

Genomic Enhanced EBVs NOW available!



The new HD 50K for Angus provides MVPs on 16 traits using more than 50,000 DNA markers, providing the most reliable genomic predictions today. Now incorporated into Angus Group BREEDPLAN EBVs!

The new High-Density (HD) 50K for Angus provides Molecular Value Predictions (MVPs) for economically important traits, allowing you to:

- Identify early, those calves with the best genetic potential
- Make genetic progress on economically important traits that are difficult to measure
- Increase accuracy to allow more informed selection decisions
- Increase your rate of genetic gain
- Provide more value to your customers



To take breeding decisions to the next level
call 1300 768 400 or visit www.pfizeranimalgenetics.com.au


 **Animal Health**
Animal Genetics

High-Density 50K for Angus Molecular Value Predictions

Pfizer Animal Genetics is pleased to present HD 50K, the first and only Molecular Value Predictions (MVP™s) from a High-Density (HD) panel where more than 50,000 markers are genotyped for each animal. The HD 50K platform provides the most comprehensive and flexible coverage of the bovine genome commercially available for beef cattle, delivering more accurate genomic predictions for 16 traits.

- **Changes the game** – HD 50K MVPs expand the accuracy and scope of selection, giving you more comprehensive and reliable information for young animals to enhance their relatively low-accuracy, mid-parent value EBVs.
- **Increase your rate of genetic progress**
 - Selection intensity can be increased by identifying superior animals
 - Selection accuracy can be increased by enhancing EBVs and providing additional trait information
 - The generation interval can be shortened as HD 50K MVPs promote the selection of younger animals
- **Coverage for today and expandable for tomorrow** – HD 50K, where 50,000+ markers are genotyped for each animal, represents nearly a thousand-fold expansion over previous technology, delivering the most reliable genomic predictions today. Utilising archived 50K genotypes, genetic predictions can be readily updated as technology continues to advance and as more traits become available.
- **Connects cattle producers** – Commercial producers purchasing from breeders utilising HD 50K technology and EBVs versus utilising EBVs alone can add value to their calf crop, based on improved feedlot and carcass performance¹. Molecular Value Predictions (MVPs) quantify each animal's breeding value and allow easy ranking and selection of animals for a series of economically important traits. The MVPs are reported both in units of the trait (like EBVs) and in percentile rank. Similar to EBVs, MVPs are expressed as breeding values and half of this is passed on to their progeny. The following table shows an example of the data that is reported for each animal tested.

Table 1: HD 50K for Angus: Molecular Value Predictions (MVPs)

	Calving		Fertility	Growth			Feedlot			Carcass						
	CE	CEDtrs	BW	SS	WW	Milk	YW	MCW	DMI	NFI	FDG	CWt	Rib	EMA	Marb	Tend
	%	%	kg	cm	kg	kg	kg	kg	kg/d	kg/d	kg/d	kg	mm	cm ²	%	kgSF
Angus HD 50K MVPs	4.0	4.3	-0.1	0.3	14	7	79	79	-0.01	-0.08	0.15	13	-0.7	4.6	0.8	-0.24
% Breed Rank	60	30	50	100	40	60	15	60	50	65	60	20	10	1	5	70

¹ Data on file. Pfizer Animal Genetics is a business unit of Pfizer Animal Health. All brands are the property of Pfizer Inc., its affiliates and/or its licensors. ©2010 Pfizer Inc. All rights reserved.

Reading Pfizer Animal Genetics HD50K for Angus and Genomic Enhanced EBV Reports



Genomic Enhanced Estimated Breeding Values: The HD50K for Angus is now fully incorporated into Angus Group BREEDPLAN EBVs resulting in Genomic Enhanced EBVs. Animals that have Genomic Enhanced EBVs will have the HD50K logo in the trait indicator field when viewing animal details as per the below example. Genomic Enhanced EBVs provide the most accurate and complete picture of an animal's genetic potential. Genomic Enhanced EBVs enhance selection, mating and marketing decisions to accelerate genetic progress. To learn more, contact your local Pfizer Animal Genetics representative today.

Table 2: March 2011 Angus GROUP BREEDPLAN

	Calving Ease Dir (%)	Calving Ease Dtrs (%)	Gestation Length (days)	Birth Wt. (kg)	200 Day Wt. (kg)	400 Day Wt. (kg)	600 Day Wt. (kg)	Mat. Cow Wt. (kg)	Milk (kg)	Scrotal Size (cm)	Days to Calving (days)	Carcase Wt. (kg)	Eye Muscle Area (sq.cm)	Rib Fat (mm)	Rump Fat (mm)	Retail Beef Yield (%)	IMF (%)
EBV	+2.1	+1.2	-3.9	+2.8	+36	+70	+86	+78	+3	+1.1	-4.5	+50	+6.7	+2.4	+2.8	-1.3	+4.4
Acc	57%	51%	65%	81%	76%	74%	72%	67%	65%	76%	50%	69%	64%	69%	68%	60%	58%
Breed Avg. EBVs for 2009 Born Calves																	
EBV	+0.0	+0.4	-2.5	+4.6	+37	+70	+89	+82	+12	+1.3	-2.6	+49	+3.1	-0.2	+0.0	+0.3	+0.9

Traits Observed: BWT, 200WT, 400WT, 600WT(x2), SS, FAT, EMA, IMF



% Rank – Percentile rankings are based on the animal's MVP for each trait as compared to the overall population of black Angus animals with HD 50K MVPs in the Pfizer Animal Genetics combined database for Australia and New Zealand. For example, a breed rank of 10% means that an animal is in the top 10% of the black Angus animals tested in Australia and New Zealand for that trait.

The percentile rankings for the HD50K for Angus have recently been updated for Australia effective March 1 2011.

Summary Benchmark Statistics – Each report for HD 50K MVPs will contain summary statistics which help you to benchmark animals tested in each job against average, minimum and maximum MVPs for all black Angus animals in the Pfizer Animal Genetics database in Australia and New Zealand.

Traits	Units	Description
Calving Ease Direct (CE)	%	Calving Ease MVP (% probability of unassisted births, evaluated as a trait of the calf) indicates differences in genetic merit for the ability of an animal's calves to be born unassisted from 2 year old heifers.
Calving Ease Daughters (CEDtrs)	%	Calving Ease Daughters MVP (% probability of unassisted births evaluated as a trait of the dam) indicates differences in genetic merit for the ability of an animal's daughters to calve unassisted at 2 years of age.
Birth Weight (BW)	kg	Birth Weight MVP (kg) is an estimate of genetic differences between animals in their weight at birth.
Scrotal Size (SS)	cm	Scrotal Size MVP (cm) indicates genetic differences among animals for the circumference of their scrotum at a year of age. Correlations with female fertility, indicate that selection for higher scrotal size bulls will decrease the age at calving of female progeny.
Weaning Weight (WW)	kg	Weaning Weight MVP (kg) is an estimate of genetic differences between animals in live weight at weaning, adjusted to 200 days of age, due to their genetics for growth.
Milk (Milk)	kg	Milk MVP (kg of calf liveweight) is an estimate of an animal's maternal effect on the weaning weight of its calf adjusted to 200 days of age, due to the genetics of the dam.
Yearling Weight (YW)	kg	Yearling Weight MVP (kg) is an estimate of genetic differences between animals in live weight at a year of age, due to their genetics for growth.
Mature Cow Weight (MCW)	kg	Mature Cow Weight MVP (kg) is an estimate of the genetic difference in cow weight at 5 years of age. It is an indicator of growth later in life and potential feed maintenance requirements for the female breeding herd.
Dry Matter Intake (DMI)	kg/day	Dry Matter Intake feedlot MVP (kg/day) indicates genetic differences among animals for kilograms of feed dry matter consumed per day in the feedlot, on a finishing ration.
Net Feed Intake (NFI)	kg/day	Net Feed Intake feedlot MVP (kg/day) estimates genetic variation in dry matter consumed per day, as compared to the animal's expected feed consumption based on its body weight and growth rate. Lower values are preferred and indicate breeding values for greater feed efficiency.
Feedlot Daily Gain (FDG)	kg/day	Feedlot Daily Gain MVP (kg/day) is an estimate of an animal's breeding value for feedlot post-weaning gain per day, with higher values indicating growth genes from weaning to yearling age.
Carcase Weight (CWt)	kg	Carcase Weight MVP (kg) estimates genetic differences between animals in hot standard carcass weight (as defined by AUSMEAT) adjusted to 650 days of age.
Rib Fat (Rib)	mm	Rib Fat MVP (mm) estimates genetic differences between animals in fat depth at the 12/13th rib site, adjusted to a 300kg steer carcass end-point.
Eye Muscle Area (EMA)	cm ²	Eye Muscle Area MVP (cm ²) estimates genetic differences between animals in eye muscle area at the 12/13th rib site, adjusted to a 300 kg steer carcass end-point.
Marbling (Marb)	%	Marbling MVP (% IMF) estimates genetic differences between animals in marbling (intramuscular fat) at the 12/13th rib site, adjusted to a 300 kg steer carcass end-point.
Tenderness (Tend)	kgSF	Tenderness MVP (kg SF) indicates differences in genetic merit for meat tenderness based on the amount of shear force (SF) required to pull a blade through cooked steak samples. Lower values are desired.

For more information, please visit our website or contact your Pfizer Animal Genetics representative:

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