THE WORKING CLUMBER SPANIEL SOCIETY

Working for the Breed

Fact sheet
Genetic Diversity

With only around 200 Clumber Spaniel puppies registered in the UK each year, the Kennel Club have classed the breed as vulnerable.

This is not simply about numbers but about maintaining the (now limited) genetic diversity in the breed by breeding from as many different lines of dogs as we can to ensure their genetic material is passed onto their progeny and preserved in the breed.

Keeping 'not-perfect' dogs in the breeding pool helps to maintain this genetic diversity and a not perfect result in hip scores or DNA test can still be bred from as long as an appropriate mate is found.

It would be wonderful to have the luxury of choosing only the very best dogs to breed from and discarding those with faults, but with such low numbers we need to include those who, for example, are carriers for genetically recessive conditions, or have less than perfect hips and eyes, in the breeding pool.

Breeders need to ensure that breeding partners are carefully matched to ensure that any faults that are identified prior to breeding in either partner, are not 'doubled up' in both the sire and dam making them more likely to be passed on to their puppies. This ideal balancing act is very difficult to attain for all the attributes we would like to consider and therefore breeders will very often have to compromise on some aspect.

Coefficient of Inbreeding

Genetic diversity can be checked by looking at the dog's Coefficient of Inbreeding (COI). The COI of an individual dog is not a measure of the dog's health but a measure of the risk of 'identical by descent' genes being inherited and therefore the risk of an individual dog having inherited identical copies of a gene from both its sire and dam. A relatively high COI shows a higher risk of a mutated gene being inherited which may cause disease. However this needs to be balanced against breeding for type as identical genes are what makes a breed a breed.

When breeding, the COI of the individual dam and sire are of no relevance, but breeders should consider the COI of the resulting litter and balance this along with all the other attributes that are to be considered when breeding. The COI of the litter should be considered alongside pedigree analysis and not in isolation of understanding which dogs are influencing the mating and to what degree.

It should be noted that lower COI's are seen in dogs with wide genetic diversity but also in those where there may be gaps In the pedigrees due to importation of foreign dogs leading to incomplete pedigrees and some of the lowest COI results can attribute to this factor while genetic COI of the dogs may actually be much higher. This is why it is important to pair KC COI results with a careful examination of the pedigree itself.

Vulnerable breeds such as the Clumber spaniel will inevitably have a higher average COI than those breeds with many more litters being registered each year, as the breeding population is so much more restricted numerically.

Avoiding popular sires

Some stud dogs can become very popular. especially if they display many of the attributes breeders want their pups to inherit. ***Stud dog owners should limit the use of their dogs and check carefully that the bitches they breed to are a good match, fully health tested so any faults are not doubled up, and the COI of the resulting litter is not too high.*** A good guideline is no more than two litters in any rolling year, and only around 50-60 pups sired in his lifetime. Considering a litter mate can be a good alternative to using the same dog too many times.

Avoid repeat mating's

It can be very tempting after having a litter of excellent pups to do the same mating again. While this may be acceptable if the first litter was very small with only one or two pups, it is much better to use a different sire every time so that genes are shared around within the breed. If you have a stud dog, consider refusing his services to the same bitch twice.