

means of selection without any diminution through succeeding generations of diminishing bison blood until the coat and hump have been practically taken from the bison and placed upon the back of the domestic ox.

BREEDING RECORD OF ONE-QUARTER BUFFALO COWS, DECEMBER 31, 1912.

Cow Born	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	Age of dam when she produced her first calf.	
												Yrs.	Months
July 1899	B		C	beefed	Dec. 1905							2	9
Aug. 1899		beefed	Dec. 1903										
Apr. 1900	C	B	B		C	C		C	C	C		2	3
June 1900			B			beefed	Dec. 1907					3	6
Mar. 1901		B		B		C	C	B	B	B	C	2	2
Apr. 1901		C		C	B	B	A	B			C	2	1
May 1901		C				beefed	Jan. 1906					2	
Mar. 1902			C		C	B	C	beefed	Dec. 1911			2	2
Apr. 1902					C		B	B	B	C		4	4
May 1904							A	beefed	Dec. 1908				
June 1906							C		B	C	B	2	2
June 1906							B	beefed	Dec. 1911			2	
												2	6½

B—Bull calf. C—Cow calf. A—Abortion.

The double line divides the grade buffalo calves from cattalo calves.

BREEDING RECORD OF THREE-QUARTER-BUFFALO COWS, DECEMBER 31, 1912.

Cow Born	1909	1910	1911	1912		Age of dam when she produced her first calf.	
						Yrs.	Months
Apr. 1903					Barren		
Mar. 1905		A	C			5	
Mar. 1905				B		7	
May 1905		C				4	11
						5	8

MY EXPERIENCE WITH BISON HYBRIDS.

CHARLES GOODNIGHT, *Goodnight, Texas.*³

I CAN summarize my experience in crossing Texas buffaloes with native cattle, as follows:

I take a male buffalo calf, put him with a native cow and let him suck her until weaning time. I let him run with common cattle until large enough to

serve. He will then cross with any kind of domestic cattle. In making the first cross, no male calves have ever been born; cows conceiving them either suffer abortion or die, hence I only get heifer calves and a small per cent. of them. There is no trouble

³See also "Breeding Cattalo" by C. J. Jones, in American Breeders' Association Annual Report, vol. III, p. 161, 1907.



CATTALOES ON THE RANGE AT THE GOODNIGHT RANCH IN TEXAS.

Col. Charles Goodnight began to domesticate bison in 1880, and produced his first hybrids in 1885. C. J. ("Buffalo") Jones began in 1885 by purchasing hybrid calves in Manitoba; both men are still engaged in the work, which hitherto has proved so costly and unsatisfactory as to lead William T. Hornaday to say in 1904, "It is now quite time that all such experiments should cease. It has been proven conclusively that it is impossible to introduce and maintain a tangible strain of buffalo blood into the mass of western range cattle." (Am. Nat. Hist., p. 103.) Since then, further progress has been made and there now seems to be more hope than ever of a successful crossing of this experimentally hybridized bison with the range cattle, which has been in progress for at least 125 years without having produced results on a commercial scale.

whatever in giving birth. The cause of abortion and death is unknown to me. The heifer calves obtained breed readily to either the buffalo or the cattle. When bred to the buffalo, the males, which are three-quarters, are not fertile. The females are perfectly fertile and will breed to either race. I breed them back to the polled Angus stock from which they come, and get males which are fertile and which are half-breeds.

The type or race of hybrid cattle is now virtually established in a small way and I herewith give you a few of the points of advantage which the "cattelow"⁴ have over common cattle.

First, they are immune from all diseases as far as I have tested them. I know they are immune from Texas Black-Leg and Texas Fever. I have shipped three bulls, one-eighth buffalo, to our coast, the worst tick-country we have. One died and two are living, so I have reason to believe that if they were a little higher in the buffalo blood, they would be entirely immune.

Second, the "cattelow" are much greater in weight, eat much less and hold their flesh better under more adverse conditions. They will easily cut about 70% net of their gross weight. They have a better meat, clear of fibre, and it never gets tough like beef.

They have long and deep backs, enabling them to cut at least 150 pounds more meat than other cattle. More of them can be grazed on a given area. They do not run from Heel Flies nor drift in storms, but like the buffalo, face the blizzards. They rise on their fore feet instead of their hind feet. This enables them to rise when in a weakened condition. They never lie down with their backs down hill, so they are able to rise quickly and easily. This habit is reversed in cattle.

When a herd on range gets weak and poor towards spring, their lying down with their backs towards slopes and on sides of hills causes a loss of from 1% to 6%. Every weak cow which so lies down can never get up, unless she is found by the herder.

The buffaloes have 14 ribs, giving them a longer and deeper loin. As we get them higher and deeper in the buffalo we get the extra rib on the "cattelow." They can exist on less food or salt than cattle, as before stated.

They could do without water much longer than cattle, without inconvenience. They are docile, easily broken and never fight. They put on flesh faster than any cattle and will live and appear to do well where cattle will perish. They have many other points in their favor too tedious to mention.

Genetics Must Come First

In studying the inheritance of the more simple physical characters in man, it is evident that we are as yet only feeling our way toward the solution of certain larger and more complicated problems which are of vital importance to the human race. The future of eugenics depends very largely on the solution of these problems. I do not wish for one moment to suggest that the art of eugenics has been born before its time, but I do feel that before we can venture to apply the scientific principles of genetics to human life, we must first make our foundations sure. For this reason, I am convinced that a good deal of spade work in human genetics will have to be done before any considerable amount of practical good can be accomplished in eugenics. Eugenics is simply applied genetics, and *sound eugenics can only be founded upon sound genetics*.—C. C. Hurst: *Mendelian Heredity in Man* (1912).

⁴The word is so written in Col. Goodnight's manuscript. The spelling "cattalo" has now been generally accepted, after some years of confusion, and is adopted by practically every authority. It is the preferred spelling of this Association.—The Editor.