

**SURVEY OF BEEF AND FORAGE PRACTICES
USED BY BEEF CATTLEMEN IN SOUTH-CENTRAL FLORIDA
1986-2003**

Information in this document was gathered in a 2003 survey of beef producers in nine counties (Polk, Hendry, Pasco, Manatee, Sarasota, Hardee, Okeechobee, Highlands and DeSoto) in south-central Florida. A similar survey was conducted in these counties in 1986, 1990 and 1998. Comparisons to the previous surveys conducted are made throughout this document. The information contained in this document was gathered in a specific location and may not reflect the beef cattle situation for other areas of Florida.

ABOUT THE BEEF OPERATIONS

Kinds of Beef Operations - In the 2003 survey 84% of the beef operations in the nine counties were commercial. Six percent were purebred operations, and 10% were a combination of the two types. **There are no important changes from the 1986, 1990 and 1998 surveys.**

Plans for the Next Five Years - In the 2003 survey 59% of the beef operators in the nine counties planned to maintain and 34% planned to increase the size of the operation. Seven percent would reduce herd size and 2% would quit. Similar results were obtained in the 1986, 1990 and 1998 surveys.

Plan for next five years	1986	1990	1998	2003
Increase size of operation	23 ¹	35	30	34
Reduce size of operation	8	4	8	7
Maintain size of operation	60	58	56	59
Get out of beef business	9	3	6	2

¹Data are in percent.

Profitability - In the 1998 survey only 23% indicated that they were making a profit, 38% was breaking even, and 40% was losing money. In 2003 the numbers were 46%, 40% and 14% respectively.

Importance of Profitability - In the 1998 survey 59% of the producers felt it was very important for their beef operation to make a profit. Thirty-nine percent felt it was somewhat important, and 2% indicated it was not important for their beef operation to make a profit. The 1998 survey data are basically the same as that in obtained in the 1986 and 1990 surveys. The 2003 survey provides similar data with 62%, 36 and 2%.

Business Structure of Farm/Ranch - In the 2003 survey more farms and ranches were family owned (49%) than any other form of business structure. Individual ownership (41%) was the next most popular form of business structure. These data were similar to that obtained in the three previous surveys.

Employment Status of Owner - In the 2003 survey 55% of owners had jobs other than the beef business. Of those that had other jobs, forty-five percent worked full time. These data were not greatly different from the 1986,1990 and 1998 surveys.

Income Derived from Cattle Operation - In the 2003 survey 63% of producers surveyed derived less than 25% of their total income from the operation. Only 16% and 11% derived more than 50% and 75%, respectively, from the operation.

Years Owners Have Been in the Cattle Business - In the 1998 survey 20% of owners had been in the cattle business for 10 years or less. Seventeen percent had been in business from 11 through 20 years. Thirty-six percent had been in business from 21 through 40 years, and 27 percent had been in business for over 40 years. The 2003 survey showed that the average years ownership was 31 years.

REPRODUCTION

Numbers of Cows Bred - In the 1998 survey 25% of the producers owned 50 or fewer cows, 41% owned fewer than 100 cows, 48% owned 101 to 1000 cows, and 11% owned more than 1000 cows.

Average number of cows and heifers per ranch was 596 and 108, respectively. The average stocking rate was 3.7 acres per animal (total of cows and heifers).

Breed of Bull - The survey clearly shows to move toward Angus and Brangus bulls and the move away from Beefmaster and Hereford.

Breed of bull	Cows 1990	Cows 1998	Heifers 1998
Angus	7 ¹	17	43
Hereford	27	16	9
Brahman	9	10	3
Brangus	12	17	26
Braford	17	11	8
Beefmaster	11	7	4
Charolais	1	10	3
Other	16	12	4

¹Data are in percent.

Number of Bull Breeds Used - In the 1998 survey 50% of producers use one breed of bulls, 26% used two breeds, 13% used 3 breeds and 11% used 4 to 6 breeds. In the 1986 survey, 44% of the producers surveyed used only 1 breed, 30% used 2 breeds and 26% used three or more.

Selecting Bulls - In the 1998 survey the information producers used to select replacement bulls, ranked 1 through 2, are shown in the following table. This is compared to unranked selection parameters obtained in the and the 2003 survey (far right).

Selection parameter	1990 survey	1998 Rank of importance 2003 survey		
		1	2	Rank
Weaning weight	45 ¹	14	8	2
Yearling weight	39	2	7	7
Sire summary	37	5	6	3
Visual appearance	na ²	51	17	10
Pedigree	38	7	9	8
Expected progeny difference (EPD)	na	11	19	1
Scrotal circumference	37	2	13	4
Libido score	21	1	4	5
Price	na	5	13	11
Carcass information	na	1	2	9
Herd ratio	na	2	0	6
Other	28	2	3	3

¹Data are in percent. ²Information not asked for.

Breeding Season Information - In the 1998 survey 69% of producers used a breeding season, compared to only 43 and 44% in the 1986 and 1990 surveys, respectively. Of producers who used a breeding season, 93% put their bulls out in the fall and winter, so a reduced breeding season is now being used.

Month bulls placed with cows	Percent
November	7
December	21
January	32
February	20
March	13

Eighty-four percent of producers using a breeding season removed bulls in spring and summer. 30% of the survey used all-year-long breeding season.

Month bulls removed	Percent
March	8
April	9
May	15
June	20
July	16
August	16

Three producers used two breeding seasons with separate herds. The first starting in December or January, and the second starting in March or April.

How Often are Bulls Semen Tested - In the 1998 survey 38% of producers tested their bulls annually. This compared to 46% and 39% in the 1986 and 1990 surveys, respectively.

Breeding soundness test	1986	1990	1998
Tested bulls annually	46 ¹	39	38
Tested every 2 or 3 years	25	28	17
Tested when purchased	15	12	22
Never tested	10	20	21

¹Data are in percent.

Tested for Trichomoniasis - In the 1998 survey 25% of the producers checked for trichomoniasis. In the 1990 survey, 22% of the ranching operations checked for trichomoniasis, while in 2003 23% reported checking for trichomoniasis... **therefore there is no trend in the data.**

Use of Artificial Insemination - In the 1998 survey only 4% of producers use AI. Of those that artificially inseminated cows, 67% used syncro-mate B, 40% used prostaglandin, and 20% used a combination of the two to synchronize cows. None used MGA.

Pregnancy Checking the Cow Herd - In the 2003 survey 49% of producers palpated all cows and 49% palpated dry cows. Comparison to previous surveys are shown in the following table.

Cows palpated	1986	1990	1998
Palpated all cows	16 ¹	30	34
Palpated only dry cows	28	38	23

¹Data are in percent.

In the 2003 survey of those that palpated for pregnancy 38% did it themselves, 56% used a veterinarian and 3% used other sources. Comparisons with previous surveys are:

Who palpates	1986	1990	1998
Owner or employee	42 ¹	48	46
Veterinarian	51	55	55
Other	na ²	5	7

¹Data are in percent. ²Information not asked for.

In the 1998 survey pregnancy rates were 81% for virgin heifers, 77% for first-calf cows, and 84% for mature cows. In the 1990 survey average pregnancy rates were 83% for virgin heifers, 82% for first-calf heifers, and 90% for mature cows, while in 2003 the respective percentage are 83,81 and 86. **Data for cows/heifers weaning calves needs to be determined in future surveys.**

Obtaining Replacement Heifers - In the 1998 survey 90% of producers raised their own replacement heifers. Twenty-four percent purchased bred heifers and 19% purchased open heifers. 2003 numbers were 82, 24, 18% respectively..

Calving Heifers for First Time - In the 1998 survey 40% of producers calved heifers first at 2 year of age and 43% calved first at 3 years of age. Thirteen percent indicated they calved at both 2 and 3 years of age, and option apparently not asked in previous surveys. Comparison to previous surveys are presented in the following table. Data for 2003 is shown below.

Heifer age at first calving	1990	1998	2003
At 2 years of age	42 ¹	40	51
At 3 years of age	55	43	47
At 2 and 3 years of age	--	13	--
Other	3	4	3

¹Data are in percent.

The average age of heifers when calved was 2,5 years pounds in the 2003 survey. Forty-two percent of producers exposed heifers to bulls prior to the mature cow herd.

Management of Replacements - In the 2003 survey, 67% percent of producers managed replacements separate from the cow herd. Of these producers that managed replacements separately, 57% did so for weaned heifers, 35% did so for first-calf cows, and 8% did so for second-calf cows. The data has not changed from the previous surveys..

Culling the Cow Herd - In the 1998 survey the average annual culling rate was 9%. Average culling rate was 8% in the 1990 survey. The 2003 culling rate was 9.6%.

Factors Limiting Reproduction -In the 1998 survey 63% of producers said nutrition was the most important factor limiting reproduction. This result was similar to data obtained in 1986 and 1990. The 2003 data is shown below.

Factor limiting reproduction	1990	1998	2003 rank #
Genetics	13	17	4
Parasites	9 ¹	12	3
Nutrition	61	63	1
Repro diseases	10	4	5
Other	7	4	2*

¹Data are in percent. * management

MARKETING

Weight and Age of Calves at Weaning - In the 2003 survey producers indicated the when marketed at weaning average weight of calves was 464 pounds and 8 months of age. Comparisons to the two previous surveys are shown in the following table.

Weaning variable	1990	1998	2003
Avg. weight at weaning, lb	444	458	464
Avg. age at weaning, mo.	7.8	7.8	8

Weight and Age of Calves When Marketed Other Than at Weaning - In the 2003 survey producers indicated that when marketed at some time after weaning, calves weighed 450 pounds and were 9 months of age. Comparison to previous surveys are presented in the following table.

Postweaning variable	1986	1990	1998
Avg. weight when sold, lbs	470	484	445
Avg. age at when sold, mo.	10.3	8.3	8.6

Marketing Methods - In the 2003 survey 85% of producers marketed calves through auction barns. This was similar to the 1986 and 1990 survey data. Video auction has gained in popularity over the time of the surveys.

Marketing route	1990	1998	2003
Auction barns	86 ¹	87	85
Order buyers	13	25	14
Video auction	3	11	22
Board sales	4	1	1
Private treaty/order buyer	21	28	32
Retained ownership	na	12	4
Participate in alliance	na	2	2

¹Data are in percent.

Calf Management Procedures Performed - In the 1998 survey 82% of producers castrated calves before weaning. In the 2003 survey castration, implanting and vaccination for respiratory diseases were the most common calf management procedures.

Castration	82
Implant	49
Deworm	77
Teach to drink from trough	37
Teach to eat from trough	32
Dehorn genetically	37
Dehorn physically	51
Vaccinate for respiratory diseases	45

¹Data are in percent.

PRODUCTION

Identifying Cows and Calves - In the 2003 survey 62% of producers identified the cow and 39% identified the calf. Comparison to past surveys were:

Animal identified	1990	1998	2003
Each cow	72%	64%	62%
Her calf	43%	32%	39%

Beef Herd Records - In the 2003 survey 77% of producers indicated they kept beef herd records. This compared to 34% in the 1986, 25% in the 1990 survey and 68% in the 1998 survey.

In the 1998 survey, of producers who kept records, 83% kept financial and 57% kept production records. Fifty percent of those who kept financial records indicate they used them for business analysis and 45% of producers who kept production records used them to select and cull the cow herd. In the 1990 survey, 88% of the ranchers who kept production records used them to cull cows and 73% used them to select replacement heifers. The 2003 numbers were 65% and 44% respectively.

HERD HEALTH

Controlling External Parasites - In the 1998 survey 99% of producers said they used methods to control external parasites. These percentages were 94% in the 1986 and 95% in the 1990 surveys. The measures used to control external parasites, and comparisons with previous surveys are:

Control method	1990	1998	2003 rank
Eartags	24 ¹	28	3
Pour-on	55	88	1
Spray	65	52	2
Back-rub	11	16	4
Dust bag	23	12	6
Medicated feed	4	4	5
Other	4	5	0

¹Data are in percent.

Controlling Internal Parasites - The following table shows the class of animals dewormed according to the 2003 survey, and comparisons to previous surveys:

Class of animals dewormed	1990	1998	2003
Cows	93 ¹	94	98
Calves	80	80	89
Bulls	95	95	98
Replacement heifers	93	88	98

¹Data are in percent.

Controlling Internal Parasites - The following table shows the method of treatment for internal parasites according to the 2003 survey and comparisons to previous surveys:

Deworming method	1990	1998	2003 rank
Injectable	56 ¹	67	2
Pour-on	26	73	1
Drench	28	38	3
Mineral feed	12	4	5
Paste or gel	27	16	4
Medicated block	5	4	6
Bolus	4	2	7

¹Data are in percent. ²Information not asked for.

Controlling Liver Flukes - In the 2003 survey 74% of producers treated for liver flukes. This compared to 41% in 1986 ,49% in 1990 and 65% in the 1998 surveys.

Vaccinations - According to the 1998 survey the following vaccinations were given to the cow herd. These data are compared to the 1990 survey. **The 2003 survey showed no significant changes.**

Vaccine type	1990	1998
Brucellosis	90 ¹	67
Lepto	43	62
Vibrio	40	62
Blackleg	57	66
Pinkeye	14	9
Tetanus	15	16
Trichomoniasis	5	20
Haemophiles somnus	13	18
Red water	24	30
Pasteurella	12	24
E. coli	5	10
IBR, PI3, BVD and BRSV	25	48

¹Data are in percent.

NUTRITION

Winter Forage Use - In the 2003 survey the forages used in the winter and comparisons to previous surveys are shown in the following table. Stockpiled forage continues to gain in popularity at the expense of hay and winter pasture.

Winter forage source	1990	1998	2003
Native range	66 ¹	75	69
Hay	80	74	65
Silage	2	2	5
Winter pasture	35	32	25
Stockpiled forage	38	48	49

¹Data are in percent.

Supplements Fed During the Winter - In the 2003 survey the supplements fed during the winter and comparison to past surveys are listed in the following table: Wet citrus pulp appears to be gaining popularity.

Type of supplement	1990	1998	2003
Molasses	50 ¹	64	60
Molasses slurry	5	11	10
Range cubes	31	29	26
Protein mineral	38	31	31
Dry mixed feed	na	11	14
Dry citrus pulp	na	14	15
Wet citrus pulp	na	6	18
Salt/protein mix	na	28	23
Protein block	33	28	20
Wheat midds	na	0	0
Soy hulls	na	1	0
Poultry litter	na	1	0
Culled oranges and grapefruit	na	9	8
No supplement	1	2	4
Other	5	5	0

¹Data are in percent.

Analysis of Forage - In the 2003 survey 15% of producers surveyed said they have had hay and/or silage analyzed. This compared to 10% in the 1986, 15% in 1990 and 19% in the 1998 surveys.

In the 1998 survey 16% of producers indicated they had pasture grasses analyzed for quality compared to 23% in the 2003 survey.

Hay Ammoniation - In the 1998 survey 82% of procedures indicated they were aware that hay could be ammoniated to improve quality. Six percent indicated that they had ammoniated hay.

Use of Cow Condition as a Management Tool - In the 2003 survey 73% of producers surveyed use cow condition to decide when to start or stop supplementing. Seventy-seven percent use cow condition to determine how much supplement to feed. **Data similar to previous years.**

When Winter Supplement is Fed - The following table shows when supplementation is initiated and when it is discontinued according to the 1998 survey.

Month when supplement is started		Month when supplement is discontinued	
September	3 ¹	February	4
October	13	March	46
November	28	April	30
December	32	May	10
January	11	June	3
February	1		
First frost	6		
All year	7		

¹Data are in percent.

2003 data indicates that December is start month and end month is April

FORAGE PRODUCTION

Pasture Information - For the 1998 survey average land use is shown in the following table. Thirty-five percent of the producers leased pasture at an average cost of \$10.68 per acre.

Total acres used	2580
Acres improved	1212
Acres semi-improved	262
Acres native	1008
Acres hay	98

Types of Grasses - For the 1998 survey grasses used on ranches and comparison to previous surveys are shown below. Acreage of grasses was obtained in the 1998 survey and average acres per ranch are shown. In the 1998 survey bahiagrass was 83% of the total improved pasture acreage, Limpograss (hemarthria) 8%, stargrass 5%, bermudagrass 2%, and other grasses 2%.

Grass	1986	1990	1998	2003
	Percent	Percent	Percent	#
Bahiagrass	87	92	93	1
Limpograss/hemarthria	12	14	25	4
Bermudagrass	28	32	24	3
Stargrass	19	21	23	6
Rhodesgrass	na ²	0	18	-
Pangolagrass	44	46	11	-
Ryegrass	23	31	21	5
Suerte	na	na	3	-

Native was listed as #2 in 2003

Types of Legumes - For the 1998 survey types of legumes used on ranches and comparisons to past surveys are shown in the following table. The average acreage for each legume on ranches where they were planted is shown for the 1998 survey.

Legume	1986	1990	1998	2003 rank
	Percent	Percent	Percent	
Aeschynomene	21	57	18	1
Aeschynomene evenia	na ²	na	8	4
Hairy indigo	14	32	10	-
Alyce clover	15	24	5	-
Carpon desmodium	na	4	5	2
Savanna stylo	na	na	5	-
Perennial peanut	na	1	3	-
White clover	16	40	11	3

¹Acreage on ranches that had planted these legumes. ²Information not asked for.

Rotational Grazing - In the 2003 survey 89% of producers used rotational grazing. This compared to 72% in the 1990 survey and 79% in the 1998 survey

Most Important Factor in Determining Fertilization Program - In the 2003 survey the most important factors in determining the pasture fertilization program are shown below.

Item	Percent
Previous experience	67
University recommendations	11
Fertilizer dealer	12
Soil test	32

Liming Pastures - In the 1998 survey 63% percent of producers said they limed bahiagrass, 59% limed other grasses, and 73% limed hay. The data for 2003 was 61%, 24% and 15% respectively. The frequency in which they applied lime is presented in the following table.

Frequency of liming	Bahiagrass	Other grasses	Hay
According to soil test	27 ¹	28	33
Annually	18	11	21
Every 2 years	11	8	9
Every 3 years	15	14	12
Every 4 or more years	28	34	24

¹Data are in percent.

Fertilizing Bahiagrass - In the 1998 survey 82% of producers fertilized bahiagrass. Of those that fertilized bahiagrass the following formulas were used:

Type of fertilizer	Percent
Mixed (-P-K)	57
Ammonium nitrate	11
Ammonium sulfate	29

In the 1998 survey, of those producers who used a mixed formula the average analysis was 17-5-9 (N-P₂O₅-K₂O) applied at an average rate of 295 pounds per acre. Producers who use a mixed fertilizer on bahia grass applied it to only 64% of their bahiagrass pasture annually.

In the 1986 and 1990 surveys, respectively, 76 and 78% of producers indicated that they fertilized improved pasture. Information specific to bahiagrass and other grasses was not asked for.

In the 1998 survey, producers that used a mixed formula applied 51 lb of N, 15 lb of P₂O₅, and 27 lb of K₂O per acre. This compared to 54 lb of N, 24 lb of P₂O₅, and 31 lb of K₂O applied per acre in 1986. There has been a substantial reduction in the application of phosphorus containing fertilizer nutrients in 1998 in comparison to the 1986 survey.

Fertilizing Other Grasses and Hay Crops - In the 1998 survey 69% of producers fertilized other grasses and 84% of those that fertilized other grasses used a mixed formula. Eighty-five percent fertilized hay crop and 91% of these used a mixed formula.

Use of Organic Waste for Fertilizer - In the 2005 survey 14% of producers indicated they used organic waste for fertilizer while 11% reported this in 1998.

Incidence of Mole Crickets - In the 2003 survey 43% of producers indicated they had mole cricket damage compared to 64% in the 1998 survey.

Weed Problems and Approximate percentage of Pastures Affected - For the 2003 survey the following table shows the incidence of weed problems on ranches surveyed, and the percentage of pasture affected on ranches that indicated a weed problem. This question was not asked in past surveys.

Weed	1998 Percent of ranches	2003 ranking
Blackberry briars	23	5
Dog fennel	71	3
Pig weed	23	6
Smutgrass	63	2
Tropical soda apple	53	1
Wax myrtle	26	4
Other	9	0

Methods Used to Control Weeds - For the 2003 survey the following methods of weed control was used. Not much change in the methods over the years surveyed.

Method of weed control	Percent
Mowing	90
Pasture renovation	11
Herbicide	70

ENVIRONMENTAL CONSIDERATIONS IN 2003 SURVEY

Eighty-four percent of producers surveyed indicated they had open water areas on their property.

Eighty-nine percent of producers who had open water said cattle had access to these areas.

Fifty-seven percent of producers who had open water said they also provided water troughs in these pastures.

Eighty-two percent of producers who had open water said they do not fence off these areas.

Seventy-nine percent of producers surveyed said they feed mineral, supplement, and hay over 100 feet from open water areas.

Sixty-seven percent of producers surveyed felt that pasture fertilization practices can affect water quality.

These questions on environmental issues were not different from previous surveys.

OTHER QUESTIONS IN THE 2003 SURVEY

Where, or to whom do ranches look for information?

Source of information	Percent
Other cattlemen	84
County extension	73
Close relations	23
Magazines	63
Farm organizations	28
Veterinarians	72
Internet	23
Company reps	48
Other	2

What do ranchers feel are the three most important problems facing the beef industry.

Problem facing beef industry	1998 1 st	1998 2 nd	2003 rank
Retail price of beef	101	14	3
Demand for beef	16	19	7
Environmental issues	10	15	8
Consumer concerns	2	7	2
Animal welfare issues	10	2	6
Government regulations	47	15	4
Price rancher receives for calves	1	14	1
Urban encroachment	3	5	9
Production efficiency	2	8	5

¹Data are in percent.

How do ranchers describe the University of Florida, Cooperative Extension Service's participation in Florida beef industry?

Rating	Percent
Satisfactory	94
Unsatisfactory	4
Other	2

METHOD FOR OBTAINING INFORMATION

County Extension agents obtained this information from beef producers using mail questionnaires in nine counties: DeSoto, Hardee, Highlands, Hendry, Manatee, Okeechobee, Pasco, Polk and Sarasota. A sample size was 503 randomly selected ranchers. One hundred and ninety eight were returned and 176 were usable for this analysis. Data were tabulated and analyzed at the Range Cattle Research and Education Center at Ona, FL.