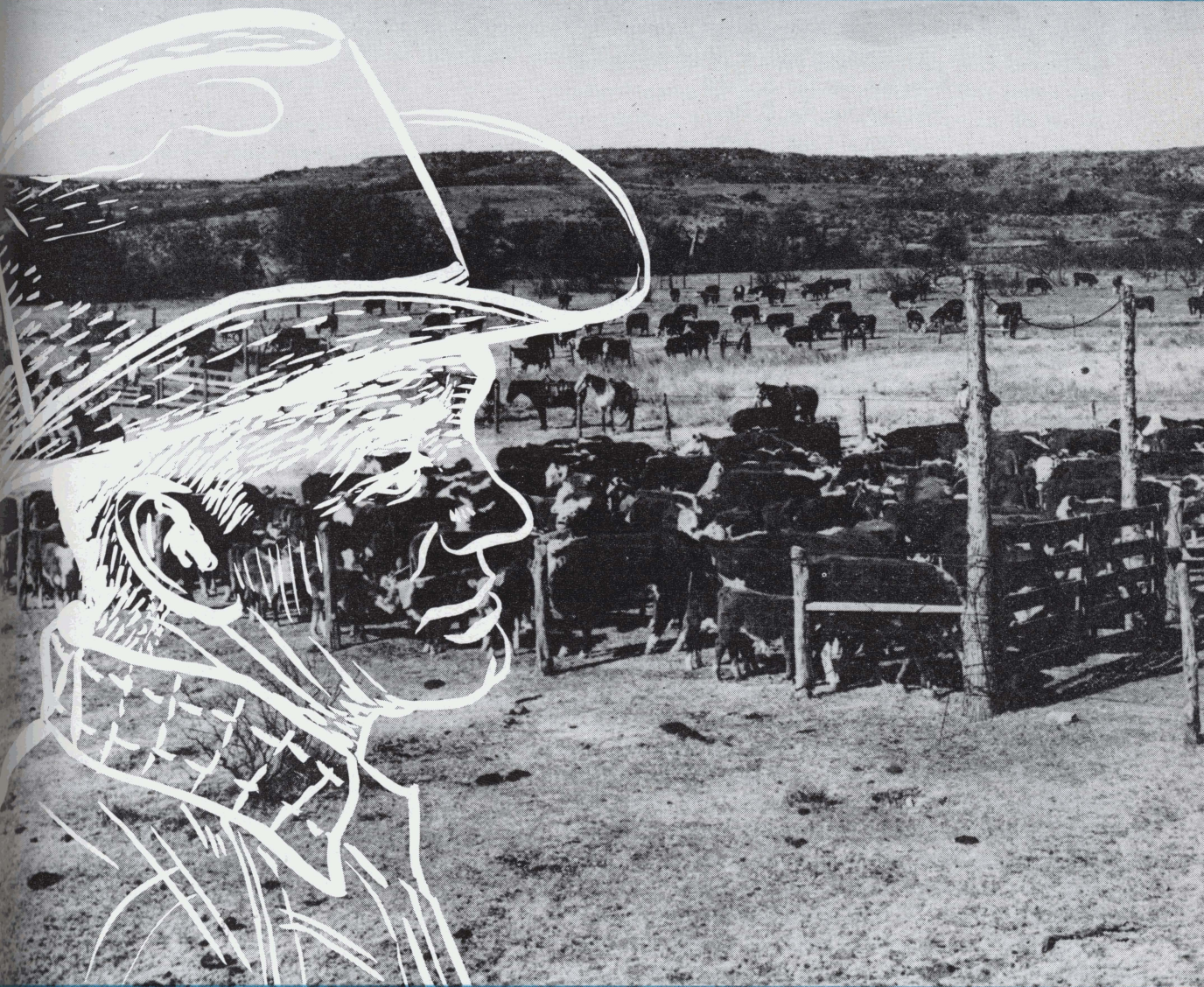


**Breeding Programs**  
**for**  
*Commercial* **Beef Herds**



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# Breeding Program for *Commercial* Beef Herds

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THE PRACTICE OF MATING outstanding bulls with outstanding cows, used by early breeders to establish our present beef breeds, is still the best method of improving beef cattle. Recent research information shows that more exact methods of selecting these animals can be used in a breeding herd. The use of production information (regularity of calving, weaning weight, ability to gain, conformation, finish and carcass information) makes it possible for a breeder to select animals that are, (1) outstanding producers, (2) will develop into outstanding producers or (3) select matings that should result in animals capable of outstanding production.

To have an efficient beef-producing unit, the rancher, through range management, pasture improvement, animal health, supplemental feeding and good management, should furnish a good home for the cattle before a breeding program can show the desired results. Five important steps in a breeding program are:

1. Know what type, conformation and weight of cattle you want to produce.
2. Strive for a 100 percent calf crop.
3. Plan and work for high weaning weight.
4. Breed for ability to gain if stocker and feeder cattle are to be produced.
5. Strive constantly for the type, finish and weights of calves which will be the most profitable on your farm or ranch.

An exact recommendation cannot be made on where slaughter and stocker and feeder cattle can be produced. Generally the northern and western parts of the State are better suited for the production of stocker and feeder cattle while the southern and eastern areas should produce slaughter calves. A large part of the State is in an overlap area where both slaughter or stocker and feeder calves are produced. Slaughter calves usually are heavier and may sell for less per pound, but the income per cow is about the same.

The low percentage calf crop prevalent in most areas of Texas causes the beef cattle industry more

loss than anything else. Overall management, supplemental and mineral feeding affect the percentage calf crop, but these do not solve the problem completely. Most ranchers who have high percentage calf crops cull those cows that do not calve regularly. Usually dry cows are identified at the end of the calving season. Some ranchers check their cows for pregnancy by rectal palpation about 60 days after the bulls have been taken out of the herd and sell the cows not with calf.

Preliminary studies in Texas show that 10 to 15 percent of the beef bulls used are poor risks in settling cows because of poor semen quality. This factor can be checked by a qualified veterinarian in 10 to 20 minutes. Many ranchers with several bulls in a pasture may have some that never settle a cow. If these bulls are identified and replaced with bulls capable of settling cows, the percentage calf crop and the number of early calves should increase.

Using several bulls in a pasture with unselected cows fails to make the best use of outstanding breeding stock. A progressive breeding program should be designed to produce top replacement cattle. This can be done efficiently if the best producing cows are bred to bulls with outstanding production records and most of the heifer calves are saved for replacements. In a multiple-bull pasture, the top bull will breed just as many below-average cows as he will top cows and below-average bulls will mate with top cows, resulting in average calves instead of outstanding replacement heifers. The mating of outstanding cows and bulls will result in the production of about four times as many top replacement heifers as a mass breeding program.

The use of graded herds of cows selected on production and mated to bulls selected the same way will make the most efficient use of outstanding breeding stock. These herds usually are called: "A" herd, which produces most of the replacement cattle; "B" herd, which has the average producers and most of the calves are marketed; and "C" herd, which are cattle that should be culled as soon as practical. Sections 1 and 2 describe the selection of the cows and bulls for these herds.

## Section 1—Selection of Cows for Graded Herds

The selection of graded cow herds by visual observation usually appears the most practical for commercial cattlemen, however in many cases the extra time and expense necessary to make selection from actual records on all calves will pay large dividends because the graded herd (A, B and C) will be selected more accurately.

### A. BY VISUAL OBSERVATION

1. When the calves are 5 to 8 months old, the rancher should select 25 to 35 percent of the calves of the type and size he wants to produce, identify their dams and place them in an A herd.
2. For the C herd, 10 to 25 percent of the small or off-type calves should be paired with their dams.
3. The remainder of the cows that have calves (50 to 65 percent of the calves) will be in the B herd.

### B. WITH PERFORMANCE RECORDS ON CALVES

1. From these performance records the top 25 to 35 percent of the calves based on grade and weight should be paired with their mothers to identify the cow for the A herd.
2. The C herd will be the mothers of the 10 to 25 percent of the calves with the lowest performance records.
3. In the B herd will be the remainder of the cows that have calves.
4. Some shifting of cows from the A or B herds may be necessary if unsoundness (dwarfism, bad udders, cancer eyes, bad feet or legs and other physical defects) is observed.

## Section 2—Selection of Bulls for Graded Herds

The maintenance of a group of good-producing bulls is of major concern to a rancher. The selection of bulls becomes more important for graded herds because all of the time and money invested to improve the cow herd can be lost if low-producing bulls are purchased, due to little or no production information.

### A. WITHOUT PERFORMANCE AND/OR PRODUCTION RECORDS

In the initial stages of setting up a graded herd and breeding more productive beef cattle, it

may not be practical to purchase a new bull with performance or production records. If new bulls are not purchased, the present herd bulls should be selected for A, B and C herds based on the productive ability observed in the bulls' offspring and the productive ability of the cattle produced by the breeder who raised the bulls.

### B. WITH PERFORMANCE AND/OR PRODUCTION RECORDS

#### 1. Selection for the A Herd

In selecting bulls for an A herd, weaning weights, grade at weaning time, rate of gain and grades after the gain tests are needed to make the proper selection. Bulls used in the A herd will become, in about 10 years, the sires of the entire herd of breeding cows. The importance of their weaning weights and grades cannot be overemphasized. A bull calf that grades high and whose dam gives enough milk to produce a heavy calf at weaning time should produce daughters that will produce heavy, high-grade calves at weaning time.

#### 2. Selection for the B Herd

The bulls selected for the B herd should have a high performance record and grade. The bulls' rates of gain become more important than their weaning weights because the heifer calves they sire usually will be marketed and will not become breeding cows. (High rates of gain transmitted from these bulls to their calves will result in increased weaning weights and gain after weaning.)

#### 3. Selection for C Herd

Since the C herd is made up of cows that will be culled as soon as practical and no replacement cattle will be retained, no particular emphasis is placed on the bulls that are used. Usually the rancher culls a sufficient number of bulls which takes care of this herd.

## Section 3—Getting Production Information and Grades at Weaning Time

### A. WITHOUT DATES OF BIRTH ON EACH CALF

1. Working cattle every 60 days during the calving season
  - a. Identify each cow with a permanent number brand, if practical.
  - b. Tattoo and weigh each calf 60 days after the start of the calving period.

TABLE 1. DATES TO WEIGH AND GRADE IF CATTLE ARE WORKED EVERY 60 DAYS DURING THE CALVING SEASON

Calves born in	Tattooed and weighed	Weighed and graded in	Calves born in	Tattooed and weighed	Weighed and graded in
Jan. - Feb.	Mar. 1	Aug.	Feb. - Mar.	Apr. 1	Sept.
Mar. - Apr.	May 1	Oct.	Apr. - May	June 1	Nov.
May - June	July 1	Dec.	June - July	Aug. 1	Jan.
July - Aug.	Sept. 1	Feb.	Aug. - Sept.	Oct. 1	Mar.
Sept. - Oct.	Nov. 1	Apr.	Oct. - Nov.	Dec. 1	May
Nov. - Dec.	Jan. 1	June	Dec. - Jan.	Feb. 1	July

(1) Use Form A for recording this information and weaning weights.

(2) Use a separate form for steers and heifers.

c. Tattoo and weigh, each 60 days thereafter, all calves dropped in that 60-day period using separate forms for each age group.

d. Weigh and calculate the gain of each calf using Form A when calves in each group are 5 to 8 months old. If practical, grade each calf using USDA Grading Standards.

e. Select heifers that have gained the most and come up to your conformation standards as replacements if an individual grade is not available.

or

f. List each calf's tattoo number, if an individual grade is available, on Section 2 in the lower right side of the Form A opposite gain and under proper grade using separate forms for each 60-day period and for steers and heifers.

2. Working cattle every 30 days during calving season

a. Identify each cow with a number brand, if practical.

b. Mark each calf with an ear tag or ear notch, 30 days after the start of the calving

period, to identify the month in which the calf was dropped.

c. Mark, each 30 days thereafter, all calves dropped in that 30-day period with an ear tag or ear notch different from the ones used previously.

d. Identify and weigh calves individually when they are 5 to 8 months old. Grade each calf using USDA Grading Standards, if practical. Use Form B for recording this information using separate forms for calves born in each 30-day period and for steers and heifers.

e. Select the heifers that weigh the most and come up to your conformation standards as replacements if individual grades are not available.

or

f. List each calf's number, if individual grades are recorded, on Section 2 in the lower right side of Form B opposite actual weight and under proper grade using separate forms for calves born in each 30-day period and for steers and heifers.

B. WITH DATES OF BIRTH ON EACH CALF

If dates of birth are recorded use procedures shown in B-909 "Breeding Programs for Registered Beef Herds" for getting production information and grade at weaning time and after weaning.

TABLE 2. DATES TO WEIGH AND GRADE IF CATTLE ARE WORKED EVERY 30 DAYS DURING THE CALVING SEASON

Calves born in	Should be marked	Weighed and graded in	Calves born in	Should be marked	Weighed and graded in
Jan.	Feb. 1	Aug.	July	Aug. 1	Feb.
Feb.	Mar. 1		Aug.	Sept. 1	
Mar.	Apr. 1	Oct.	Sept.	Oct. 1	Apr.
Apr.	May 1		Oct.	Nov. 1	
May	June 1	Dec.	Nov.	Dec. 1	June
June	July 1		Dec.	Jan. 1	

## Section 4—Getting Ability-to-gain Information and Grades After Weaning

Getting gain and grade information on calves after weaning is important, especially if the cattleman produces stocker and feeder calves.

### A. THROUGH PASTURE TESTS (Test should last 8 to 12 months.)

1. Tattoo, horn brand, number brand or neck chain each calf if not already identified.
  2. Use weaning weight as initial weights and grades if they have been taken.
- or
3. Take weights and grades if no weaning weight information has been recorded.
  4. Weigh and grade each calf 8 to 12 months after weaning and record the information.
  5. List yearling number on Form 2 according to gain and grade when date of birth and weaning weight are not available.

or

6. Add the gain before weaning to the gain after weaning for the total gain as yearlings when weaning calves were selected according to gain as shown in part 1 of Section 3A, using Form A. List yearling number on Form C according to this total gain and grade.

or

7. Use the actual yearling weight as an adjusted weight when weaning calves were selected according to weight as shown in part 2 of Section 3A, page 5 using Form B. List yearling number on Form C according to actual yearling weight and grade.

### B. THROUGH DRYLOT FEEDING TESTS (Test should be 140 days or longer.)

Information on all of the steers or "gate cul" on a smaller number of calves showing rate of gain, cost of gain, grade and time required to finish will give valuable information on the effectiveness of your present breeding program and may be useful in selling calves later. This information can be gathered by the rancher feeding some of his calves or by getting this information from the feeder who buys the calves.

## Section 5—Evaluation of Calves and Yearlings Using Form C

Select replacement heifers for further testing according to position on Form C, allowing sufficient numbers for further culling as yearlings. The best prospective replacement and/or salable cattle appear in the upper left corner. The top heifers should go to the A herd and the remainder to the B herd. In cases near the cull line, consider the records of the sire and dam. Cull from the bottom up and from right to left on this form.

## Section 6—Using Minimum Weights and/or Gains in Selecting Replacement Cattle

The main objective of this breeding program is herd improvement and little direct comparison will be made between herds except when replacement cattle are purchased. Under range or pasture conditions, the rancher should make allowances for differences in pasture condition and may not select the cattle with the highest weights and/or gains.

When a buyer is looking at two or more groups of cattle that have been produced with excellent pasture and feeding conditions, minimum weights and gains can be used. Table 3 shows some suggested weights and gains. Ranchers may want to set their own minimums that will vary from those suggested.

TABLE 3. SUGGESTED MINIMUM WEIGHTS AND GAINS FOR CATTLE WITH EXCELLENT PASTURE AND FEEDING CONDITIONS.

Conditions	Adjusted 205-Day Weights			140-Day Gain Tests	12 Month Weight
	Bull	Steer	Heifer	Bull	Bull
A cow and calf grazing on pasture with or without protein supplement.	475 lb.	450 lb.	425 lb.	364 lb. (2.6 lb.) (per day)	875 lb. (2.4 lb. per) (day age)
A cow and calf same as above with calf on creep feeder.	500 lb.	475 lb.	450 lb.	364 lb. (2.6 lb.) (per day)	915 lb. (2.5 lb. per) (day age)
A calf, nursing its mother, raised in a feedlot.	525 lb.	500 lb.	475 lb.	364 lb. (2.6 lb.) (per day)	915 lb. (2.5 lb. per) (day age)
A calf raised in a feed lot on a nurse cow.	550 lb.	525 lb.	500 lb.	364 lb. (2.6 lb.) (per day)	915 lb. (2.5 lb. per) (day age)

FORM A. WEANING RECORD  
(Worked Every 60 Days during Calving Season)  
Use Separate Sheets for Steers and Heifers

Name ..... Sex Heifers Date Dec. 20. 57 1st Weight Weaning weights Date May 15. 1957

Herd No.	Dam	1st wt.	Weaning weights	Gain	Grade	Herd No.	Dam	1st wt.	Weaning weights	Gain	Grade
11	104	162	530	368	C-						
12	461	168	462	294	C						
13	351	152	482	340	C						
14	183	118	392	274	C-						
15	90	154	476	322	C						
16	124	150	436	386	C						
17	16	165	474	304	C+						
18	603	124	444	320	C+						
19	65	108	380	272	B						
20	535	88	384	260	C-						
21	221	118	458	340	C-						
22	181	92	418	326	C+						
23	10	180	504	324	C-						
24	6	168	536	368	C+						
25	9	164	492	328	C+						
26	25	140	434	294	C-						
27	27	138	418	280	C+						
28	15	120	390	270	C-						

Section 2				
Gain	GRADES			
	C+	C	C-	G
380		16		
370				
360	24		11	
350				
340		13	21	
330				
320	25	15	23	18-22
310				
300				17
290		12	26	
280				27
270			14-28	19
260			20	
250				
240				

FORM B. WEANING RECORD  
(Worked Every 30 Days during Calving Season)  
Use Separate Sheets for Steers and Heifers

Name ..... Sex Heifers Date July 19 Weaning weight  
Date Nov 1st weight

Herd No.	Dam	Weaning weight	Grade	Herd No.	Dam	Weaning weight	Grade	Remarks
31	137	460	C+					
32	125	480	F					
33	136	455	F					
34	133	425	C					
35	132	525	F					
36	137	425	C+					
37	139	515	C+					
38	138	580	C+					
39	143	500	C+					
40	140	485	C					
41	143	560	C+					
42	135	490	C+					
43	128	450	C					
44	126	485	C					
45	131	385	C-					
46	129	570	F					
47	130	535	F					

Section 2				
Weaning Weights	GRADES			
	C+	C	C-	G
580	F	38		C-
570	46			
560		41		
550				
540				
530	47			
520	35			
510		37		
500		39		
490		42		
480	32	40	44	
470				
460		31		
450	33		43	
440				
430				
420		36	34	
410				
400				
390				
380				45

FORM C—SELECTION SHEET FOR

*Yearling Heifers*

(Weaning, Yearling, or Gain Record)

Use Separate Sheets for Bulls and Heifers

Sex *Heifers*

Ref. No. \_\_\_\_\_

Name \_\_\_\_\_

Date \_\_\_\_\_

Breed \_\_\_\_\_

Weight or gain	* C+	* C	* C-	* G+	* G
900 lb. 00- +					
95-99					
90-94					
85-89					
80-84	60				
75-79					
70-74					
65-69					
60-64		59	53		
55-59					
800 lb. 50-54					
45-49					
40-44			63		
35-39		69			
30-34					
25-29					
20-24					
15-19					
10-14	56		61		
05-09					
00-04		55			
95-99					
90-94		64	54		
85-89					
80-84	73		68	75	
75-79					
70-74					
65-69					
60-64					
55-59					
700 lb. 50-54		74			
45-49					
40-44					
35-39					
30-34	—————	<i>Cull line showing selection mostly on Grade</i>			
25-29	- - - - -	<i>Cull line showing selection mostly on Weigh</i>			
20-24	—————	<i>Cull line showing selection on Grade and Weigh</i>			
15-19					
10-14					
05-09					

\*Use five appropriate grades (Fancy, Choice +, Choice, Choice-, Good +, Good and Good -)