

Genetic Test Results

Horned/Polled Results

The Horned/Polled analysis uses multiple markers to identify horned and polled animals. The polled allele is dominant over the horned allele, so animals can appear polled despite carrying a horned gene. This analysis is breed specific for purebred animals and each breed has a different set of markers involved. The results do not reveal the presence or absence of scurs.

HH Homozygous Horned – Animal is horned and can produce horned offspring.

HP Heterozygous Horned/Polled – Animal is polled but can produce horned offspring

PP Homozygous Polled – Animal is polled and cannot produce horned offspring

Coat Colour Results

The Coat Color analysis looks at the genes that determine red or black coat color. The black (**ED**) gene is dominant over red (**e**). Black animals may carry one or two copies of the black gene. Only homozygous black animals will have 100% black offspring. Wild Type (**E+**) is neutral to red and black, and generally allows the expression of the other gene. The following results are available:

EDED Homozygous Black

EDE+ Black Carrier, Wild Type

EDe Red Carrier

E+e Red Carrier, Wild Type

E+E+ Wild Type, Any Color

ee Red

Coat Colour Dilutor Results

There are two forms of the gene controlling dilution of coat colour:

- D** Dilution Gene - Dominates, causing the coat colour to be diluted
- d** Non Dilution Gene - Recessive form of the gene. Does not dilute coat colour

Every animal carries Two of the Dilution Genes.

- Where both are the same genes, the animal is Homozygous for that gene and will “breed true” for that gene, as it can only pass on one of that type to its progeny. (eg **DD** = Homozygous for Dilution and the animal WILL be diluted in colour) OR (eg **dd** = Recessive and Homozygous for Non Dilution - the animal will NOT be diluted)
- Where both are different genes, the animal is Heterozygous for that gene and will “not breed true” for either gene. It can pass either type of gene to its progeny. (eg **Dd** = Heterozygous for Dilution and the animal WILL be diluted in colour)

Thus there are three possible combinations of the Dilution Gene:

- DD** Dilutes Black to Grey and Dilutes Dark Red to Light Red or Yellow (Reported as DLA - Affected)
- Dd** Dilutes Black to Grey and Dilutes Dark Red to Light Red or Yellow (Reported as DLC - Carrier)
- dd** Does not dilute Black or Red coat colour (Reported as DLF - Free)