

by Shane Bedwell

Adding Pounds, Fertility and Efficiency

The documented advantages of the baldy female will improve your bottom line.



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I hope 2020 is off to a great start for each of you. This time of year one can't help but think about new goals and ways to improve their operation. A good place to start is to look at where an operation can be more efficient to reduce inputs and to generate more revenue.

The American Hereford Association (AHA) continues to document the value of Hereford genetics in the marketplace as a source for profit and sustainability. Many of these studies using commercial herds show the value of direct and maternal heterosis.

Most recently, researchers at Oklahoma State University (OSU) published some cow efficiency work validating the efficiency that Hereford genetics bring to a black cow herd. Dave Lalman, Ph.D., and his team of OSU researchers found baldy females showed a 0.5 higher body condition score (BCS) throughout the trial. During the trial, baldy females also consumed less pounds of voluntary forage intake – 2 pounds less per day, actually – when compared to the straightbred black female. These values may not seem dramatic on

paper, but on an annual feed cost basis those efficiencies add up to \$50 in savings on annual feed costs per female. A direct comparison of feed efficiencies in a black baldy cow compared to a straightbred black cow are shown below in Table 1.

Longterm advantages

The power of fertility in the baldy female is undeniable. Research at Harris Ranch in California and Circle A Ranch in Missouri show the obvious benefits in favor of Hereford-sired calves and females alike.

Again, these advantages may seem minor, but when applied to a 1,000-cow operation they can add up to more than \$100,000 in additional revenue over a 4-year span. A full breakdown of the benefits of a crossbreeding program are detailed in the sidebar below.

There is a reason why the Hereford breed settled the West. The advantages are undeniable – don't you think it's time to "Come Home to Hereford?" **HW**

	Straightbred black cow	Black baldy cow
Body condition score	5.5	6.0
Dry matter intake	30 lb./day	28 lb./day
Annual basis (lb.)	10,950 lb./year	10,220 lb./year
Annual basis (tons)	5.5 tons/year	5.1 tons/year
Annual hay cost (\$125/ton)	\$688	\$638
Hereford advantage: \$50 savings		

Lalman's research allowed for the following assumptions:

1. On average, baldy cows had a 0.5 higher body condition score than straightbred black cows.
2. On average, baldy cows consumed 2 pounds less of voluntary forage intake per day than straightbred black cows.

Study the data, count the dollars

Research in real-world production settings consistently documents the advantages of adding Hereford genetics to a black cow herd. The Harris Ranch heterosis project in California and the Circle A Ranch in Missouri both found baldy calves outperformed straightbred black calves. In these studies, baldy calves

consistently weighed 15-20 pounds heavier at weaning compared to their straightbred black counterparts and baldy females showed a 7% higher pregnancy rate when compared to straightbred black females.

When these truths are applied, the dollars add up. When applied to a 1,000-head black cow herd, Hereford genetics

can generate nearly \$115,000 in additional revenue after just four years. This is due to the fact that you are getting more females bred, which in return gives you more pounds to sell. See the tables below for a full breakdown of how Hereford genetics add value to a straightbred black herd.

Hereford advantage	Steer revenue	Cull heifer revenue	Total revenue
Year 1	\$14,400	\$5,394	\$19,794
Year 2	\$12,960	\$4,850	\$17,810
Year 3	\$20,944	\$7,700	\$28,644
Year 4	\$33,952	\$14,087	\$48,039
Total	\$82,256	\$32,031	\$114,287

Assumptions:

1. Baldy calves weigh 15-20 pounds heavier than straight black calves
 - a. Weaning weight (WW) of straight black steers is 550 pounds and WW for crossbred steers is 570 pounds
 - b. WW of straight black heifers is 500 pounds and WW of crossbred heifers is 515 pounds
2. Calf price used was \$1.60/cwt. for steers and \$1.45/cwt. for heifers
3. Baldy females had a 7% higher pregnancy rate than straight bred females

In year one, the advantages of crossbreeding are apparent in total dollars generated in steer and cull heifer revenue because baldy calves have a heavier weaning weight.

Production scenario	Broodstock	Conception rate	Total progeny		Steer (s); heifer (h) split		Steer revenue		Retention rate (assume 45%)		Cull heifer revenue			Hereford advantage:
			Equation	Total	Equation	Total	Equation	Total	Equation	Total	Culls	Equation	Total	
Straightbred black operation	1,000 cows	90%	1000 x 0.90	900	900 head (hd) ÷ 2	450 s 450 h	450 hd x 550 lb. x \$1.60	\$396,000	450 hd x 0.45	202	248	248 hd x 500 lb. x \$1.45	\$179,800	
Black cows crossed to Hereford bulls	1,000 cows	90%	1000 x 0.90	900	900 hd ÷ 2	450 s 450 h	450 hd x 570 lb. x \$1.60	\$410,400	450 hd x 0.45	202	248	248 hd x 515 lb. x \$1.45	\$185,194	
Total difference								\$14,400			0		\$5,394	\$19,794

In year two, heavier weaning weights continue to give baldy calves the edge.

Production scenario	Broodstock	Conception rate	Total progeny		Steer (s); heifer (h) split		Steer revenue		Retention rate (assume 45%)		Cull heifer revenue			Hereford advantage:
			Equation	Total	Equation	Total	Equation	Total	Equation	Total	Culls	Equation	Total	
Straightbred black operation	900 cows	90%	900 x 0.90	810	810 hd ÷ 2	405 s 405 h	405 hd x 550 lb. x \$1.60	\$356,400	405 hd x 0.45	182	223	223 hd x 500 lb. x \$1.45	\$161,675	
Black cows crossed to Hereford bulls	900 cows	90%	900 x 0.90	810	810 hd ÷ 2	405 s 405 h	405 hd x 570 lb. x \$1.60	\$369,360	405 hd x 0.45	182	223	223 hd x 515 lb. x \$1.45	\$166,525	
Total difference								\$12,960			0		\$4,850	\$17,810

In year three, the retained baldy heifers had a 7% higher pregnancy rate and calved 14 more head than the retained black heifers. This allowed even more pounds of calves to be sold.

Year 3														
Production scenario	Broodstock	Conception rate	Total progeny		Steer (s); heifer (h) split		Steer revenue		Retention rate (assume 45%)		Cull heifer revenue			Hereford advantage:
			Equation	Total	Equation	Total	Equation	Total	Equation	Total	Culls	Equation	Total	
Straightbred black operation	810 cows	90%	810 x 0.90	729										
	202 bred heifers	90%	202 x 0.90	181										
	Total females			910	910 hd ÷ 2	455 s 455 h	455 hd x 550 lb. x \$1.60	\$400,400	455 hd x 0.45	204	251	251 hd x 500 lb. x \$1.45	\$181,975	
Black cows crossed to Hereford bulls	810 cows	90%	810 x 0.90	729										
	202 bred heifers	97%	202 x 0.97	195										
	Total females			924	924 hd ÷ 2	462 s 462 h	462 hd x 570 lb. x \$1.60	\$421,344	462 hd x 0.45	208	254	254 hd x 515 lb. x \$1.45	\$189,675	
Total difference				14				\$20,944		4	3		\$7,700	\$28,644

In year four, the retained baldy heifers from years one and two calved 40 more head than the straightbred black cows, generating almost \$50,000 more revenue.

Year 4														
Production scenario	Broodstock	Conception rate	Total progeny		Steer (s); heifer (h) split		Steer revenue		Retention rate (assume 45%)		Cull heifer revenue			Hereford advantage:
			Equation	Total	Equation	Total	Equation	Total	Equation	Total	Culls	Equation	Total	
Straightbred black operation	729 cows	90%	729 x 0.90	656										
	181 3-year-old cows	90%	181 x 0.90	162										
	182 bred heifers	90%	182 x 0.90	164										
	Total females			982	982 hd ÷ 2	491 s 491 h	491 hd x 550 lb. x \$1.60	\$432,080	491 hd x 0.45	221	270	270 hd x 500 lb. x \$1.45	\$195,750	
Black cows crossed to Hereford bulls	729 cows	90%	729 x 0.90	656										
	195 3-year-old cows	97%	195 x 0.97	189										
	182 bred heifers	97%	182 x 0.97	177										
	Total females			1022	1022 hd ÷ 2	511 s 511 h	511 hd x 570 lb. x \$1.60	\$466,032	511 hd x 0.45	230	281	281 hd x 515 lb. x \$1.45	\$209,837	
Total difference				40				\$33,952		9	11		\$14,087	\$48,039