THE KENNEL CLUB
Making a difference for dogs

Information about Control Schemes

A DNA Control Scheme links DNA testing to registrations; limiting registration to those dogs that meet the requirements of the breed-specific Control Scheme (i.e. dogs that are DNA tested normal or hereditary clear). These are put in place to eradicate a breed-specific disease that is severely affecting a breed (e.g. Canine Leucocyte Adhesion Deficiency (CLAD) in Irish Setters). **Control Schemes should be considered a last resort to help breeders remove a condition within the breed, and should be limited to serious, painful or welfare affecting conditions**. In the majority of cases a control scheme is not useful or necessary to eliminate an inherited disease.

Levels of a Control Scheme:
There are 4 levels of a Control Scheme, with gradual changes in the scheme at each level to meet the specific circumstances of a disease within a breed. The level at which a Control Scheme is set will depend on the specific needs of the breed, but under most circumstances will start at Level 1, progressing to level 4 as the disease is eliminated from the breed.

Below is a guideline to the stages a Control Scheme may take. Normally, the Control Scheme recommended for a breed would be progressive, to allow time to breed away from the specific disease and not adversely impact the diversity of the breed as a whole. However, each Control Scheme will be staged and agreed according to a breed's specific circumstances.

For those breeds who have successfully eliminated the disease within the UK population, Level 4 effectively provides a "maintenance" stage.

Level 1
From *[DAY/MONTH/YEAR]* all *[BREED]* used for breeding should be either DNA tested for *[CONDITION]* or be classed as hereditarily clear (HC) of *[CONDITION]* before being used for breeding.

Identified genetically affected or carriers can be used for breeding, but they should only be mated to a dog that is either hereditarily clear of *[CONDITION]* or one that has been DNA tested clear of *[CONDITION]*; carriers should not be mated to carriers or genetically affected dogs. Genetically affected dogs can only be mated to clear or HC dogs. No dog should be used for breeding where there is a welfare problem.

All of the registered offspring of a carrier dog mated to a clear or hereditarily clear must be clearly identified, DNA tested, and registered as either clear or carrier. All of the registered offspring of an affected dog mated to a clear or HC will be automatically assigned a hereditarily carrier status.

Level 2
From *[DAY/MONTH/YEAR]* all *[BREED]* used for breeding should be either DNA tested for *[CONDITION]* or be classed as hereditarily clear (HC) of *[CONDITION]* before being used for breeding

Identified carriers can be used for breeding, but they should only be mated to a dog that is either hereditarily clear of *[CONDITION]* or one that has been DNA tested clear of *[CONDITION]*; carriers should not be mated to carriers.

All of the registered offspring of a carrier mated to a clear should be clearly identified, DNA tested and registered as either tested clear or carrier.

Level 3

From *[DAY/MONTH/YEAR]* the Kennel Club will refuse registration of *[BREED]* puppies unless both parents have been tested clear of *[CONDITION]*, or are hereditarily clear of *[CONDITION]*.

No carriers will be registered after *[DAY/MONTH/YEAR]*.

Level 4

All current UK registered dogs are hereditarily clear. The Control scheme is removed, except for imports or imported semen (i.e. those not hereditarily clear).

Application requirements

The application must be submitted by the Breed Health Coordinator, as a result of the majority of breed clubs being in favour of applying (breeds with more than one breed club). If there is currently no Breed Health Coordinator in place, an application may be considered if the majority of the breed clubs are in favour (breeds with more than one breed club). A Breed Health Coordinator should be nominated by the club(s) as soon as possible.

Approval of a New Control Scheme

Control Schemes should be considered a last resort to help breeders remove a condition within the breed, and should be limited to serious, painful or welfare affecting conditions. **In the majority of cases a control scheme is not useful or necessary to eliminate an inherited disease.**

The test must already be an official Kennel Club DNA testing scheme with results recorded by the Kennel Club. This testing scheme should be put into place for a sufficient amount of time (the specific time required will vary depending on specifics of the breed, but normally would range from 1-5 years) to assess how testing was developing (i.e. uptake of the test by breeders) and how well the mutant gene frequency is falling. This can be assessed through details of annual registration for all litters to determine if none, one, or both parents of the litter had been DNA tested.

If the breed is already controlling the spread of the mutation well (i.e. even without a Control Scheme) all dogs used for breeding include 1 clear or 1 hereditary clear dog in each mating) then a Control Scheme is not necessary.

Great consideration to the breeding population size must be made to ensure that the removal of undesirable genes does not significantly impact the overall population and inadvertently create “genetic bottlenecks”.

Any new Control Scheme applications will be discussed firstly between the health team and the Breed Health Coordinator before being assessed through the Kennel Club’s committee structure, for final approval. This will include assessment from both internal and external experts in molecular and population genetics, veterinary professionals, and other relevant health experts.

To see what official Kennel Club DNA testing schemes are listed for a particular breed, visit our Breed Information Centre.