The Beefmaster Breed It's Unique Development and Applications to the Worldwide Beef Complex



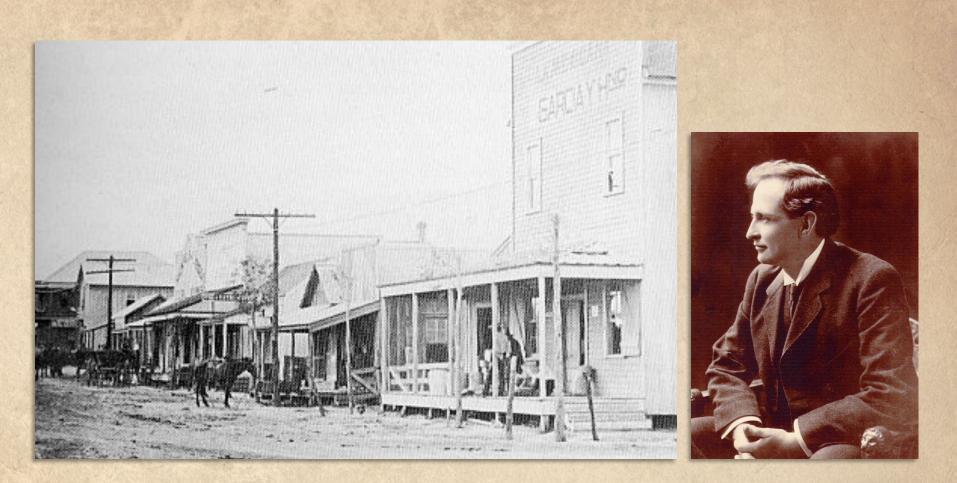
PROMOTING BEEFMASTERS WORLDWIDE SINCE 1964





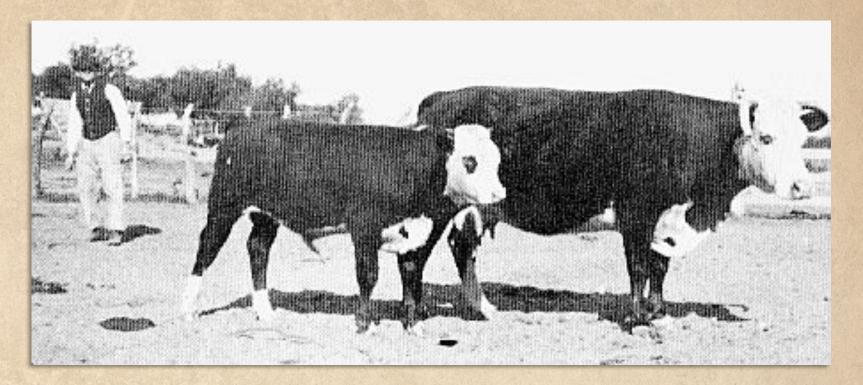
The development of the Beefmaster breed began in southern Texas in the late 1800s.





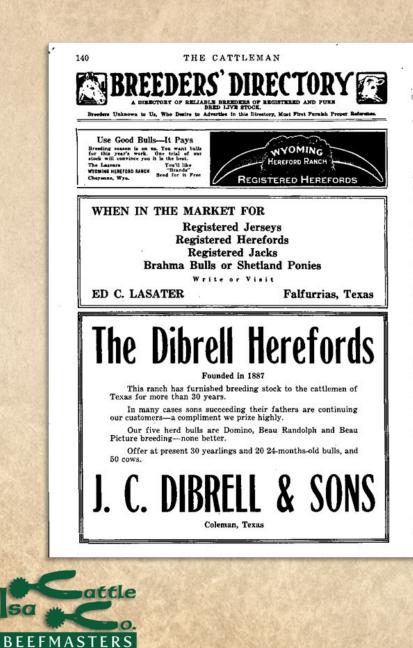
Ed C. Lasater founded Brooks County and the town of Falfurrias.

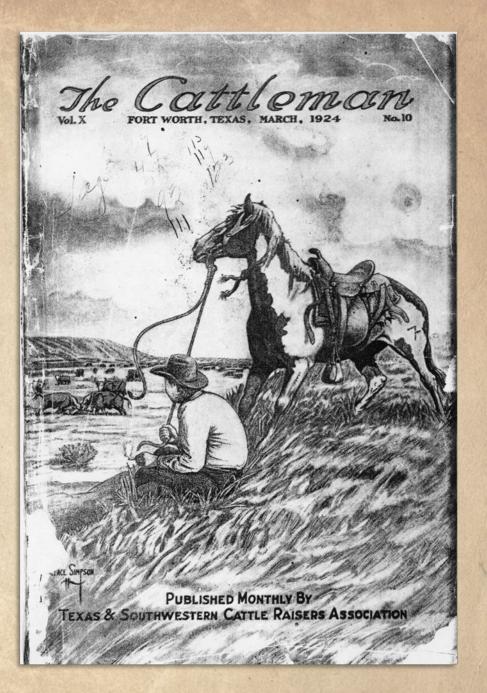




He amassed about 400,000 acres (161,874 hectares) and ran about 20,000 Hereford females and the world's largest Jersey herd.







In 1908, Lasater introduced the first "Brahma" cattle into South Texas.

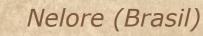


Gir (India)



Guzerat (India)







An advertisement from the 1920s offering "Brahma" steers for sale.

At this time in Texas, crossbreeding was relatively unknown.



- BRAHMA STEERS

A Group of Commy Tum-year-old Bratuna Steers

The Reds are a cross of the Uhir or Red Brahma balls and Durham cows.

Light colored steers from Hereford cows and Nelore Brahma hulls.

for forther information

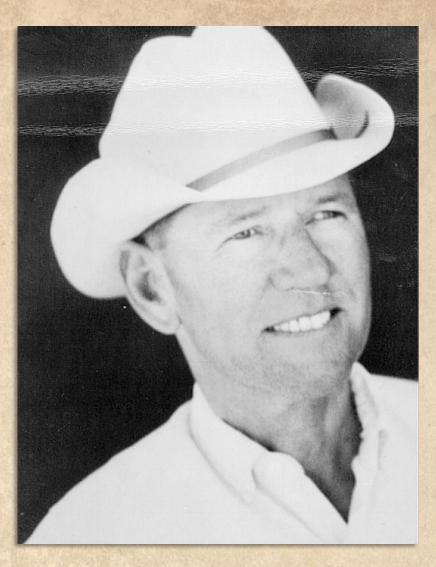
ويعتارها الأمار فالألاب الأكثار المالي والمتقاطعا أنفاحه المترافين

weirn or wire





- 1930 Ed Lasater died. As a result of massive indebtedness and the onset of the Great Depression, most of his land and livestock were lost.
- 1931 Tom Lasater left Princeton University to manage what was left of the family holdings.
- There were 350 Brahman-type cows, 150 registered Hereford cows and a few bulls of each type.



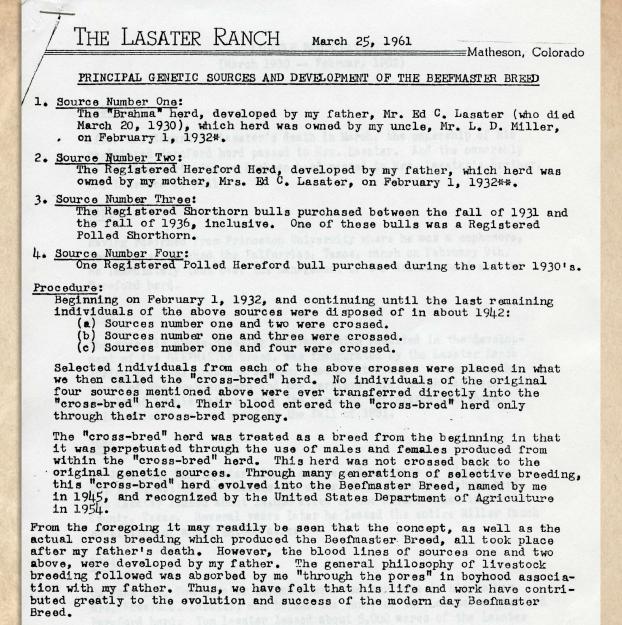


Tom Lasater Founder of the Beefmaster Breed

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- 1931 Tom bought two Shorthorn bulls, which were bred to the top Brahman cows.
- He then used Shorthorn x Brahma bulls on Hereford x Brahma females.
- The resulting three-way cross was far superior to anything before.

"A blind man could see they were better." – Tom Lasater



BEEFMASTERS

Tom Lasater

"This "Brahma" herd was under my supervision beginning in February, 1931, and was sold to me on June 1, 1933.

##This Registered Hereford herd was under my supervision beginning in February, 1931, and was sold to me on June 1, 1934.



The early cattle looked nothing like those today ...





... nor did they act like them!



PROMOTING BEEFMASTERS WORLDWIDE SINCE 1964

- 1936 The Lasater Ranch installed a set of scales and began systematically performance testing the bull calves and yearlings.
- 1937 Tom closed the Foundation Herd to outside genetics. For 82 years now, no new blood has been introduced. It is the oldest closed herd in the world.
- 1945 Tom named the cattle "Beefmasters."

PERFORMANCE GENETICS FROM THE FOUNDING FAMILY

- 1948 Lasater purchased 10,000 acres near Matheson, Colorado, and began moving cattle there. By 1956, the entire herd was consolidated in Colorado.
- 1949 Lasater patented the Beefmaster name.
- 1954 The USDA recognized Beefmasters as a Beef Breed.
- 1961 Lasater formed Beefmaster Breeders Universal (breed registry).

Beefmasters Today







Beefmasters are the only breed in the world to have been developed purely for economic traits.

Tom Lasater's unique concept is known as: The Lasater Philosophy or The Six Essentials

PROMOTING BEEFMASTERS WORLDWIDE SINCE 1964

TOM LASATER'S SIX ESSENTIALSTM

Disposition Fertility Weight Conformation Hardiness Milk Production

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The Six Essentials gives us a simple and effective roadmap to production efficiency and profitability.

By following them, we enjoy:

- A breeding program that is simple and delivers results
- A program for any size herd, in any environment
- Functional, fertile, gentle, beautiful cattle
- More profit to the enterprise

Disposition





www.isabeefmasters.com Disposition

Gentle cattle are:

- Cheaper to manage
- Sell better
- Breed better
- Calve easier
- Feed better
- Slaughter better



Fertility





What makes this cow special?

She's 14 years old ...





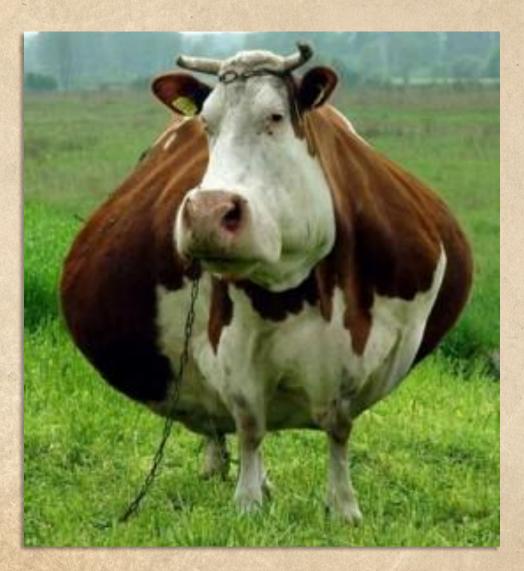
... and that's her 13th calf!

PERFORMANCE GENETICS FROM THE FOUNDING FAMILY

Fertility

- First among equals fertility remains the cornerstone of the Lasater Philosophy.
- Cows that don't calve every year are not economically viable.
- A breeding season of longer than 90 days makes this impossible.
- Isa Beefmasters uses a breeding period of 60 days, culls all opens and any cows not weaning a merchantable calf.

Weight





Weight

- Of obvious importance ranchers sell pounds of beef.
- Highly heritable trait
- We want all cattle to produce at the optimum maximum pounds with minimum inputs, WHILE breeding.

Conformation





An L Bar 5502 x Angus feeder heifer

WWW.ISABEEFMASTERS.COM

Conformation

- The visual appraisal of a live animal with regard to carcass merit.
- We select for long, trim, well-muscled bulls and smooth, feminine cows.
- Cattle must be physiologically equipped to do their job, with proper feet and legs and the correct size for their environment.







Milk Production





PROMOTING BEEFMASTERS WORLDWIDE SINCE 1964

Milk Production

- Behind genetics, milk production is the single most important factor in calf weight.
- When asked to describe the perfect cow, Tom Lasater replied, "She'll look like a cow that gives a helluva lot of milk."

Hardiness





Beefmaster females in the Kalahari Desert, Botswana, Africa

Hardiness



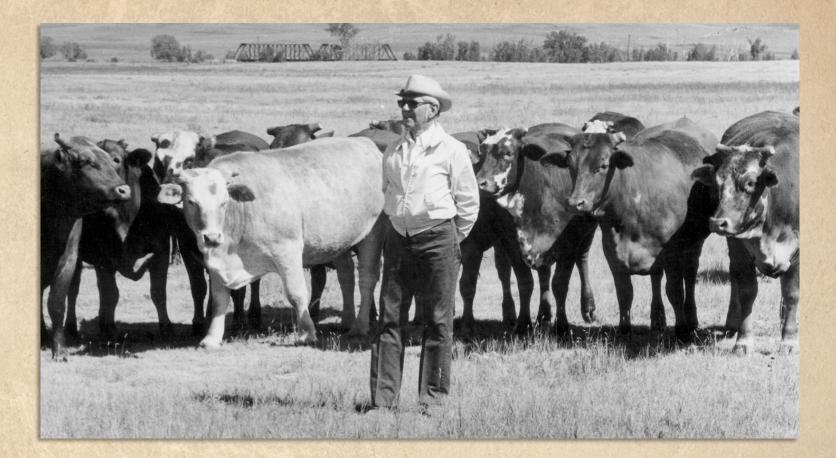


Beefmaster Cows in the Tropics of Southern Florida

PERFORMANCE GENETICS FROM THE FOUNDING FAMILY

Hardiness

- Selecting for cattle that can thrive under tough conditions.
- Beefmasters excel in calf livability, low death loss, easy keeping and disease/parasite resistance.



Tom Lasater Founder of the Beefmaster Breed



Beefmaster Breeders United

V.ISABEEFMASTERS.COM

- International Breed Registry
- 4,000 members
- Registered 15,000 calves in 2016
- 7th largest breed association in the U.S.
- The largest of the American breeds (Brangus, Brahman, Braford, Santa Gertrudis, etc.)

International Presence

There are eight countries worldwide with established Beefmaster associations.

- United States
- Mexico
- South Africa
- Thailand
- Panama
- Costa Rica
- Nicaragua
- Colombia



PERFORMANCE GENETICS FROM THE FOUNDING FAMILA International Presence Beefmaster genetic material has gone into the following countries:

Africa: Namibia, Botswana, Zimbabwe, Mozambique

Europe: Poland, Italy, Ireland, Portugal

Latin America: Bolivia, Brazil, Guatemala, El Salvador, Paraguay, Belize

Beefmasters have excellent characteristics that drive demand in these locales:

- Carcass quality compared to native breed(s)
- Age to reach slaughter weight
- Age at first breeding of females
- Efficient feed conversion
- Low input cows
- Cow longevity
- Heat and humidity resistance
- Insect resistance
- Adaptability

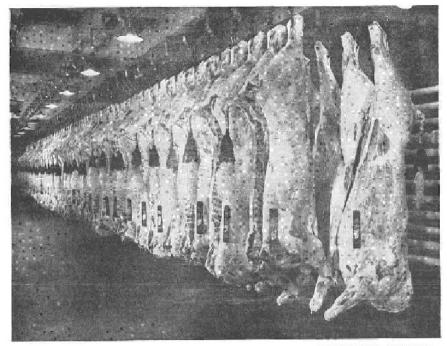


Julio de 1946

Calidad de la Canal "Creada para rendimiento y calidad de la Canal, no para belleza"



The Castloman



PLASTING CONTRACT OF THE NATIONAL FROVISION OF

Breeding Pays ON THE HOOK

Look at this basi on the book. Can you tell whether it came from brown within or starts sufficient the shape of the broad or the curve of the sound. Note of these theres count in the curve a^{2} those there is count in the curve a^{2} the broad a^{2} the bound matrix and quality a^{2} the base left.

EDDFMASTERS are bred for type "on the back"- NOT for type "on the book". We don't worry about the color of com, color of uses,

color of tengue, seen as color decen't show up "an the hock." We breed for good, solid, wellmembred bool righ down to the hock, for well rounded hindgroward, low likely, but bins, "Well-select rise, anoth deep locage or extend propping solution of black. There has kind of breeding that page off with the pacetas.

Rywebs increased in oreseling that pays "an the hook," you should learn more about BLit-MASTERS. Vist The Landor Rouch or write for thos folder.



MIRICA'S FIRM ESTABLISHED THREE-WAY EXAMINAL STRIP (HERBECHD-SHORTHORN-SEAMINE)

FMAST

LASATER RANCH

Lasater BEE

FALFURRIAS. TEXAS

Feedlot and Carcass Qualities

- Excellent gains
- High feed conversion
- Low sickness and death loss
- Excellent in both grain and grass-fed models
- Lean, tender beef
- High yielding carcass



BEEFMASTERS WORLDWIDE SINCE 1964

PROMOTING BEEFMASTERS WORLDWIDE SINCE 1964



Carcass data from Beefmaster sired cattle and the 2016 U.S. average for fed cattle.

	HCW	REA	REA Adj.	FT	YG	% SE	% CH Total	% CH Premium	% PR
BM Sired	757	13.48	0.5	0.44	2.71	15%	82%	42%	3%
USA Avg.	868	13.80	-0.4	0.55	3.10	25%	70%	35%	5%

Courtesy of Mark Frenzel, PhD; Texas A&M

The results of two feeding and carcass studies undertaken by Isa Beefmasters

BEEFMASTER FEEDLOT PERFORMANCE

Steer calves fed	10,866	A large, representative sample
Avg. sale weight	1,130 lbs	Ideal carcass size
Avg. dry conversion	6.8	Very good on long-fed cattle
Avg. death loss	1.2%	Good on unpreconditioned calves
Avg. cost of gain	\$52.25	Below industry average
Avg. hot carcass yield	64.7%	1.2% above average
Avg. yield grade	2.6	Way above average on long-feds
Avg. percent culls	4.95%	Industry average 15%
Avg. percent standard	0.45%	Industry average 5%
Avg. percent choice	43.7%	Above average for calf-feds

L BAR 5502 A&M CARCASS RESULTS



Trait	BW	ww	Carc. Wt.	Ribeye Area	Yield Grade	Marb. Score	Choice & Prime	YG 1&2	Shear Force
5502	75	528	689	12.21	2.93	Sm ⁵⁰	85.7%	50%	6.35
Ratio	1.07	1.09	1.08	1.06	1.09	1.85	1.18	0.97	1.01

Weight Gains

Isa Beefmasters conducts a Performance Test on the 140 breeding bulls they sell each October and another 60 bulls each March.

> There is a grass gain component and then a feed gain test.





WWW.ISABEEFMASTERS.COM

Isa Beefmasters 2017 Performance Test

Grass Test

Average 1.1 pounds (.5 kilo) per day High 1.44 pounds (.653 kilo) per day 9-month period • native grass with minimal supplement through winter and spring

Feed Test

Average 4.3 pounds (1.95 kilo) per day High 6.5 pounds (2.95 kilo) per day 50-day test • full feed on a low-energy corn, milo and cotton gin trash ration

Isa Beefmasters Ranching Environment

- We ranch in a harsh, semi-desert environment in West Texas.
- Annual rainfall is 19" (482 mm).
- Summers are hot and dry, with many days above 100 degrees F (38 Celsius)
- Winters can be cold at times, with many nights and some days below freezing.



Isa Beefmasters Breeding Program

- Heifers are bred at 14 months.
- We use a 60-day breeding period
- Any cow not breeding in the 60-day window every year – is removed from the herd.
- We breed in multiple-sire herds to allow for natural selection through competition among sires.
- We DNA all calves to verify parentage.

PERFORMANCE GENETICS FROM THE FOUNDING FAMILY

Isa Beefmasters by the Numbers

- We expect an 80%–85% conception rate in heifers.
- We expect an 85%–95% conception rate in cows.
- We expect heifers to wean at 8–9 months at 550 pounds (250 kilos)
- We expect bulls to wean at 600 pounds (272 kilos)
- Mature cow size is approximately 1100–1200 pounds (498–544 kilos).

<u>May 1965</u>

Feed Efficiency

"One pound of gain for each 5.47 pounds of ration. We couldn't believe it ourselves!"



The Cattloman

5.47 to 1 Feed-Gain Ratio

(we couldn't believe it either)

We conducted a 4-month bulk call feeding less of $C_{\rm T}$ tothend Lossdon Reclineater only as, and the results included one pound of units for each 5-47 pounds of totage. We couldn't believe it convelves until we want back having our convelled checks to uncle sure we hadn't mission a lead hypers.

The colors' average weight went from 617 points 's 1.030 pounds, an average gam of 422 pounds of 3.53 pounds a any for the 119.8 days overage in the feedlat.

They were satisfied on a high-concentrate barley ration which underded about 10% commercial supplement molarses, multipletic, vitamins and with Additional matrats and actit were led the choice and consumption included in the ration conjutation. The only rough was a small amount of poor quality grass bay foil during the warm-to period.

Hong the the complete soultes

Avecage Initial weight	417 Ba.
Average days in feadlet*	
Rvaroge find wedebi	1.039 lbc.
Ayanga galat	L2T The
Average doily gain"	
Railon consumed per head per day	18.29 lbs.
Rollow coustined per pound of gain	5.47 lbs.
Cost of rolice put pound of goin	
"Restanted with East day of worm-up pa	

FOUNDATION HERD BULLS ON NEW CREDIT TERMS

This year, for the first time, you may buy bulls from the Lasater Beetmaster foundation hard on easy credit so your bull works for you to pay for himself. Write far frae copy of The Beefmaster Plan bull contract for full explanation. Top 35% of 15% bull calf crop being attered for August delivery, some price to all, any quantity, less freight allowance. Pastmarks on signed contracts determine priority of selection.



Foundation Hend of the Bectmanter Breed

The 6	→ DISPOSI T ON	- FERDUTY
Pountiela	A CONFORMATION	+ HARDING

FERDUTY
WRONT
WRONUCTION
WIK INOPUCTION

EANCH: Matheson, Colo, MAIL ADDRESS: Box 38A, Matheway, Colo, 80830

<u>USDA Meat Animal Research Center</u> <u>Feed Efficiency Evaluation</u>

Beefmasters excel in feed efficiency study

Rank	Breed	Steer ADG, DMI	Rank	Breed H	leifer ADG, DM
1	Limousin	0.206	1	South Devon	0.203
2	Beefmaster	0.203	2	Beefmaster	0.096
3(t)	Chiangus	0.130	3	Hereford	0.094
	Maine Anjou	0.130	4	Maine Anjou	0.031
5	Santa Gertrudis	0.119	5	Charolais	0.030
6	Gelbvieh	0.107	6	Shorthorn	0.025
7	Hereford	0.100	7	Limousin	0.017
8	Brahman	0.099	8	Santa Gertrudis	0.012
9	Braunvieh	0.073	9	Chiangus	0.008
10(t)	Charolais	0.070	10	Salers	0.002
	Salers	0.070	11	Angus	0.000
	Shorthorn	0.070	12(t)	Simmental	-0.004
13	Tarentaise	0.050		Red Angus	-0.004
14	Simmental	0.027	14	Brahman	-0.023
15	Angus	0.000	15	Gelbvieh	-0.027
16	Brangus	-0.002	16	Brangus	-0.049
17	Red Angus	-0.014	17	Braunvieh	-0.078
18	South Devon	-0.041	18	Tarentaise	-0.081



Feed Effeciency Test 2017 Genetic Development Center

- Isa Beefmasters consigned 30 heifers to the test.
- 335 animals of 17 different breeds
- 71-day gain test using Growsafe Technology.
- Not only is daily gain measured, but the efficiency of conversion on an individual basis.



6 Isa Beefmasters heifers ranked in the top 15 for Residual Feed Intake (RFI)

	Rank	Breed	Ranch	R.F.I
	1	Polled Hereford		-9.0
	2	Brahman		-7.5
	3	<mark>Beefmaster</mark>	Isa Beefmasters	<mark>-7.1</mark>
	4	<mark>Beefmaster</mark>	Isa Beefmasters	<mark>-6.6</mark>
	5	<mark>Beefmaster</mark>	Isa Beefmasters	<mark>-6.2</mark>
	6	Gelbvieh		-6.2
	7	Brahman		-5.3
	8	<mark>Beefmaster</mark>	lsa Beefmasters	<mark>-5.2</mark>
	9	<mark>Beefmaster</mark>	Isa Beefmasters	<mark>-5.0</mark>
	10	Santa Gertudis		-4.9
	11	<mark>Beefmaster</mark>	Isa Beefmasters	<mark>-4.9</mark>
	12	Angus		-4.3
	13	Angus		-4.3
Case-	14	Angus		-4.2
	15	Angus		-4.1



4 of Isa Beefmaster's heifers ranked in the top 10 for Effeciency Index, including #1

	Rank	Breed	Ranch	Efficiency Index
	1	Beefmaster	<mark>lsa Beefmasters</mark>	<mark>189.22</mark>
	2	Polled Hereford		188.03
	3	<mark>Beefmaster</mark>	<mark>Isa Beefmasters</mark>	<mark>173.35</mark>
	4	Brahman		171.5
	5	<mark>Beefmaster</mark>	<mark>Isa Beefmasters</mark>	<mark>162.82</mark>
	6	Simmental		159.47
	7	Angus		156.6
	8	Angus		153.76
E	9	<mark>Beefmaster</mark>	<mark>lsa Beefmasters</mark>	<mark>153.67</mark>
2	10	Angus		153.51

L Bar 7201 won the "MVP" Award for the 2017 Feed Efficiency Test





April 1968

Heterosis or Hybrid Vigor

"The increased function of any biological quality in a hybrid offspring."



1. For Hybrid Vigor

Where the goal is maximum hybric vigor, together with the introduction of improved genetic material, then the more widely separated the breeds to be crossed may be, the more hybrid vigor will result. Since the Lasater Beetmaster foundation herd has been completely closed for over 30 years, there is very little genetic relationship between lasater Beetmasters and any other cattle, so a maximum amount of hybrid vigor is produced when they are crossed with other breeds or crossbreeds. Few, if any, herds anywhere in the world have been completely closed for as long.

For the commercial producer, a three-breed rotational crossbreeding system is simple and scientifically sound. Set aside three pastures with herd sires of a different breed maintained permanently in each. Replacement helfers from pasture No. 1 are rotated into pasture No. 2, those from No. 2 are rotated into No. 3, and those from No. 3 back into No. 1. The rotation can be carried on indefinitely. The success will depend on the quality and breed of the sines used.

2. For Permanent Genetic Improvement

The quickest way to introduce desirable genetic material into a herd is through crossbreeding. If a herd were low in milk production, for example, better milking qualifies could be introduced by Lasater Beefmaster sires, since Lasater Beefmasters are notably heavy milkers. Ferti ity, weight for age and other desired characteristics could also be introduced through crossbreeding much more quickly than through selection and culling within the originat herd.

After the initial cross or crosses have been made, the herd may then be closed and future selection made within the herd for the desired characteristics. A program of ruthless and relentless culling must be followed. Under this system the hybrid vigor is dissipated, after a few generations, but its loss is more than made up for by true genetic improvement. Dijectives should be limited to those that are abequitely essential.

Crossbreeding for permanent genetic improvement, as outlined here, was followed in the development of the Beefmaster breed

> Frozen sennen choays ratailable. Free for state and federal research.





Why does it matter?

- Heterosis has the greatest impact on traits with the lowest heritability, like fertility.
- Things like carcass traits are highly heritable and can be fixed in one generation using a breed with the desired characteristics.
- To move the needle for things like fertility and production efficiency is much more difficult.



What does it mean in your herd?

- Improves Calving Rate 6% ^a
- Improves Calf Survival 4%^a
- Improves WW 8%^a
- Improves YW 4%^a
- Improves Carcass Traits 0-2% ^a
- Animal disease resistance: BRD and Pinkeye^c
- Significant improvement in traits with low h²

Kress and Nelsen (1998), ^b Gregory and Cundiff (1980), ^c Snowder et al. (2005a, 2005b)



How do Beefmasters affect this?

System	% Max Heterosis	% Increase in Calf Weight per Exposed Cow
Pure Breeds	0%	0%
2 breed rotation	67%	16%
3 breed rotation	86%	20%
2 breed composite	50%	12%
3 breed composite	<mark>63%</mark>	<mark>15%</mark>
Term Sire x F1	100%	23-28%



WHY BEEFNASTERS?

ON THE RANCH:

Low-maintenance females Gentle, responsive handling Excellent mother cows Heat, disease and insect resistance Longevity Outstanding replacement heifers

N THE BEEF CHAIN:

High-growth yearlings Low death loss Incredible feed conversion Long-feed efficiency Grade and yield



Ugenes-Unipessoal,Lda

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