-99	Head :	100+ H	lead		
	1989	: 1990 :	1989 :	1990	: 1989	: 1990 :	1989 :	1990		
	Percent									
CA FL ID IL	44.7 70.8 50.8	42.2 70.8 45.9 23.1	3.0 <u>2/</u> 12.7 29.3	3.1 <u>2/</u> 12.7 30.8	7.6 <u>2</u> / 18.8 36.6	8.0 <u>2/</u> 19.1 33.3	44.7 29.2 17.7 9.7	46.7 29.2 22.3 12.8		
ĬŇ	62.3	60.0	13.6	16.0	20.7	19.0	3.4	5.0		
IA KY MD MI MN	37.2 53.6 32.5 34.3 26.1	37.2 53.8 27.8 30.8 25.2	29.5 22.8 17.0 22.8 41.8	32.1 21.5 19.4 26.1 41.3	28.2 18.6 32.0 28.6 27.9	25.6 18.5 32.8 27.7 29.0	5.1 5.0 18.5 14.3 4.2	5.1 6.2 20.0 15.4 4.5		
MO NY NC OH PA	59.9 20.0 62.2 50.0 31.5	55.0 20.4 57.0 48.9 31.0	15.9 25.2 6.0 20.7 32.1	17.5 24.2 7.0 21.1 32.9	20.0 40.0 16.0 22.8 29.1	22.5 40.8 15.5 23.3 28.4	4.2 14.8 15.8 6.5 7.3	5.0 14.6 20.5 6.7 7.7		
TN TX VT VA WA	60.0 63.7 25.0 58.3 48.3 23.5	57.8 62.6 18.5 56.7 51.0 23.3	16.6 3.8 21.4 8.3 5.0 37.9	14.0 4.1 22.2 7.3 5.0 37.0	16.0 10.8 35.7 19.1 16.7 31.8	17.8 10.5 40.8 20.0 19.0 32.7	7.4 21.7 17.9 14.3 30.0 6.8	10.4 22.8 18.5 16.0 25.0 7.0		
29 Sts	61.0	60.1	12.2	12.1	16.5	16.7	10.3	11.1		
US :	42.2	42.0	23.1	23.0	24.4	24.3	10.3	10.7		

 $[\]underline{1}/$ Percents reflect average distributions of various probability surveys conducted during the year but are based primarily on end-of-year surveys. $\underline{2}/$ Combined with other size groups.

Milk Cows: Percent of Inventory by Size Groups, 1989-90 Selected States, Regions, and U.S. $\underline{1}/$

:	: Inventory on Operations Having								
State	1-29	Head	30-49	Head :	50-99	Head :	100+	Head	
•	1989 :	1990	1989 :	1990 :	1989	: 1990 :	1989 :	1990	
:				Perce	ent				
IL :	4.1	2/ 0.6 3.2 3.6 20.7	<u>2</u> / 7.6 20.5	0.6 <u>2</u> / 6.0 21.0 17.4	2/ 21.2 50.3		99.2 67.1 25.6	99.4 74.6 34.4	
IA KY MD MI	12.0 12.4 4.7 6.7		27.9 26.7 11.3	28.2 25.0 12.1 17.8	42.9 38.0 34.9	40.4 36.5 33.3 35.0	17.2 22.9 49.1 41.5	26.5 50.0 41.4	
NY NC OH	3.8 2.1 16.9	3.6 1.7	5.6 18.1	15.5 5.2 17.6	26.9 40.1	42.6 22.8 41.2	38.0 65.4 24.9	38.3 70.3 25.0	
TX : VT : VA : WA :	1.5 3.0 7.1 2.0	1.3 2.4 6.0	17.4 2.6 13.8 7.1 2.1 30.5	2.5 13.4 6.0 2.0		10.8 41.5 30.5 17.8	83.3 43.7 54.6 80.1	85.4 42.7 57.5 77.2	
29 Sts	7.1	7.0	12.4	12.5	30.7	30.9	49.8	49.6	
US	7.2	6.9	17.9	17.3	32.1	31.5	42.8	44.3	

 $[\]underline{1}/$ Percents reflect average distributions of various probability surveys conducted during the year but are based primarily on end-of-year surveys combined with other size groups.

Reliability and Estimating Procedures

Survey Procedures: Primary data used in determining these cattle estimates were obtained from a sample of producers across the U.S. using probability surveys. These surveys collected information from 15,400 operators selected from a list of agricultural producers, plus additional information from operators of 7,400 small land area tracts. Information was collected during the first half of July by mail, telephone, and personal interview, referencing July 1.

Percentage distribution of operations and inventory by size groups included in this report are based on similar surveys conducted throughout the year.

Estimation Procedures: In determining the inventory estimates, the Agricultural Statistics Board constructed a U.S. balance sheet (on page 3) using estimates of births, deaths, administrative data for slaughter, imports and exports, which provided an additional evaluation of survey inventory estimates.

Revision Policy: Revisions to historical estimates are made to improve survey to survey relationships of estimates such as cows versus calf crop, or to improve relationships with slaughter. Estimates for the previous survey are subject to revision when current estimates are made. Estimates for the previous years are reviewed in January. This review is primarily based on livestock slaughter and additional foreign trade and survey data. Estimates will also be reviewed after data for the five-year Census of Agriculture, conducted by the Department of Commerce, are available. No revisions will be made after that date.

Reliability: Since all operations raising cattle were not included in the sample, survey estimates are subject to sampling variability. This variability, as measured by the relative standard error, is about 1.3 percent at the U. S. level for the all cattle inventory. This means that chances are approximately 95 out of 100 that survey estimates will be within 2.6 percent of the value developed by all possible samples selected from the same population and surveyed using the same procedures. The relative standard error for estimates of all cows is 1.4 and the standard error for the calf crop is 1.5 percent. The relative standard error for other individual classes ranges from 1.6 to 5.5 percent.

Survey estimates are also subject to non-sampling errors such as omissions, duplications, and mistakes in reporting, recording, and processing the data. These errors cannot be measured directly, but are minimized through rigid quality controls in the data collection process and a careful review of all reported data for consistency and reasonableness.

To assist users in evaluating the reliability of estimates in this report, a statistical measure based on past performance, the "Root Mean Square Error" is shown for selected items. It is computed by expressing the deviations between the initial estimates and the final estimates as a percent of the final estimates and averaging the squared deviations for the last 15 years; the square root of this average is the "Root Mean Square Error". Probability

statements can be made concerning expected differences in the current estimates and the final estimates, assuming factors affecting this year's estimates are not different from those influencing recent years.

The "Root Mean Square Error" for the July Cattle Inventory estimates is 0.5 percent. This means that chances are 2 out of 3 that the final inventory estimate will not be above or below the current estimate of 109,800,000 head by more than 0.5 percent or about 549,000 head. Chances are 9 out of 10 (90 percent confidence level) that the difference will not exceed .9 percent or about 988,200.

Also shown in the table is a 15 year record for items showing the range of differences between the first inventory estimate and the final estimate. Using estimates for all cattle as an example, changes between the first inventory estimate and the final estimate during the past 15 years have averaged 235,000 head, ranging from 0 to 1,000,000 head. The initial inventory estimate has been below the final estimate 3 times and above 8 times in the last 15 years. This does not imply that the July 1 estimate this year is likely to understate or overstate final inventory.

Reliability of July 1 Cattle Estimates

Item	: Root : : : : : : : : : : : : : : : : : :			Difference Between : First and Final : Estimates <u>2</u> / :			Number of Years	
	: Error	: Leve	:1 : :			: Largest:	Above	: First : Below : Final
	: Pei	cent		1,0)00 Head -		Nu	mber
All Cattle	: 0.5	0.9	988	-235	0	-1,000	8	<u>3</u> / 3
All Cows	: 0.6	1.1	490	-83	0	-450	8	<u>3</u> / 3
Calf Crop	: : 1.7	3.1	1,243	-208	-50	1,082	11	4

^{1/} Based on data from July 1976 through July 1990.

2/ Based on records for the past 15 years.

^{3/} There was no change from first to final estimates of All Cattle and All Cows in 4 of the 15 years represented.

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The next "Cattle" report will be released in February 1992.

