

Igenity[®] BeefxDairy: A Genomic Tool for Identifying Genetic Merit of Beef on Dairy Cross Calves

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Background: Beef production from dairy cows offers a unique opportunity to utilize animals that are less suitable for dairy herd replacement. However, optimizing their growth and carcass quality requires efficient management strategies.

Objectives: To evaluate the effectiveness of Igenity[®] BeefxDairy in identifying the genetic potential for growth and carcass traits in dairy herds.

Study population: 1,002 feedlot cattle (~55% beef influence and ~45% dairy influence).

Igenity BeefxDairy Performance (N = 1002)

Robust positive relationship was observed between Igenity BeefxDairy scores and actual phenotypic performance across both steers and heifers for average daily gain (Fig.1), marbling (Fig.2), and hot carcass weight (Fig. 3).

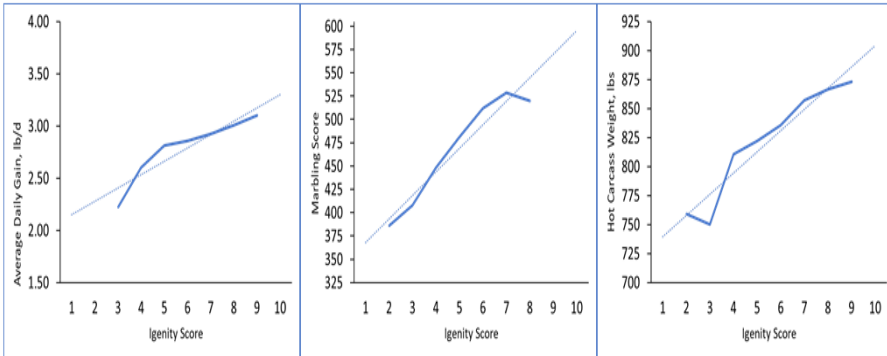


Figure 1

Figure 2

Figure 3

Phenotypic Performance

Table 2. Summary statistics and difference in revenue between the top 25% and bottom 25% of animals based on Igenity Terminal Index (ITI)

	Top 25%, ITI	Bottom 25%, ITI	P value ¹
Igenity Terminal Index	6.71	5.22	P < 0.001
Enrollment Weight, lb	586.10	564.03	P < 0.05
Days on Feed, d	271.13	272.47	P = 0.57
Average Daily Gain, lb/d	2.91	2.73	P < 0.001
Rib-eye Area, sq. in	13.82	13.80	P = 0.88
Marbling Score	504	489	P = 0.09
12 th – rib fat thickness, sq in	0.49	0.49	P = 0.98
HCW, lbs	861.17	820.55	P < 0.001
USDA Quality Grade ²	2.86	2.79	P = 0.11
USDA Yield Grade ³	2.59	2.43	P < 0.05
Revenue, USD ⁴	\$1500.62	\$1423.39	P < 0.001
Difference per animal	\$77.23		

¹ Calculated using a two-sided t-test, P < 0.05 considered significantly different.

² Grades: 1 = USDA Standard or lower; 2 = USDA Select; 3 = USDA Choice; 4 = USDA Prime

Conclusions

Igenity[®] BeefxDairy is a viable tool to manage animals relative to their genetic potential during the feeding period, representing appropriate investment of precious feedstuffs and improving the production footprint of beef production out of dairy cows.