



Understanding SNP based Poll Tests

As you will be aware, Herefords Australia moved to SNP based DNA testing in July 2016. The move to SNP based testing means that we now have a far more accurate test for Poll genes in Hereford Cattle.

Previously used Beef CRC based Poll tests would return a result and an accuracy (e.g. Homozygous Polled 98%).

With SNP based Poll testing, the Poll gene can now be identified with a lot more accuracy and a description of the poll allele found is included as a subscript.

When reporting Poll test results from a SNP based test, the results will be reported as seen below:

SNP Test Result	Beef CRC Test Result	Detail
$P_c P_c$	PP	Homozygous Polled – A ‘True Polled’ animal and will only produce Polled (or Scurred) calves, they will not produce Horned calves.
$P_c P_f$		
$P_f P_f$		
$P_c H$	PH	Heterozygous Polled – Animal is Polled or Scurred and carries a Polled and Horned gene and can produce Polled, Horned (or Scurred) calves.
$P_f H$		
HH	HH	Homozygous Horned – The animal is horned and can produce Horned, Polled (or Scurred) calves.

Please note that the SNP based test is used when requesting a stand-alone Poll test and an ‘add-on’ to a BGP genotype.

Potential mating outcomes:

Mating a Homozygous Polled animal with a Homozygous Polled animal (PP x PP)

	P	P
P	PP	PP
P	PP	PP

- 100% Homozygous Polled (PP) calves

Mating a Homozygous Polled animal with a Homozygous Horned animal (PP x HH)

	H	H
P	PH	PH
P	PH	PH

- 100% Heterozygous Polled (PH) calves

Mating a Heterozygous Polled animal with a Homozygous Horned animal (PH x HH)

	H	H
P	PH	PH
H	HH	HH

- 50% Heterozygous Polled (PH) calves
- 50% Homozygous Horned (HH) calves

Mating a Homozygous Polled animal with a Heterozygous Polled animal (PP x PH)

	P	H
P	PP	PH
P	PP	PH

- 50% Homozygous Polled (PP) calves
- 50% Heterozygous Polled (PH) calves

Mating a Heterozygous Polled animal with a Heterozygous Polled animal (PH x PH)

	P	H
P	PP	PH
H	PH	HH

- 25% Homozygous Polled (PP) calves
- 50% Heterozygous Polled (PH) calves
- 25% Homozygous Horned (HH) calves

Mating a Homozygous Horned animal with a Homozygous Horned animal (HH x HH)

	H	H
H	HH	HH
H	HH	HH

- 100% Homozygous Horned (HH) calves



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