Florida Beef Cattle Ranch Record Book

This Record Book was developed by Doug Mayo, Jackson County Extension to enhance beef cattle ranch management, meet pesticide application record requirements, meet the recommendations for Country-of -Origin Labeling records, and to compliment the Florida Cattlemen's Association's Water Quality Best Management Practice Manual.

UNIVERSITY OF FLORIDA
IFAS EXTENSION

Florida
CATTLEMEN'S ASSOCIATION

2nd Edition May 2005

This Record Book Belongs to:_____

About this Record Book

This record book was designed for field use (kept in truck), to record beef cattle and pasture records. The record sheets were designed for use in a loose-leaf binder, which can be customized to each individual operation. This record book does not take the place of business accounting and was not intended as a complete record list for tax preparation or loan application.

The standard record book comes with enough sheets to keep records on up to 12 fields and 100 cows. If additional fields are needed, simply print or copy all four pasture record sheets for each additional field. If an operation has more than 100 cows and heifers, additional copies of the individual cow production history sheet should be added for each cow. The breeding and pregnancy testing sheets allow for 25 cows per sheet, so copies should be made for each additional 25 cows over the standard 100 head.

The individual cow production and pasture record sheets were developed to keep for multiple years. All other sheets may need to be replaced for the next year. Any record sheets that do not apply for an operation can simply be removed. Additional record sheets can be developed based on the needs of each operation. If individual animal records are not maintained, then there is no need for printing off the cow production history sheets.

One final suggestion, record keeping is most valuable when used for decision making such as business analysis or cattle selection. In order to get the most value from the records kept in this book, profitability and herd performance measures should be developed for the year. However, with regulation and animal trace back, having a good set of records is becoming more and more important. So keep the records to be able to prove what you have done, but also use the records to analyze performance and profitability, to make your operation more efficient over the long haul.

Replacement sheets can be downloaded from the following web site:

http://jackson.ifas.ufl.edu/ranch_record.htm

Ranch Planning Calendar

January

February

March

Ranch Planning Calendar

April

May

June

Ranch Planning Calendar

July

August

September

Ranch Planning Calendar

October

November

December

Pasture Records

Rainfall Record

Year_____

Day	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
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16												
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19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31												
Total												

Total for Year _____

Pasture/Field Record

Pasture I.D._____ Number of Acres_____

Crop Record

Planting Date	Crop	Variety	Seeding/Sprigging Rate/Acre	Total Acres Planted

Harvest Record

Date	Crop	Harvested Acres	Total Yield	Yield / Acre

Pasture I.D._____ Number of Acres_____

Soil Test Record

Test Results				Test Recommendations			
Date Sampled	pH	P-range or ppm	K-range or ppm	#N/acre	#P/acre	#K/acre	Lime/ac

Fertilizer Record

Date Applied	Fertilizer Type	Total Applied	# of Acres Fertilized	Rate per Acre	Lbs. per Acre		
					#N	#P	#K

Pasture Improvements/BMP Installation

Date Installed	Type of Improvement/ Practice Type	Material Expenses	Installation Expenses	Total Expense	Date Inspected

Pasture I.D._____ Number of Acres_____

Pest Scouting & Control Record

Date Pest Scouted	Pest Observed: Insect, Weeds, Disease	Pest Levels: % damage, or light, medium, or heavy	Crop Affected	Product Used	Wind, Weather & Field Conditions	Treatment Method: Sprayer, nozzles, speed, pressure, gallons/acre etc.	Control: Poor, Fair, Good, Excellent

Pesticide Use Record

Licensed Applicator: **License Number:** **Property Owner:**

Date and Time of Treatment	Actual Applicator (if different from above)	Brand Name	Active Ingredient	Product EPA Registration #	Crop Treated	Rate Applied per Acre	Size of Area Treated	Total Amount Applied	Restricted Entry Interval	Grazing or Hay Restriction

Pasture I.D._____ Number of Acres_____

Grazing Record

Date In	Grass Height In	Date Out	Grass Height Out	Total Grazing Days	Herd ID	Number of Head

Individual Cow Records

Cow Production History Card

Cow ID# _____

Cow ID _____

Description (Breed/color) _____

Cow's Sire _____ **Sire Breed**_____

Cow's Dam_____ **Dam Breed**_____

Cow's Birth Date_____ **Weaning Weight** _____ _____

Purchase Date _____ **Purchase Price** _____

Date of Sale or Removal	
Reason	
Sale Weight	
Sale Price/lb.	
Total Value	

Individual Cow Production Record

Calving										Weaning		Yearling		Preg Test	
Year	**Cow Age**	**Bull ID & Breed**	**Calf ID**	**Calf Birth Date**	**Calf Sex**	**Birth Weight**	**BCS at Calving**	**Calving Ease** 1-No assistance to 5-Abnormal	**Calving Interval (Days)**	**Weaning Weight**	**205 Adj Wt.**	**Yearling Weight**	**365 Adj Wt.**	**Pregnant (P) or Open (O)**	**BCS**

Breeding Records

Bull Breeding Soundness Exam Record

Date	Bull I.D.	Age of Bull	Veterinarian	Comments

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Beef Cattle Gestation Table

Based on 283 day pregnancy

Bred	**Jan**	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	**Jan**
Calve	**Oct**	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	**Nov**
Bred	**Feb**	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28				**Feb**
Calve	**Nov**	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	1	2	3	4	5	6	7				**Dec**
Bred	**Mar**	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	**Mar**
Calve	**Dec**	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	**Jan**
Bred	**Apr**	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		**Apr**
Calve	**Jan**	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6		**Feb**
Bred	**May**	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	**May**
Calve	**Feb**	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	1	2	3	4	5	6	7	8	9	**Mar**
Bred	**Jun**	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		**Jun**
Calve	**Mar**	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8		**Apr**
Bred	**Jul**	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	**Jul**
Calve	**Apr**	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	1	2	3	4	5	6	7	8	9	**May**
Bred	**Aug**	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	**Aug**
Calve	**May**	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	**Jun**
Bred	**Sep**	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		**Sep**
Calve	**Jun**	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	1	2	3	4	5	6	7	8	9		**Jul**
Bred	**Oct**	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	**Oct**
Calve	**Jul**	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	**Aug**
Bred	**Nov**	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		**Nov**
Calve	**Aug**	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8		**Sep**
Bred	**Dec**	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	**Dec**
Calve	**Sep**	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	1	2	3	4	5	6	7	8	9	**Oct**

(In leap years add one day after February 29)

Developed by Doug Mayo, Jackson County Extension

Breeding or A.I. Record

Cow ID	Herd ID	1st Service Date	Sire	Est. Calving Date	2nd Service Date	Sire	Est. Calving Date	Technician	Pregnancy Status

Pregnancy Testing Record

Date	Herd I.D.	Bull I.D. & Breed	Cow I.D.	Cow Age	BCS	Pregnancy Status

Feeding Records

Supplementation Record

Herd ID	Date Started	Date Ended	Total Days	Type of Feed	Avg. Fed/Hd /Day	Total Fed/ Week	Total lbs Fed	Cost / unit	Total Cost

Health Records

Herd Vaccination/Treatment Record

Name/Ranch:_____

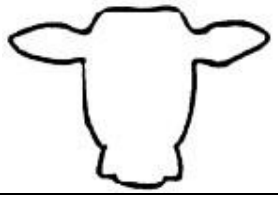
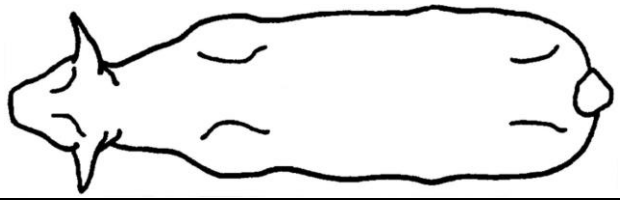
Address:_____Phone:_____

City:_____ State:_____ZIP:_____

Number of Cattle:_____ Description:_____

Identification of animals:_____

Date Administered:_____ Owner/Manger Signature:_____

Left	**Right**
	
Head 	Back 

Indicate site of treatment with the corresponding number from the table below.

Site #	Treatment	Product	Lot or Serial #	Company	Exp. Date[1]	Dose	R.O.A.[2]	With-drawal	Crew Initials
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									

1-Expiration Date 2- ROA=Route of administration: SQ-under skin, IM-muscle, O-oral, PO-pour on, or IN-nostrils

BQA=*Beef Quality Assurance:* All injections should be administered in the neck region, and where possible select Sub Q products to protect meat quality.

Sick Cattle Treatment Record

Date	Animal ID	Diagnosis/ Comments	Treatment	Company	Serial/Lot Number	Exp. Date	Dose	With-drawal	Route of Administration	Treatment Location	Processor Initials

Herd Records

Cow Herd Inventory

Herd or Group	Jan 1	BCS (1-9)	Spring Working	BCS (1-9)	Pregnancy Testing	BCS (1-9)	Prior to Calving	BCS (1-9)
Mature Cows _____Herd								
Mature Cows _____Herd								
Mature Cows _____Herd								
Mature Cows _____Herd								
Mature Cows _____Herd								
Bred Heifers								
Open Heifers								
Mature Bulls								
Bulls 1-2 Years Old								
Yearling Stocker Cattle								
Calves								
Horses								
Other Livestock								

Cattle Weight Sheet

Date Weight Measured ______________

Animal ID	Weight	Herd ID	Comments

Herd or Group Performance

Group or Herd I.D.	# Cows Exposed to Bull	Total Calves Born	# Calves Dead	# Calves Worked	# Calves Weaned	Total Weight of Calves	Average Wean Weight	Total # Steers Weaned	Total Steer Weight	Average Steer Weight	Total # Heifers Weaned	Total Heifer Weight	Average Heifer Weight	# Cows Bred	# Cows Open

Retained Ownership Record

Date Shipped	Group I.D.	# Head	Total Weight	Avg. Wt.	Date Sold	# Hd. Sold	Days on Feed	Feed Conversion	Average Yield Grade	% Choice	Total Expenses	Total Income	Total Profit/ Loss	Profit/ Loss per Head

Income Records

Cattle Sales Record

Date	Class of Cattle	ID Number	Weight	Price per Pound	Total Price

Other Income/Sales

Date	Item Sold or Service Provided	Company or Individual	Description of Income	Income per Unit	Total Income

Expense Records

Expenses/Purchases

Date	Item or Service	Company	Reason for Expense	Cost/Unit	Total Cost

Ranch Analysis

Cash Cost Analysis

Production Year_____

Category	Total Purchased	Total Expense
Feed		
Fertilizer		
Cattle		
Pesticides		
Pharmaceuticals		
Fence Supplies		
Fuel		
Tractor maintenance/repairs		
Truck maintenance/repairs		
Labor		

Total Expenses_____

Category	Number Sold	Total Income
Steer Calves		
Heifer Calves		
Bulls		
Cull Cows		
Cull Bulls		
Hay		
Services		

Total Income_____

Gross Profit/Loss_____

Calving Period Summary

Production year:_____

Beginning Date of Breeding Season: _____ Date Bulls Removed: _____

Length of Breeding Season:_____ Estimated date for start of calving season_____

Date of First Calf Born: _____ Date of Last Calf Born: _____

Total length of Calving Season: _____

Calving Distribution Chart

	2 year olds	3yr olds	4+ Cows	Total Cows to Calve	
Calving Inventory					
Calving Period	**Number of Calves Born to** 2 year olds	3yr olds	4+ Cows	Total	**Percentage**
1st 21 Days					
*Start / End					
2nd 21 days					
Start / End					
3rd 21 days					
Start / End					
63 days +					
Start / End					
Total Calves					
Did Not Calve					

*Use gestation table to determine estimated start date of calving season.

Calving percentage= # of Calves Born **_____ divided by**

# of Cows Exposed to bulls **_____ * 100= _____**

(Don't forget purchased cattle)

Cattle Performance Analysis **Production Year_____**

Breeding			
Beginning Date		**Total Cows Exposed to be Bred**	
Ending Date		**Total Heifers Exposed to be Bred**	
		Total Exposed	
Calving			
Beginning Date		**Live Calves**	
Ending Date		**Dead Calves**	
		Total Calves Born	

Weaning	**# of Head**	**Total Pounds**	**Total $**	**Average Wwt.**	**Average price /lb**
Steers Weaned					
Heifers Weaned					
Bulls Weaned					
Total Weaned for Sale					
Replacement Heifers			**XXXXXX**		**XXXXX**
Total Calves Weaned			**XXXXXX**		**XXXXX**

Pregnancy Check	**2 year Olds**	**3 year Olds**	**4+ Cows**	**Total**
Bred				
Open				
Culled				
Total				

Pregnancy Percentage = # Bred Cows_____**divided by** # Cows Exposed _____=___

Calving Percentage= # Calves Born_____**divided by** # Cows Exposed_____=____

Weaning Percentage= # Calves Weaned_____**divided by** # Cows Exposed _____=_____

Lbs. Weaned/Cow Exposed Total pounds weaned____**multiplied by** Weaning %_____=_____

Costs/cow= Total expenses_____ **divided by # Cows Exposed** _____=_____

Break-even price per pound=Total Expenses_____ **divided by** total pounds sold_____=_____

Profit/Loss per cow=Gross Profit/Loss_____ **divided by** # of cows exposed_____=_____

Useful Information

Useful Extension Publications available Online from the University of Florida and other Universities

Pastures

Planting Dates, Rates, and Methods of Agronomic Crops	http://edis.ifas.ufl.edu/AA127
UF/IFAS Standardized Fertilization Recommendations for Agronomic Crops	http://edis.ifas.ufl.edu/SS163
Weed Management in Pastures and Rangeland	http://edis.ifas.ufl.edu/WG006
Insect Management in Pasture	http://edis.ifas.ufl.edu/IG061
Bahiagrass	http://edis.ifas.ufl.edu/AA184
Bermudagrass Production in Florida	http://edis.ifas.ufl.edu/AA200
Annual Ryegrass	http://edis.ifas.ufl.edu/AG104
Hay Production in Florida	http://edis.ifas.ufl.edu/AA251
Forage Planting and Establishment Methods	http://edis.ifas.ufl.edu/AG107
Soil Testing	http://edis.ifas.ufl.edu/SS156

Beef Cattle

Keep Herd Health Simple and Make it Fit the Beef Cattle Operation	http://edis.ifas.ufl.edu/AN002
Different Health Scenarios to Prepare Calves for Shipping and for Receiving Yearling Cattle	http://edis.ifas.ufl.edu/VM081
External Parasites on Beef Cattle	http://edis.ifas.ufl.edu/IG130
Nutrient Requirements of Beef Cattle	http://www.aces.edu/department/aawm/anr-60.pdf
Strategies for Cost Effective Supplementation of Beef Cattle	http://edis.ifas.ufl.edu/AN085
Using By-Product Feeds in Beef Supplementation Programs	http://edis.ifas.ufl.edu/AN101
Strategies for Successful Development of Beef Heifers	http://edis.ifas.ufl.edu/AN100
Effects of Body Condition on Productivity in Beef Cattle	http://edis.ifas.ufl.edu/AN004
Crossbreeding Programs for Beef Cattle in Florida	http://edis.ifas.ufl.edu/AN055
Selecting Beef Bulls	http://edis.ifas.ufl.edu/AN024

Business Management

The Essential Financial Tools for Running a Firm	http://edis.ifas.ufl.edu/FE024
Custom Rates for Farm Machinery	http://edis.ifas.ufl.edu/FE268
Beef Cattle and Forage Budgets	http://www.ag.auburn.edu/dept/aec/pubs/budgets/
Cow-calf Production Record Software	http://www.ansi.okstate.edu/exten/beef/WCR-3279/WCR-3279.pdf

Pesticide Information

Application Equipment and Techniques	http://edis.ifas.ufl.edu/WG012
Calibration of Herbicide Applicators	http://edis.ifas.ufl.edu/WG013
Broadcast Boom Sprayer Nozzle Uniformity Check	http://edis.ifas.ufl.edu/PI015
Maintenance, Care and Cleaning of Application Equipment	http://edis.ifas.ufl.edu/AG006

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Conversion Factors

Larry Halsey, Jefferson County Extension

WEIGHTS

28.4 grams	1 ounce (oz)
16 ounces	1 pound (lb)
1 pound	0.45 kilograms
2.2 pounds	1 kilogram
1 gallon-water	8.345 pounds

LINEAR MEASURES - LENGTHS

1 inch	2.54 centimeters	
12 inches	1 foot	30.48 centimeters
36 inches	3 feet	1 yard
1 yard	0.9144 meter	
1 meter	39.37 inches	
1 mile	5,280 feet	1.609 kilometers
1 kilometer	1,000 meters	0.6217 mile
1/4 mile	1,320 feet	

VOLUMES, CUBIC MEASURES

1 tablespoon	3 teaspoons	14.8 ml	0.5 fl oz
1 pint	2 cups	16 fl oz	32 Tablespoons
1 quart	32 ounces	2 pints	0.95 liters
1 liter	1.06 quarts	1,000 ml	33.8 fl oz
1 gallon	4 quarts	8 pints	128 ounces
1 gallon (liquid)	231 cu inches	16 cups	3.8 liters
1 cubic foot	1728 cu in	7.48 gallons (liquid)	
1 cubic yard	27 cu feet	0.77 cu meters	
1 acre-inch, water	27,154 gallons	3,630 cubic feet	
A box 8 1/4" x 7" x 4" holds 1 gallon			
A box 16" x 12" x 11 1/4" hold 1 bushel			
A cylinder 6" deep x 7" diameter (3 1/2" radius) holds 1 gallon			

SQUARE MEASURE

1 sq foot	144 square inches	
1 sq. yard	9 sq. feet	0.836 sq. meters
1 acre	43,560 sq. ft	0.42 hectares

RATES, EQUIVALENTS AND CONVERSIONS

1 ounce per square foot	2,775 pounds per acre	62.5 pounds per 1,000 sq ft
1 ounce per square yard	300 pounds per acre	7 pounds per 1,000 sq ft
1 ounce per 100 sq ft	27 pounds per acre	0.62 pounds per 1,000 sq ft
1 pound per 100 sq ft	436 pounds per acre	10 pounds per 1,000 sq ft
2.5 gallons per 1,000 sq ft	100 gallons per acre	
1 quart per 100 sq ft	100 gallons per acre	
1 acre-inch per hour	450 gallons per minute	
1 part per million (ppm)	0.013 fl oz per 100 gallons of water	
1 percent solution (by weight)	1.33 fl oz per gallon	
1 foot/second	1.47 miles per hour (fps = 22/15 mph)	

1 cup of dry fertilizer weighs approximately 1/2 pound
1 quart of dry fertilizer weighs approximately 1 3/4 pounds
1 quart of dolomitic limestone weighs just over 1 1/2 pounds
1 pound of ryegrass will overseed about 100 sq ft (10 #/1,000 sq ft)
1 pound of bahiagrass seed will cover about 750-1,000 sq ft (25-30 #/acre)

1 flat of 100 bedding plants will cover:
11 sq ft when spaced 4 inches apart
44 sq ft when spaced 8 inches apart
100 sq ft when spaced 12 inches (1 foot) apart
156 sq ft when spaced 15 inches apart

Temperature

^{o}F (Fahrenheit) = (^{o}C x 1.8) + 32

^{o}C (Celsius) = (^{o}F - 32) x .56

Dimension of a Square Field:	Acres	Diameter of a Circular Field or Pond
208.7' x 208.7'	**1 acre**	235.5' (radius = 117.7')
466.7' x 466.7'	**5 acres**	526.6' (radius = 263.3')
660.0' x 660.0'	**10 acres**	744.7' (radius = 372.4')
933.3' x 933.3'	**20 acres**	1,053.2' (radius = 526.6')

C	Equivalent Temperature	F
-40	(same)	-40
0	Water Freezes	32
16	(reciprocals)	61
20-25	Comfortable Room Temp	68-77
37	Human Body	99
100	Water Boils	212

DILUTION RATES

LIQUID MEASURE approximate conversion rates	
Amount per 100 gallons	Amount per gallon
1/4 pint	1/4 tsp
1 pint	1 tsp
1 quart	2 tsp
1 gallon	2.5 Tbsp (1 fl oz)
2 gallons	5 Tbsp (2.5 fl oz)
4 gallons	1/3 pint (5 fl oz)
10 gallons	3/4 pint (13 fl oz)

DRY WEIGHT MEASURE approximate conversion rates	
Amount per 100 gallons	Amount per gallon
1/2 pound	1/12 oz
1 pound	1/6 oz
2 pounds	1/3 oz
3 pounds	1/2 oz
5 pounds	3/4 oz

Number of Plants Required for an Area of:					
Spacing (inches)	10 sq ft	15 sq ft	25 sq ft	50 sq ft	100 sq ft
5" x 6"	48	72	120	240	480

5" x 8"	36	54	90	180	360
6" x 6"	40	60	100	200	400
6" x 8"	30	45	75	150	300
8" x 8"	22	33	56	112	225
10" x 10"	14	22	36	72	144
12" x 12"	10	15	25	50	100
15" x 15"	6	10	16	32	64

Row Width (inches)	**Distance to Equal**					**Lenght for 1/100 Acre**		
	1 Acre	**1/100 A**		**1/1000 A**		**2 Rows**	**4 Rows**	**6 Rows**
	ft	ft	in	ft	in	ft	ft	ft
18"	29,040'	290'	5"	29'	0"	145'	73'	48'
20"	26,136'	261'	5"	26'	11"	131'	65'	44'
24"	21,780'	217'	10"	21'	9"	109'	55'	36'
28"	18,669'	186'	8"	18'	7"	93'	47'	31'
30"	17,424'	174'	2"	17'	5"	87'	44'	29'
32"	16,355'	163'	4"	16'	4"	82'	41'	27'
36"	14,520'	145'	2"	14'	6"	73'	36'	24'
38"	13,756'	137'	7"	13'	10"	69'	34'	23'
40"	13,068'	130'	8"	13'	1"	65'	33'	22'
48"	10,890'	108'	11"	10'	11"	54'	27'	18'
60"	8,712'	87'	1"	8'	8"	44'	22'	15'
72"	7,260'	72'	7"	7'	4"	36'	18'	12'

Equivalent Travel Rate	**Miles per hour**					
	1 mph	**2 mph**	**3 mph**	**4 mph**	**5 mph**	**6 mph**
= **Ft / Minute**	88	176	264	352	440	528
= **1000 inch / min & sec**	11 min 22 sec	5 min 41 sec	3 min 47 sec	2 min 50 sec	2 min 16 sec	1 min 54 sec

In-Row Spacing (inches)	**Thousands of Plants per Acre at Row Widths of:**								**Plants per 100 feet**
	8"	12"	18"	24"	28"	32"	36"	40"	
1	784	523	349	261	224	196	174	157	1200
2	392	261	174	131	112	98.0	87.1	78.4	600
4	196	131	87.1	65.3	56.0	49.0	43.6	39.2	300

6	131	87.1	58.1	43.6	37.3	32.7	29.0	26.1	200
8	98.0	65.3	43.6	32.7	28.0	24.5	21.8	19.6	150
10	78.4	52.3	34.8	26.1	22.4	19.6	17.4	15.7	120
12	65.3	43.6	29.0	21.8	18.7	16.3	14.5	13.1	100
18	43.6	29.0	19.4	14.5	12.4	10.9	9.7	8.7	67
24	32.7	21.8	14.5	10.9	9.3	8.2	7.3	6.5	50

Abbreviations (in alphabetical order)

A = acre
atm = atmospheres
bu = bushel
C = cups
°C = Degrees Celcius
cc = cubic centimeters
cm = centimeter
cm2 = square centimeters
°F = Degrees Fahrenheit
fl oz = fluid ounces
ft = foot
ft2 = square feet
g = gram
gal = gallon
ha = hectare
Hg = mercury
hr = hour
in = inch
in2 = square inches
in3 = cubic inches
°K = Degrees Kelvin
kg = kilogram
km = kilometer
Kpa = kilopascals
L = liter
lb = pound
m = meter
m2 = square meters
mi = mile
min = minute
ml = milliliter
mm = millimeter
mph = miles per hour
oz = ounce
psi = pounds per square inch
pt = pint
qt = quart
°R = Degrees Rankin
sec = second
sq = square
tbsp = tablespoon
tsp = teaspoon
yd = yard
yd2 = square yards

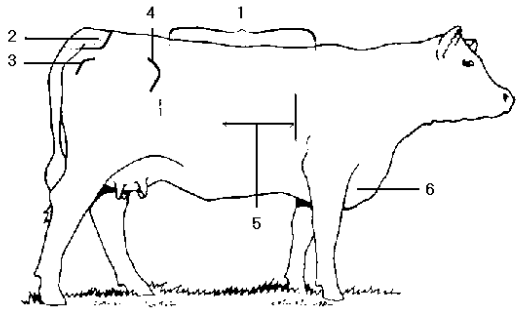
UNIVERSITY OF FLORIDA
IFAS EXTENSION

Body Condition Scoring Reference Guide

William E. Kunkle, Robert S. Sand, Owen Rae, and Doug Mayo

Good reproductive performance requires a Body Condition Score (BCS) of 5 or higher at calving and through breeding. Proper stocking rates, a good mineral supplementation program, and timely use of protein supplements offer the most potential for economically improving body condition and pregnancy rates. Separating cows by condition at pregnancy testing or two to three months prior to calving and feeding both groups to calve in BCS 5 or above will maintain high reproductive performance while holding supplemental feed costs to a minimum. The routine use of BCS in each herd will provide needed information to manage the cow herd for a high calf crop and profitability.

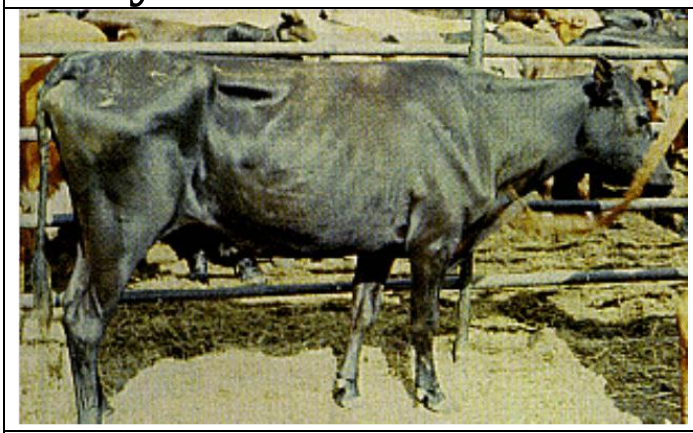
Key areas to observe fat cover for body condition scoring.



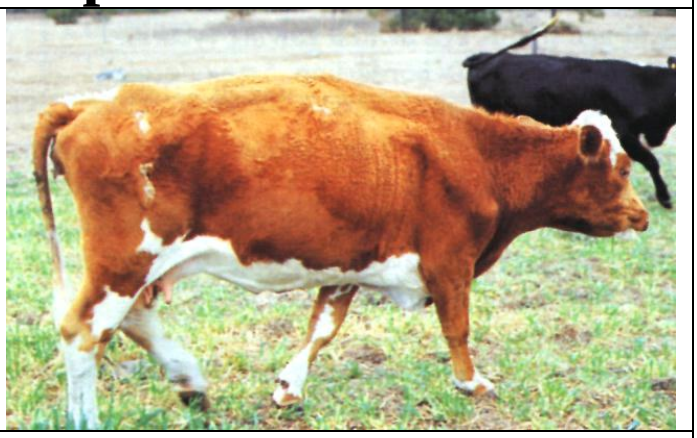
1. BACK 3. PINS 5. RIBS
2. TAIL HEAD 4. HOOKS 6. BRISKET

Description of Body Condition Scores (BCS)
BCS 1—Emaciated - Bone structure of shoulder, ribs, back, hooks and pins sharp to touch and easily visible. Little evidence of fat deposits or muscling.
BCS 2—Very Thin - Little evidence of fat deposits but some muscling in hindquarters. The spinous processes feel sharp to the touch and are easily seen, with space between them.
BCS 3—Thin - Beginning of fat cover over the loin, back and foreribs. Backbone still highly visible. Processes of the spine can be identified individually by touch and may still be visible. Spaces between the processes are less pronounced.
BCS 4—Borderline - Foreribs not noticeable; 12th and 13th ribs still noticeable to the eye, particularly in cattle with a big spring of rib and ribs wide apart. The transverse spinous processes can be identified only by palpation (with slight pressure) to feel rounded rather than sharp. Full but straightness of muscling in the hindquarters.
BCS 5—Moderate - 12th and 13th ribs not visible to the eye unless animal has been shrunk. The transverse spinous processes can only be felt with firm pressure to feel rounded - not noticeable to the eye. Spaces between the processes not visible and only distinguishable with firm pressure. Areas on each side of the tail head are fairly well filled but not mounded.
BCS 6—Fleshy - Ribs fully covered, not noticeable to the eye. Hindquarters plump and full. Noticeable sponginess to covering of foreribs and on each side of the tail head. Firm pressure now required to feel transverse processes.
BCS 7—Smooth - Ends of the spinous processes can only be felt with very firm pressure. Spaces between processes can barely be distinguished at all. Abundant fat cover on either side of tail head with some patchiness evident.
BCS 8—Fat - Animal taking on a smooth, blocky appearance; bone structure disappearing from sight. Fat cover thick and spongy with patchiness likely.
BCS 9—Very Fat - Bone structure not seen or easily felt. Tail head buried in fat. Animal's mobility may actually be impaired by excess amount of fat.

Body Condition Score Examples



BCS 2



BCS 3

BCS 4

BCS 5

BCS 6

BCS 7

Body condition affects the amount and type of supplements needed during the winter. Fat cows can lose body reserves, and 1 to 2 pounds per head per day of a 30 to 40 percent protein supplement plus minerals and vitamins is sufficient to maintain adequate body condition in many situations. In contrast, thin cows have little body reserves and often need 4 to 6 pounds per head per day of a high-energy supplement with 12 to 16 percent protein plus minerals and vitamins to avoid significant flesh losses and reductions in pregnancy rates.

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