All Highview Angus Ranch Bulls have recently passed a full semen test & were again vaccinated with PregGuard 10 FP MLV, 8-Way Clostridial, & MultiMin.

A Note On Pricing. Complete A.I. breeding, ET, Genomic Testing, developing and culling all take a big investment. Yet our bulls remain competitively priced & represent an excellent value.. For comparison the average Registered Angus Bull (as reported to the AAA YTD in fiscal 2017 through February) sold for $5025. Closer to home the average of 2800+ hd in Oregon, Washington, & Idaho sales reported Jan – March 2017 was $4244.

Genomic Testing and GE-EPD's
By Jeff Parker Highview Angus Ranch 1/15/2015

Back in 2009 we wrote that we would monitor new developments in genomic testing for Angus until such a time when "the bugs had been worked out" While I am not sure all the bugs are dead, Genomic testing in Angus has greatly improved thru the use of HD 50K and provides a great opportunity to improve the reliability of EPD's. When Genomically Enchanced EPD's or (GE-EPD's) were first released in 2010 there were only 2,253 animals represented in the training data set resulting in the percent variation explained being relatively low with many traits hovering between 10% and 20%. In just four years and by September 2014 57,550 animals were already represented in the training data set resulting in the percent variation explained by genomic testing with HD 50K increasing to a range of around 35% to as high as 70%. Furthermore, additional traits that had been difficult to measure and quantify thru EPD's at all just a couple of years before now have percent variation explanation of 30 – 40% thru genomic testing. This will all only continue to increase as the number of Angus tested is growing exponentially every week. The higher the representation of a pedigree within the training data, the more the connection, and the more reliability genomic testing provides. This further underscores the advantage of using 100% A.I. sires that are nationally known and compared by Highview Angus Ranch.

Another way to look at the increase in accuracy of the GE- EPD's on young cattle after genomically testing with HD 50K is by **estimating the number of progeny equivalents it would take to obtain a similar level of reliability as the genomic test.** As you can see in the table borrowed from a white sheet written by Tonya Amen of Angus Genetics Inc and Kent Anderson of Zoetis Animal Genetics it would take a large number of calves from a sire and many times more than a lifetime of progeny from a dam to obtain the same level of accuracy from that of a genomic test that can be done early in life.

Updated Angus High Density (HD) 50K Genomic Predictions and Incorporation into Genetic Evaluation Tonya Amen and Kent Andersen Angus Genetics Inc., American Angus Association, Zoetis Genetics

Table 1. Angus heritability estimates, genetic correlations (r) between version four (V4) 50K predictions (n=57,550) and the American Angus Association phenotypic database

*(September, 2014), standard errors (SE), approximate accuracy (ACC) and **progeny equivalents** (PE) for tested non-parents (based on verified pedigree and HD 50K information).*

	AGI	HD 50K	HD 50K	HD 50K	
Trait	*h2*	*V4 r (SE)*	*V4 ACC*	***V4 PE***	
Calving Ease Direct (CED)		*0.20*	*0.62 (.09)*	*0.31*	***21 progeny equivalents***
Birth Weight (BW)	*0.42*	*0.68 (.02)*	*0.37*	***13 progeny equivalents***	
Weaning Weight (WW)		*0.20*	*0.56 (.02)*	*0.29*	***19 progeny equivalents***
Yearling Weight (YW)	*0.20*	*0.66 (.02)*	*0.32*	*22* ***progeny equivalents***	
Residual Average Daily Gain (RADG)1		*0.31*	*0.74 (.03)*	*0.37*	***18 progeny equivalents***
Yearling Height (YH)	*0.50*	*0.74 (.01)*	*0.38*	***11 progeny equivalents***	
Scrotal Circumference (SC)	*0.47*	*0.78 (.01)*	*0.41*	***14 progeny equivalents***	
Docility (Doc)	*0.37*	*0.71 (.03)*	*0.33*	***12 progeny equivalents***	
Heifer Pregnancy (HP)		*0.13*	*0.45 (.05)*	*0.14*	***10 progeny equivalents***
Milk	*0.14*	*0.36 (.01)*	*0.19*	***14 progeny equivalents***	
Mature Weight (MW)	*0.37*	*0.68 (.02)*	*0.34*	***13 progeny equivalents***	
Carcass Weight (CW)	*0.38*	*0.60 (.03)*	*0.30*	***10 progeny equivalents***	
Marbling Score (Marb)		*0.45*	*0.67 (.03)*	*0.33*	***9 progeny equivalents***
Ribeye Area (RE)	*0.33*	*0.69 (.03)*	*0.30*	***11 progeny equivalents***	
Fat Thickness (FAT)	*0.34*	*0.65 (.03)*	*0.31*	***12 progeny equivalents***	

1Dry Matter Intake Component

Going forward all Highview Angus Bulls born in 2014 and later will now have GE-EPD's. In addition, all of the 2013,2014, 2015, & 2016 born females along with the vast majority of our mature cows now also have GE-EPD's. This is a significant investment with over 90% of the Registered Highview Angus cattle now having been Genomically tested. While we have always prided ourselves in our attention to detail on pedigrees, <u>genomic testing also verifies the parentage on every animal tested.</u> All combined genomic testing means an even higher level of confidence in predicting what an animal might pass along to their progeny with GE- EPD's. Highview Angus Ranch will continue to provide our customers with the most up to date information available in the industry. The time has finally arrived to add Genomic Testing to the tool box.

Additional Resources:
GE-EPD Best Measure Angus Journal January 2015
 Pdf of Updated Angus High Density (HD) 50K Genomic Predictions and Incorporation into Genetic Evaluation Tonya Amen and Kent Andersen Angus Genetics Inc., American Angus Association, Zoetis Genetics Pdf HD 50K Bull Sales Catalog Insert Gene Max Zoetis & CAB video with Dr. Kent Anderson
https://www.youtube.com/watch?v=EgZBKM_t1lg