

# Cow-Calf Section

Dr. Russ Benson, Chairman

## The Evolution of a Ranch Management Program Deep in the Heart of Texas

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Las Moras Ranch  
Menard, Texas

Our ranch is located in Menard County, west central Texas, on the northern edge of the Edwards Plateau, about 50 miles southwest of the center of Texas. The climate is semi-arid and warm and the elevation is 1,960 feet above sea level.

Dry weather predominates, the average annual precipitation being 23 inches. Both monthly and annual precipitation are extremely variable (Table 1). The annual rainfall ranged from 11.55 inches in 1953 to 31.15 inches in 1957. The period 1952 through 1956 was the most severe and extended drought on record. Monthly rainfall varied from 0 to 11.4 inches; that for June, 1961 (11.4), was nearly the equivalent for the whole year in 1953 (11.55 inches).

Live oak and shin oak are the principal native trees. Mesquite brush has increased gradually during this century, showing particular spurts of growth

after the drought in the 1930's and again in the 1950's. There was far more mesquite than we could stand and it was increasing rapidly, making it necessary to redouble our efforts to control it, first by ground control methods, followed by an aerial spraying program beginning in June, 1977. We have made substantial progress in the last year and a half and feel we have the upper hand at the moment.

We rely on native forage plants. Main native grasses are sideoats grama, Texas wintergrass (spear grass), and buffalo grama. We also have such undesirable species as needlegrass, hoarhound, red grama and hairy tridens. Carrying capacity of the ranch has nearly doubled as a result of the recent brush control measures.

On Las Moras Ranch we raise registered and commercial Hereford cattle under exactly the same

Table 1. Precipitation by Months from 1952 through 1973 in Menard, Texas

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
1952	0	.3	1.05	3.65	3.15	.75	1.5	.75	3.1	.3	1.7	1.3	17.55
1953	0	.45	1.45	.2	.9	.70	1.45	1.2	1.4	3.5	0	.3	11.55
1954	.5	.2	.2	4.0	2.1	2.1	0	.7	1.4	1.05	0	0	12.25
1955	1.3	.7	0	0	2.0	3.0	4.6	3.0	2.3	.8	0	0	17.70
1956	1.25	.6	0	2.7	5.7	0	.5	0	0	1.2	.6	.8	13.35
1957	.4	1.6	1.7	4.9	7.7	1.4	.2	.6	1.1	8.2	2.7	.65	31.15
1958	2.45	3.8	2.6	1.7	2.4	3.7	0	1.7	4.8	2.3	.6	.40	26.45
1959	0	1.55	0	1.6	1.5	4.3	2.8	0	3.9	4.6	.5	3.1	23.85
1960	2.3	1.5	.7	.5	.4	1.4	3.8	5.9	.7	3.8	.5	5.7	27.20
1961	2.75	1.3	.6	0	2.4	11.4	3.5	1.3	1.5	2.0	2.0	0	28.75
1962	0	.8	.8	3.7	.6	3.1	.5	.7	2.4	2.7	1.0	.2	16.50
1963	.2	.9	.6	1.8	6.4	1.1	0	2.3	1.7	.6	3.0	.4	19.00
1964	2.7	1.5	1.0	1.4	1.6	0	0	2.8	8.5	1.3	1.0	.4	22.20
1965	2.7	3.35	0	1.8	5.5	1.0	1.0	.6	1.4	1.0	1.5	1.5	21.35
1966	.2	.6	.6	4.3	2.7	.4	0	3.9	8.0	.4	0	0	21.10
1967	0	.4	.75	1.4	3.2	0	3.85	3.75	5.7	1.55	4.1	1.11	25.81
1968	3.8	2.0	2.65	3.25	3.4	3.1	3.45	1.5	3.3	1.1	1.5	0	29.05
1969	0	1.4	.8	5.0	1.5	1.1	3.1	5.8	2.1	5.6	1.5	1.8	29.70
1970	1.0	1.6	1.4	1.0	7.9	2.2	1.5	1.8	5.6	1.0	0	0	25.00
1971	0	1.5	0	4.0	1.0	4.3	4.4	8.7	1.4	2.9	.75	1.3	30.25
1972	.3	0	.5	.7	6.7	2.0	2.5	7.5	6.0	1.4	.7	0	28.30
1973	1.7	2.2	1.5	3.3	0	6.0	1.8	.5	3.9	8.0	0	0	28.90
AVG	1.07	1.28	0.86	2.31	3.13	2.41	1.84	2.50	3.19	2.51	1.08	0.86	23.04
Range	0-3.8	0-3.8	0-2.7	0-5.0	0-7.9	0-11.4	0-4.6	0-8.7	0-8.5	.3-8.2	0-4.1	0-5.7	11.6-31.2

management system. We also raise Delaine sheep for lambs as well as for wool.

Upon my return from the service in 1946, the place was being operated, as it had been for years, as a partnership with emphasis on numbers of livestock. Culling was done by age in both cattle and sheep. The calves were delivered in two shipments, the bigger ones in early October and the smaller ones, referred to as "late calves," in late October or early November. The cull cows and calves all went to market at this time, including those with bad eyes that had to be doctored all summer. Selling milk-fat lambs by late spring was unheard of.

The partnership arrangement was terminated in 1947, and I have been concerned with the period from 1948 to the present.

I have no records for 1948, but in 1949 we had approximately 200 cattle, 600 sheep and 1500 Angora goats in two main pastures with three traps. This was about 525 animal units. Our calf crop was between 80 and 85 percent, the lamb crop about the same and the kid crop was 65 to 75 percent.

During the ensuing years, including the 1950-56 drought, we have emphasized ranch management and improvement by *reducing size and increasing the number of pastures, watering places, deferring grazing and reducing stocking rates*. All of the goats were disposed of by 1951, and for the period 1953 through June of 1956 the stocking rate was reduced to *10 to 12 animal units per section*. A forage-livestock inventory conducted by the Soil Conservation Service in 1961 showed a suggested carrying capacity of 481 animal units on a 12-month basis, or about 34 animal units per section or 19 acres per animal unit.

Table 2 is a record of weaning weights from 1949 through 1963, excluding 1953 and 1954 when the cattle were away from home and 1957 when no record was kept. In 1949, all steer calves raised, weaned and sold averaged 404 pounds; all heifers weaned and sold averaged 396 pounds; all lambs sold as feeders in September weighed 54 pounds. There was not much change through 1950 and 1951. However, in the early spring of 1952, prior to the complete break in cattle prices and the realization that we were in the "great drought," several bulls and a few truckloads of cows with undesirable calves plus dry cows were shipped to market.

Now 1953, '54 and '55 are years we would like to forget, because these were years that we pastured our cattle on other places and paid for grass. But during these years the cows were given a good looking over. Any cow that did not raise a calf went to market, *regardless of age!* Any cow which had a calf, but not a good one, went to market along with the calf. All poorer individuals and poor-doing cows were sold. The result was a modest improvement in weaning weight in 1956 when all steers averaged 240 pounds and all heifers sold averaged 402 pounds, an increase made more significant by the market delivery date of August 28. We brought our cattle home the last of June, 1956, and although they may not have been

progeny-tested as we know it today, *they were thoroughly drought-tested*. Increases in weaning weights in 1958, '59 and '60 were quite drastic, but dry seasons in 1961, '62 and '63 again took their toll in reduced calf weight production.

**To be quite frank, it was a case of pure and simple economics, brought on by the drought, that forced us to change our operations from one of numbers to the selection and management program we follow today.**

I am a great believer in the old axiom "like begets like." Certainly, breeders' experience and research

Table 2  
Avg. Weights of Calves at Marketing

Year	Steers	Heifers
1949-Oct.-Nov.	404	396
1950	405	402
1951-July 29	320	304
1952-Aug. 21	374	342
1955-Drought year-Sept. 9	371	351
1956-Aug.	420	402
1958-Aug. 12	492	468
1959-Sept. 24	518*	466
1960-Sept. 29	570* (487)**	542 (569)**
1961-Sept. 21	548* (424)**	493 (518)**
1962-Sept. 25	536* (410)**	460 (496)**
1963-Oct. 7	475 (392)**	461 (492)**

\*Half the steers implanted with stilbestrol and the other half not.

\*\*From 1960 on, heifer weights are shown for those sold and those kept for replacements as well as the average. Heifer weights prior to 1960 are only for those sold.

results show that some of the more important *economic* traits necessary for efficient and profitable beef cattle production are heritable to varying degrees. Production traits of major importance include: (1) fertility (early and regular breeding); (2) ease of calving (pelvic size is involved); (3) mothering ability, including propensity to claim the calf and nourish it through good milk production for a long time; (4) survival rate of calves; (5) heavy weaning weight of calves; (6) rate of gain and efficiency of feed conversion after weaning; and (7) desirable carcass traits. Freedom from hereditary defects such as dwarfism, poor udders and poor keeping ability is also imperative.

Since 1954 the only replacement heifers kept have been from cows that always calved during the first part of our calving season, provided their weaning weights were good and they looked like the kind we wanted. As a result, our cow herd calves early and close together. In the past we have weighed the replacement heifers between 12 and 18 months of age and culled a few of the light ones. Until 1962 we always bred the heifers to calve at three years old and in 1957 and 1958 they all bred and raised their calves. However, for the following three years we had more trouble than I thought we should. As we emerged from the drought, the heifers were not in as good condition as those in 1959, '60 and '61, and I think in these latter years they were too fat.

We like February calves for our area for several reasons:

1. To have a more uniform calf crop.
2. I believe in taking advantage of nature's blessings: (a) Calves dropped at that time are big enough to take the increased milk supply when lush spring grass comes and any forage they consume will be high in quality; (b) Breeding for next year's calf crop coincides with the time when grass is green; (c) Calves can be weaned in October or before, thereby permitting the cows to go into winter in good condition; and (d) Winter feed bills can be kept to a minimum.

A few accidental breedings of yearling heifers convinced us that two-year-old calvers would grow and develop normally and out-produce, on a lifetime basis, heifers that did not calve until three years old. During a six-year period, 232-day adjusted weaning weights averaged 412 pounds for two-year-olds and 439 for three-year-olds. Under our conditions and management, rebreeding the two-year-olds has been a problem. There was some difficulty in calving the two-year-olds when we first started, but a little experience in their management, in selecting the kind of bulls to use for first breeding, and the use of pelvic measurements to spot and weed out potential difficult calvers have solved these problems. We now calve all our heifers at two years of age.

Unquestionably, difficult calvings can be one of the most costly items in a herd operation. A recent study of one herd of big cattle in our state showed that slightly over 80% of the calving difficulty occurred in the first two calvings. The cost of labor, equipment, medicines, veterinary time, death loss of cows and calves, and delayed rebreeding totaled over \$17 per living calf produced in the herd as a period-of-years average. We firmly believe in taking pelvic measurements of virgin heifers and have routinely used the practice in selecting replacements since it was introduced to us some years ago.

I have been keeping records for many years—in fact, my compadres at Texas A&M have accused me of keeping too many records. Some of them don't mean much to anyone but my ranch foreman, Jose Lopez, and me. But we study the cattle constantly and written records have permitted us to identify characteristics of cow families which have been invaluable in guiding the breeding program. The records have formed the basis for several studies of our operation by extension specialists and research workers with whom we have worked closely for many years. Most recently they provided the basis for a master's thesis entitled "Production Factors in a Hereford Herd in Menard County, Texas," by Vidal Gonzales, Jr., a graduate student in animal science at Texas A&M. This study has clarified my knowledge of the factors which affect weaning weights on Las Moras Ranch and has produced some original data regarding the influence of sires on the pelvic size of their daughters.

Sire effect on pelvic size of the daughters is most interesting, but because we use single-sire breeding pastures, sire effect and pasture effect are confounded

and there is no way to separate them. The same is true for sire effect on weaning wt. (See Appendix.)

This discussion would not be complete without mention of our sheep operations which in some respects provided guidelines for the cattle program. Let me show you some results based upon a minimum of record keeping and the economic gains made therefrom in our sheep flock (Tables 4, 5 and 6).

These figures on sheep emphasize the necessity for diversification in our operation and established the soundness of the selection and breeding methods used in our cattle operation. The ranch is the same size it

Table 4  
Sheep Production

	1957	1961
Lambing percent	80%	110%
Lamb weight	60 lbs.	72 lbs.
Fleece weight	8 lbs.	12 lbs.
Staple length	2-2-1/2 in.	3-1/2 - 4 in.
Shrinkage	70-72%	57%
Income per ewe	\$10.08	\$18.07

Table 5  
Percentage Increases

Lamb crop	37.5%	Clean wool	115.0%
Lamb weight	20.0%	Income from wool	115.0%
Fleece weight	50.0%	Income from lamb	65.0%
Staple length	66.7%	INCOME PER EWE	79.2%

Table 6  
Percentage Increases

	1957		1961
Lamb crop	138 ewes	compared to	100 ewes
Lamb weight	165 ewes	compared to	100 ewes
Income from lambs	165 ewes	compared to	100 ewes
Fleece weight	150 ewes	compared to	100 ewes
Clean wool	215 ewes	compared to	100 ewes
Income from wool	215 ewes	compared to	100 ewes
Total income	179 ewes	compared to	100 ewes

was in 1948.

We closed our sheep flock to outside breeding many years ago and have produced our own replacement ewes and rams ever since. Although I know it worked marvelously in sheep, I was reluctant to try it in cattle until my "friends" at A&M coerced me into it about 1962. Since then we have produced our own herd sires because we automatically know more about those we raise ourselves than we can possibly know about any we would buy. Let me emphasize that closed herd breeding requires intimate knowledge of the cattle. It's not for everybody, but it works for us.

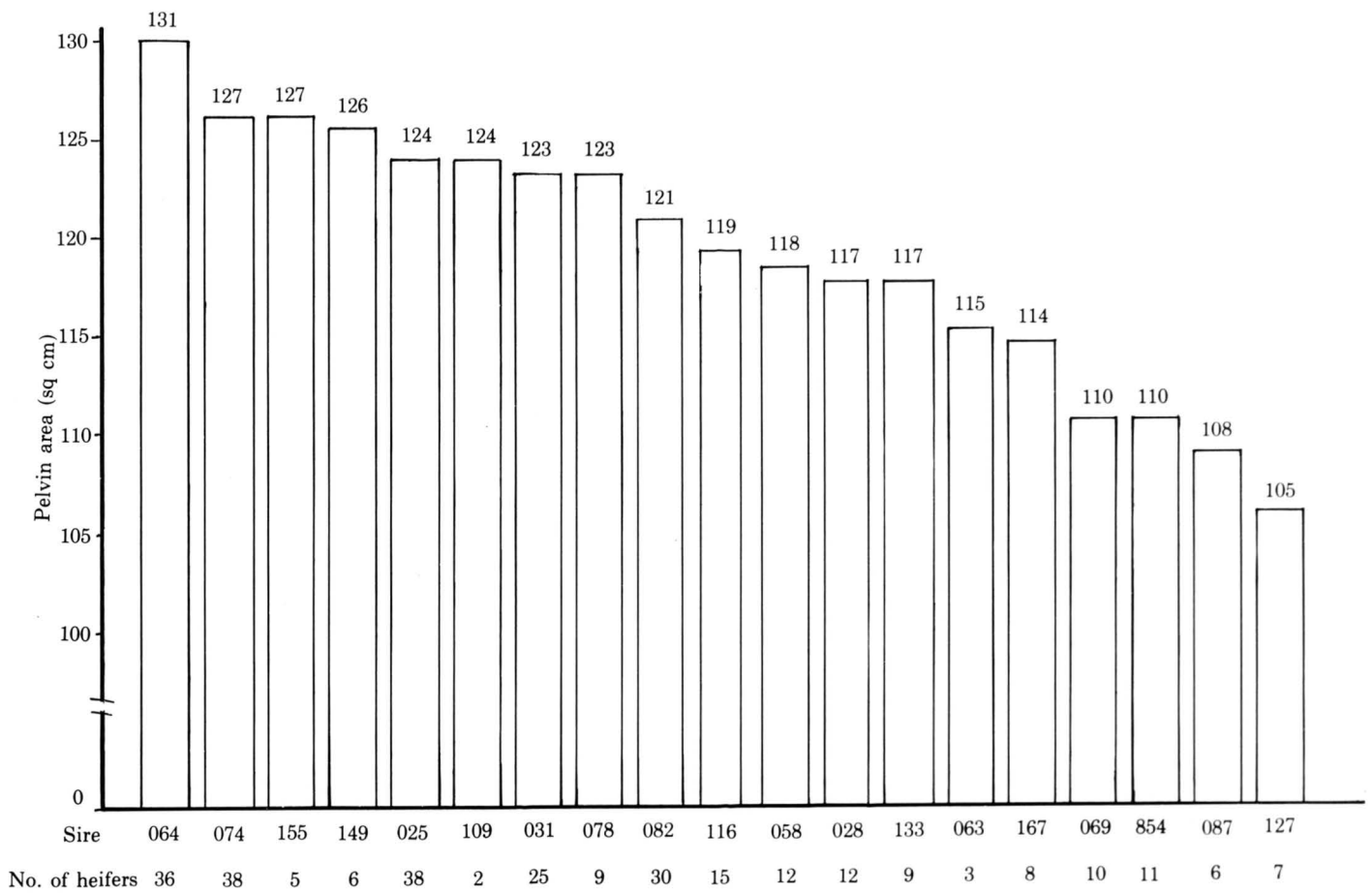
In summary, now, what does all this information mean to me and how do I intend to use it?

1. Historically, the profit motive is what motivates most of us to strive to do better. Therefore, there is no room for sentimentality in an economic endeavor and certainly any livestock production program is a business operation.
2. Use some form or method of identification and from this point on, many nice things can begin to happen if—and only if—we let some preconceived notions we may have had, go out the window and let Mother Nature help us.

3. Set up a rigid systematic selection and culling program based upon those heritable characteristics of economic importance, because it will pay off in percent calf crop weaned and in weaning weight and quality of calves, all of which are factors which determine profit.

4. Develop two-way livestock.

5. In any range breeding operation, to be successful, a conservation plan must be made and carried out to the best of one's ability under the circumstances.



Appendix. The influence of sire on pelvic size of his daughters in Group E.