

2018 CLUMBER SPANIEL BREED HEALTH PLAN

All Clumber Spaniel owners have an interest in the health of their dogs and of the breed. Puppy buyers want to buy a healthy puppy. Breeders want to breed healthy puppies. Everyone who owns a dog wants a healthy dog. So this Health Plan is not exclusively for breeders, but it does set out the problems facing breeders to help them make decisions not just to breed healthy dogs, but also to protect the genetic health of the breed. And it also describes the health issues facing the breed to inform puppy buyers and help them to select responsible breeders.

This plan is split into two initial sections. The first focuses on health issues affecting the day to day life and lifestyle of individual dogs; and the second section focuses on issue affecting the genetic health of the breed.

The final part brings together the recommendations and sets them out as they apply to the different owner types; and finally a list of actions is included which is mainly for the Club Health & Welfare Sub-committee.

NOTE: throughout this report provisional figures for 2017, marked with an *, are included in the the analysis. This figure is based on the litters with a date of birth in 2017 and included in the KC Breed Record Supplements up to and including the Winter 2017 edition. The final figures for puppies born in 2017 may not to be known until the Summer edition is published.

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This plan was approved by the Clumber Spaniel Club Committee on 11th February 2018 and will be reviewed at least annually.

PART 1

ISSUES AFFECTING THE INDIVIDUAL DOG

1. EXERCISE INDUCED COLLAPSE (EIC)

Description and symptoms:

This condition causes affected dogs to have profound exercise intolerance, but they usually recover relatively quickly if allowed to rest. It has a simple recessive gene trait, which means that an individual has to inherit one copy of the EIC gene from each of its parents to be 'affected'. Some genetically affected dogs only show mild symptoms; some do not develop symptoms until later in life, and some may never show any symptoms.

Dogs are defined as 'carriers' if they have one copy of the gene and 'clear' if they have none.

Results of different mating combinations are summarised in the table below.

However, it should be noted that exact percentages shown for the offspring may not apply to a single litter, but are the result of adding a number of matings of the same kind.

Parents	Offspring
Both clears	= 100% Clear
One clear parent + one carrier parent	= 50% clear + 50% carrier
One clear parent + one affected parent	= 100% carriers
Both carriers	= 25% clears + 50% carriers + 25% affected
One carrier parent + one affected parent	= 50% carriers + 50% affected
Both affecteds	= 100% affected

Health Screening and test results:

Since a DNA test was developed in 2015 and approved by the Kennel Club, results have been published on its MateSelect pages so that breeders can select breeding pairs according to their EIC status, and potential buyers can check the health status of the puppy's parents. The CSC website also includes the results of the tests that were used to validate the test.

To date there are published results for 287 Clumbers that have been tested, of which there are 16 affected (6%); 122 carriers (42%) and 149 clears (52%).

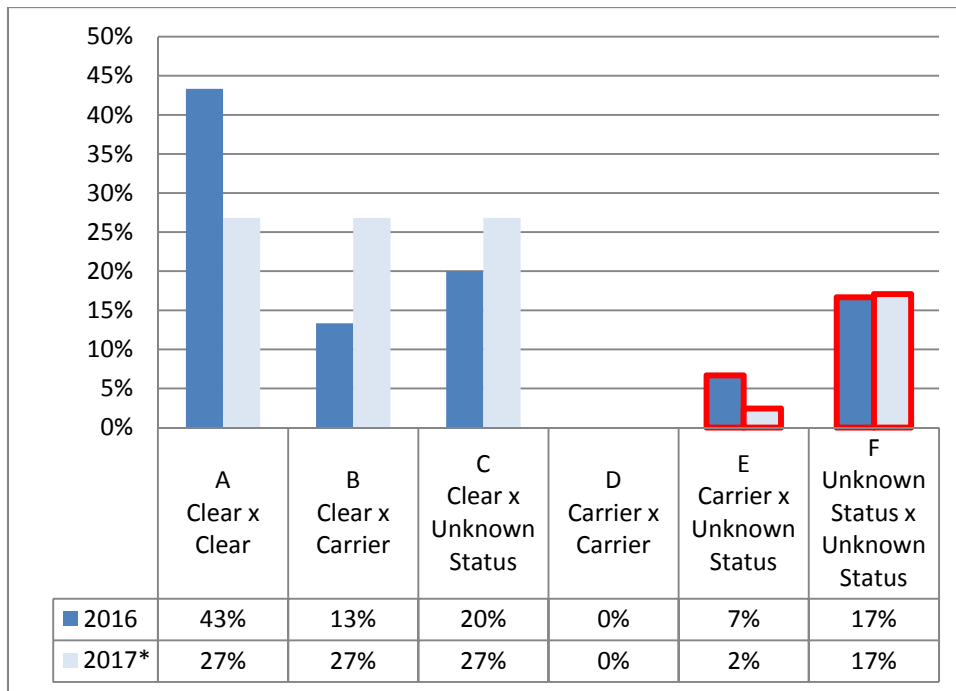
Current advice and recommendations:

KC Assured Breeders are required to have EIC DNA tests on all breeding stock.

The CSC recommends that all Clumber Spaniels that are to be used for breeding should be tested for EIC. Also that "affected" dogs are not used for breeding; however "carriers" may be used provided they are only mated to dogs tested as "clear".

Compliance with current recommendations:

2016 was the first full year since the DNA test became available for EIC. The EIC status of the parents of all litters that produced puppies which were born in 2016 was analysed, along with the provisional figure for 2017.



**EIC Status of parents of puppies born and registered
in the years 2016 and 2017* ('clears' include 'hereditary clears')**

According to these figures it appears that the number of breeders following the current advice (columns A and B) has fallen slightly from 56% in 2016 to 54% in 2017; there have been no 'affected dogs used for breeding; and there have been no known 'carrier' to 'carrier' matings (column D). However there is still a significant number of breeders using untested dogs (columns C, E and F) and 46% of matings so far with puppies born in 2017 involved at least one untested dog; and 19% of matings (columns E and F) could potentially produce an 'affected' dog.

OVERALL OBJECTIVE: to eliminate EIC from the gene pool

SHORT TERM TARGET: that no more affected dogs are born after the end of 2019

Actions:

1. Breeders to ensure that:
 - All dogs are EIC tested before mating
 - No affected dogs are used for breeding
 - No carrier x carrier matings
2. Advice to puppy buyers to be revised and included in leaflets and on website
3. Continued analysis of EIC status of dogs used for breeding year by year; and monitoring of test results for individual dogs

MEDIUM TERM TARGET: that no more carriers are used for breeding after the end of 2020

Actions:

As above plus breeders to ensure that no carriers are used for breeding

2. PYRUVATE DEHYDROGENASE PHOSPHATASE 1 DEFICIENCY (PDP1)

Description and symptoms: The lack of this enzyme leads to a failure of the processes responsible for helping to rid the body of waste products from metabolism, and the dog suffers from extreme exhaustion after very limited exercise. PDP1 deficiency can lead to an early death in affected dogs. As with EIC, it has a simple recessive gene trait, which means that an individual has to inherit one copy of the PDP1 gene from each of its parents to be 'affected'.

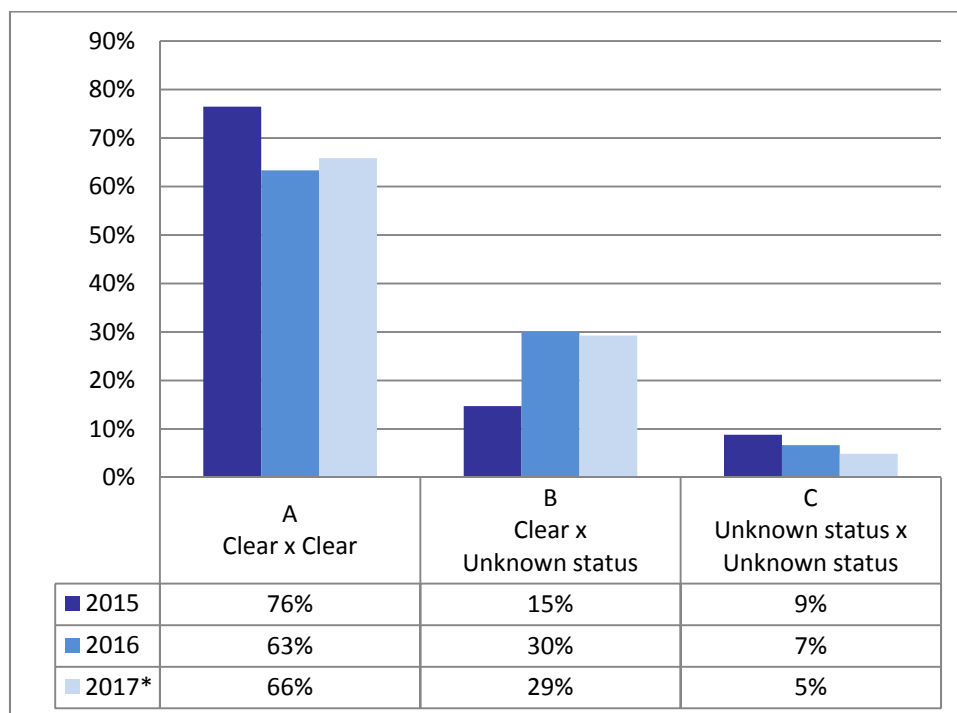
Health Screening and results: A research project was undertaken in the UK between 2007 and 2012 using a DNA test that was already available for Clumber Spaniels in the USA. Just four carriers were found. One was a bitch born in 2002. She had two litters in 2006 and 2008, from which three puppies were found to be carriers from the six that were tested. No affected dogs have been identified possibly because they do not live to adulthood.

The DNA test for PDP1 is approved by the Kennel Club so that all results are published and included on its MateSelect pages. The most recent figures show that in total 195 dogs have been DNA tested as clear and 1274 have been registered as hereditarily clear.

Current advice and recommendations: The CSC recommends testing of all dogs used for breeding. KC Assured Breeders are also recommended to have DNA tests on all breeding stock.

Compliance with current recommendations:

The table below is an analysis of the PDP1 test status of the parents of all litters that produced puppies born in 2015 and 2016, plus the provisional figure for 2017.



**PDP1 Status of parents of puppies born and registered
in the years 2015, 2016 and 2017* ('clears' include 'hereditary clears')**

From these figures it appears that the number of litters with neither parent having a known status is falling (column C) although there are still a third (34%) of litters with at least one parent of unknown status in 2017*.

OBJECTIVE: to ensure PDP1 does not reappear in the gene pool

TARGET: that all dogs have a valid test result before mating

Actions:

1. Breeders to ensure that all dogs have ‘hereditary clear’ status or that they are PDP1 tested before mating; and to ensure that no matings are carried out that might produce an affected dog
2. Advice to puppy buyers to be revised and included in leaflets and on website
3. Continued analysis of PDP1 status of dogs used for breeding year by year; and monitoring of test results for individual dogs
4. H&W Sub-committee to clarify how many generations of puppies can be defined as hereditary clear before a DNA should be undertaken to confirm their clear status.

3. OVERWEIGHT

Description and background

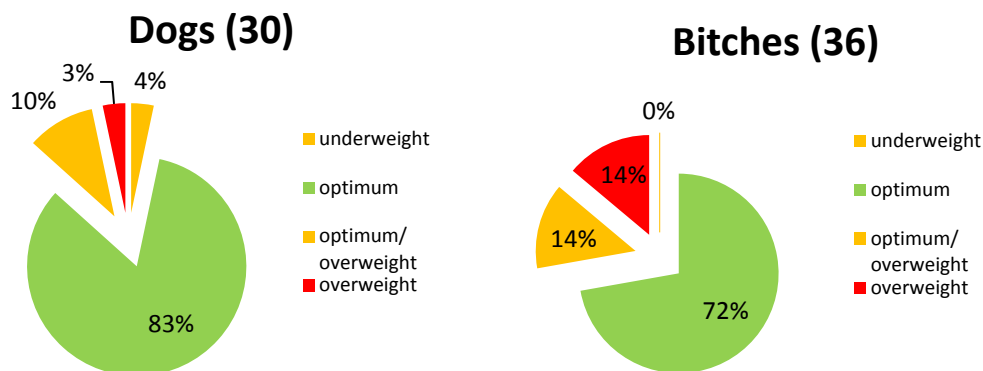
Obesity has been shown to be a problem in the wider dog population. It can lead to other medical problems such as heart problems and diabetes, as well as putting additional strain on the joints. In Clumbers ‘overweight’ remains one of the Kennel Club’s Breed Watch points of concern.

Prevalence – including recent results from surveys

In 2013 owners were asked to submit the weight of their dog and also an assessment of the dog according to a Body Condition Score where the animal was classified as either emaciated, thin, optimum, overweight or obese. Both assessments were to be confirmed by a registered vet. The 2014 health survey also had a question about weight. The following table shows the averages from the results of both surveys compared to the KC Breed Standard ideal weights.

	Dogs	Bitches
KC Breed Standard ideal weights	29.5 – 34 kgs	25 – 29.5 Kgs
Average weight from 2013 Weight Survey (confirmed by Vet)	28.97 kgs	25.3 kgs
Average weight from 2014 Health Survey (confirmed by owner)	29.77 kgs	25.25 kgs

The Body Condition Score results are summarised in the next diagrams, and these results indicated that only 10% of all dogs included in the survey were described as being overweight.



Judges reports submitted under the KC Breed Watch scheme show that the number of reports highlighting 'overweight' in show dogs has reduced each year for the past three years. In 2014 there were 13 reports (2.40%), in 2015 there were 10 (1.82%) and in 2016 it had fallen to just 5 reports (1.2%).

Current advice and recommendations: There is no advice on weight on the Club website.

OBJECTIVES:

- a) to reduce the number of overweight dogs in the overall population
- b) removal of 'overweight' as a Breed Watch point of concern

Actions:

1. Prepare information and advice which can be published on the website and in a leaflet providing information on general health for all owners
2. Continued monitoring of judges reports
3. Include questions on weight in the next breed health survey in 2019
4. Include advice on using Body Condition Scores to assess whether a dog is overweight both on the website and in recommendations for Clumber owners

4. EYE HEALTH

Background: In 2011 the Clumber Spaniel was listed by the KC as a High Profile Breed and faced criticism about eye conformation and health. Clumbers may suffer from entropion (turning in of the eyelid which can cause the lashes to rub against the eyeball) or ectropion (turning out of the eyelid usually on the lower lid). The KC Breed Watch Scheme includes a point of concern about eyes defined as

“Excessive amounts of loose facial skin with conformational defects of the upper and/or lower eyelids so that the eyelid margins are not in normal contact with the eye when the dog is in its natural pose (e.g. they turn in, or out, or both abnormalities are present)”.

Dr Peter Bedford addressed members after undertaking eye tests at the Championship Show in 2012, and said he had seen some good eyes but also some with too much exposure of the eye. During the debate that followed there was an acceptance that problems regarding the conformation of the eye could be exaggerated when there was too much loose skin on the head, and it was acknowledged that the Breed Standard states “No exaggeration in head and skull” and therefore dogs with excessive loose skin on the head are undesirable. The standard also says that it is “Acceptable to have some haw showing but without excess.”

Breeding dogs to show the haw (or third eyelid) and loose skin on the head, appears to have led to some exaggerations in the past and resulted in some dogs having very loose lower lids. When the eyelid margins are not in normal contact with the eye it can lead to unhealthy eyes as the blink mechanism that lubricates the eye does not function correctly. Also when the lower lid droops excessively, the conjunctiva is exposed and this can lead to dogs suffering from conjunctivitis.

Prevalence and results from surveys: five surveys have been conducted which asked questions about eye problems. In the 2014 survey five dogs were reported as having had operations to correct entropion. The table below is a summary of results from the published survey reports.

	Entropion	Ectropion	Cataracts	Dry Eye
1989	37.80%	7.50%	2.70%	7.60%
1991	4%	n/a	1%	7%
2001	16.30%	1.50%	3%	20.40%
2009	Eye problems: 22.60%			
2014	21%	11%	4%	20%

Judges' reports submitted under the KC Breed Watch scheme show that the number of reports highlighting eye problems started quite low and has reduced each year for the past three years. In 2014 there were 5 reports (0.93%), in 2015 there were just 2 (0.36%) and in 2016 there were none.

Health Screening: Use of the BVA/KC Eye Testing Scheme has been recommended for the last 10 years and all results are collated and published on the Club Website. To date the breed is not listed as having any of the BVA Schedule A or Schedule B eye conditions.

The 2016 revision of the BVA/KC leaflet on *Hereditary Eye Disease in Dogs* emphasises the importance of examining older dogs for a number of reasons including ensuring that the individual dog, and the breed, remains clear of hereditary eye diseases which may only be detected later in life such as some types of cataract and progressive retinal atrophy.

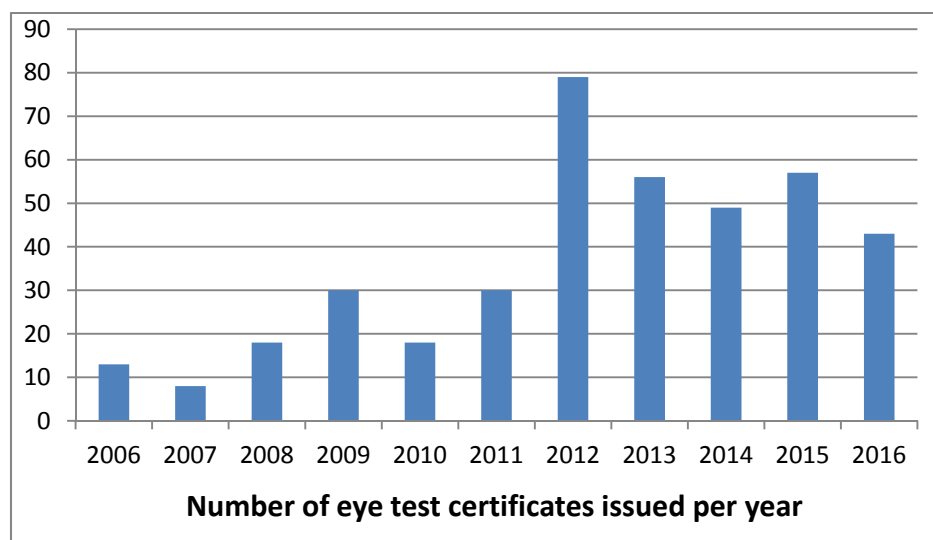
The Club receives a copy of the test certificate and results are published on the Club website but to date there has been no analysis of these results to establish any reduction in prevalence of problems over time.

Current advice and recommendations: KC Assured Breeders are recommended to have eye tests on all breeding stock.

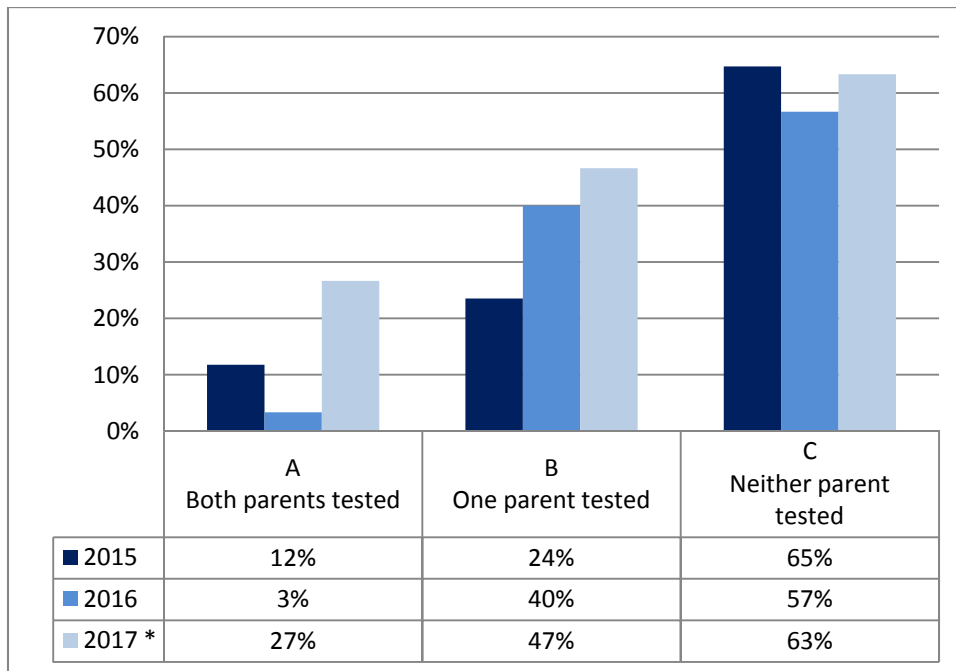
The Club recommends that all Clumber Spaniels being bred should hold a current eye certificate; and others should be tested at regular intervals to monitor eye health at 2, 6 and 10 years of age.

Compliance with current recommendations:

The chart below shows the number of test certificates issued in each year.



The next table below is an analysis of the number of parents of all litters that produced puppies born in 2015 and 2016, plus a provisional figure for 2017*.



The percentage of breeding pairs which have a published eye test result.

This shows that although eye testing has been recommended since the first Health Plan was published in 2014, the uptake for breeding dogs is still very low with 63% litters in 2017 where neither parent had a published eye test.

OBJECTIVES:

- a) To have “Excessive amounts of loose facial skin with conformational defects of the upper and/or lower eyelids ...” removed as a Breed Watch point of concern.
- b) To reduce the incidence of known eye problems (eg entropion and ectropion)
- c) To ensure that appropriate actions are taken and the plan is revised if any inherited or late-onset eye conditions are identified through on-going eye testing,

TARGETS:

- a) To increase number of dogs used for breeding that have a current eye test certificate
- b) To increase the number of dogs over 8 years who have an eye examination

ACTIONS:

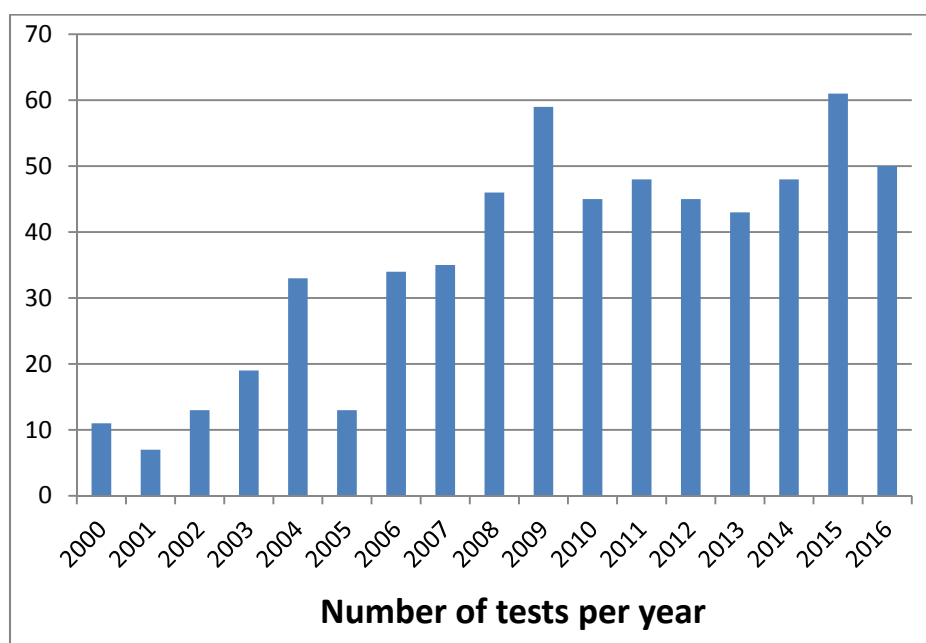
1. Continue to offer subsidy for eye testing
2. Undertake analysis of test certificates to assess prevalence of any emerging eye problems
3. Continue to monitor the number of dogs who have eye tests each year, and assessment of the number of breeding dogs who have a current eye test
4. Include advice on eye testing in leaflet on general health and on the website
5. Breeders recommended to make informed choices based on results of eye tests.

5. HIP DYSPLASIA

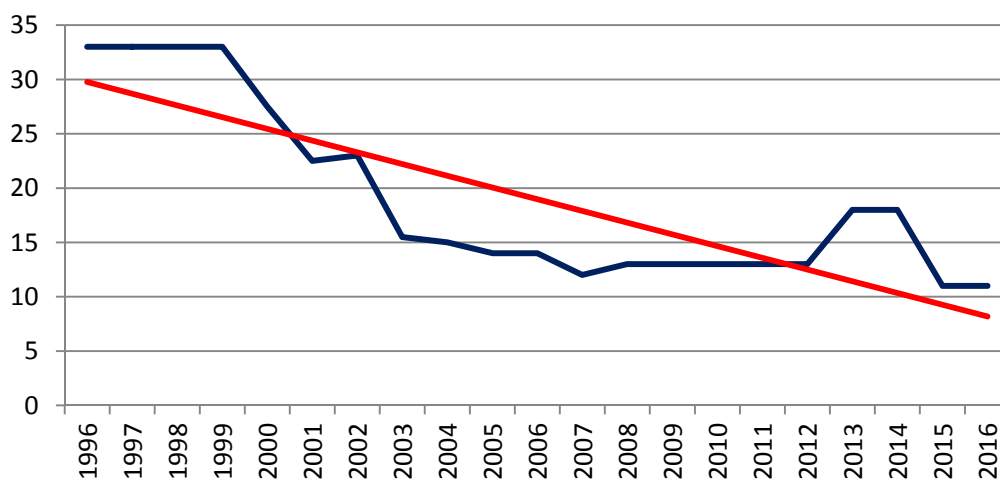
Description and symptoms

Hip Dysplasia (HD) is a common inherited orthopaedic problem in dogs caused by abnormal development of the structures that make up the hip joint. This can lead to excessive wear and tear in the joint which can become mechanically defective causing lameness. Although not life threatening hip dysplasia can affect the quality of life for a dog especially in later life when they may suffer with arthritis. The 2014 health survey included a question about hips and 6% of respondents said their dog had arthritis, with some others reporting 'stiffness in old age'.

Health Screening: the Club has long supported use of the KC/BVA Hip Scoring Scheme and the number of tests per year since the year 2000 is shown in the graph below:



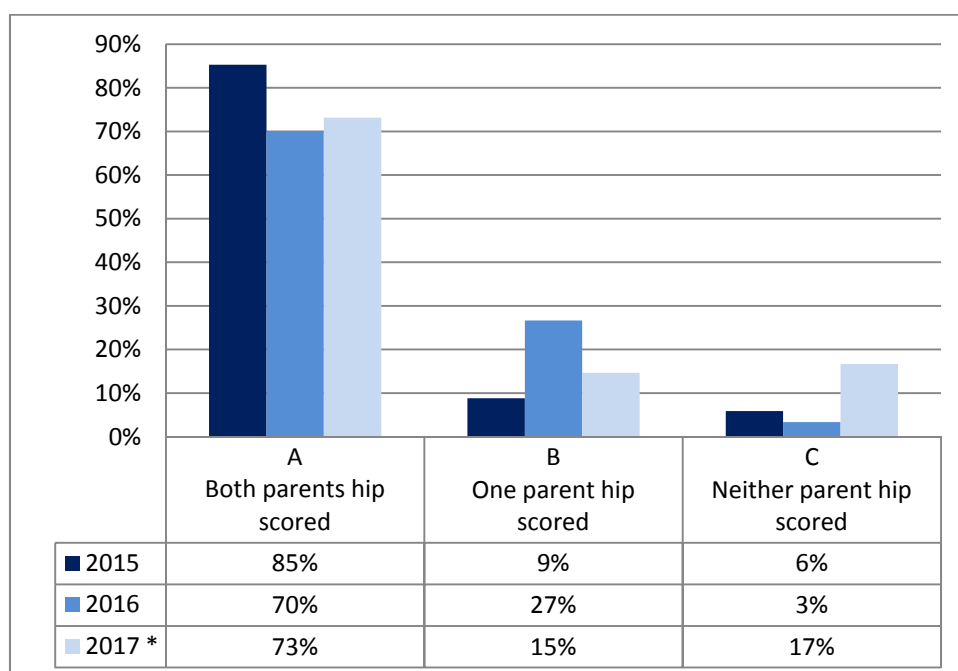
The test involves taking x-rays of the hips which are then assessed and given a score for each hip from 0 to 53, which are added together to give a single score. In 1996 the 5-year Rolling Median score was 33, twenty years later in 2016 it had fallen to just 11 as shown in the figure below.



All hip score results are collated and published on the Club website. In addition, estimated breeding values (EBVs) are now available on the KC Mate Select website.

Current advice and recommendations: the Club recommends that all breeding stock should be hip scored and that BVA guidance should be followed which says that “the best chance of producing offspring with good hips is to use only parents with low scores, considering the *median* as the ideal cut-off”. The current published median hip score for Clumber Spaniels is 11. KC Assured Breeders are required to hip score.

Compliance with current recommendations: The next table below is an analysis of the number of parents of all litters that produced puppies born in 2015 and 2016, plus the provisional figure for 2017.



The percentage of breeding pairs which have a published hip score.

The provisional figures for 2017 below show that the majority of dams and sires had been scored, and at least half had a score of 11 or less. The highest scores for dams and sires were 45 and 46 respectively.

	Dams		Sires	
11 or less	21	51%	22	54%
above 11	12	29%	11	27%
no score	8	20%	8	20%

Estimated breeding values are now available for hip dysplasia on the KC website. The KC suggests that effective use of “EBV’s can help reduce the risk of puppies inheriting hip and elbow dysplasia more effectively than by only using the sire and dams’ individual hip or elbow score (which are partly influenced by environmental factors)”. There are currently no EBVs for elbows for Clumber Spaniels.

OBJECTIVE: to reduce and maintain the 5-year rolling median at less than 10

TARGETS:

- a) **that all dogs used for breeding have been hip scored**
- b) **that only dogs with scores less than the median are used for breeding;**
- c) **to increase the number of non-breeding dogs scored to give a more information on the breed as a whole which will enable more accurate EBV's to be calculated**

Actions:

- 1. Breeders recommended to ensure that:
 - all dogs to be used for breeding are hip scored;
 - selection of dogs for breeding are based on the actual score and also on their EBV
- 2. H&W Sub-committee to include use of EBV's in advice for breeders
- 3. Continued analysis of Hip Scores and status of dogs used for breeding each year

6. Back problems

At the International Clumber Spaniel Breed Seminar in 2014, it was reported that the conformation of the Clumber being 'long and low' coupled with its heavy build could lead to back problems. The KC Pedigree Breeds Health Survey (2014) suggested that the prevalence of back problems across all breeds was less than 1% while in Clumbers it was 7%. Earlier Clumber Spaniel Breed Health surveys in 2009 and 2014 both indicated that the incidence of back problems in the breed was around 12%.

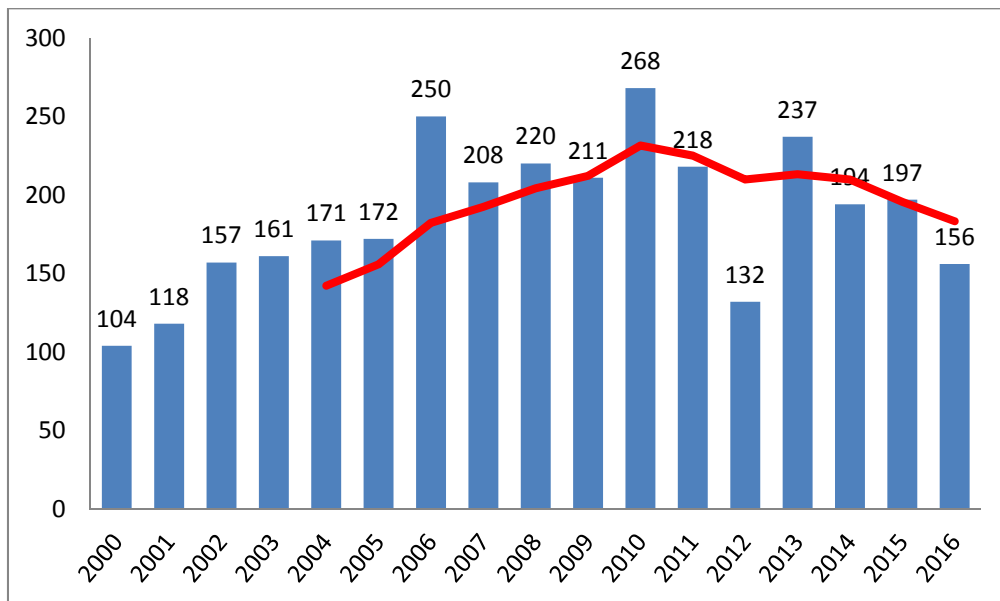
During 2018 a survey will be conducted by the Royal Veterinary College to investigate the prevalence of Intervertebral disc disease (IVDD) in Clumber Spaniels and identify any lifestyle factors that contribute to the risk of this condition.

PART 2

ISSUES AFFECTING THE GENETIC HEALTH OF THE BREED

In 2003 the Kennel Club undertook research after concerns were raised about “protecting those breeds of dog which are of British origin and are considered to be vulnerable i.e. those whose numbers are declining and whose status within the world of dogs has diminished over a number of years.” they defined a ‘Vulnerable British Breed’ as one with 300 or fewer registrations per year in the UK. Clumber Spaniels were named as one of these breeds.

In 2016 there were 156 puppies born and the first diagram below illustrates the number of puppies per year since 2000. The red line is the 5-year rolling average which shows that a previous steady increase in numbers had more recently become a steady decrease. However 257 puppies born in 2017 have already been included in the KC BRS up to the Winter 2017 edition.



As well as the comparatively low numbers being born, the breed is also at risk because of the extent of inbreeding that has occurred over recent years which is affecting the size of the gene pool. In its 2015 population analysis the KC noted that “As with most breeds, the rate of inbreeding was at its highest in this breed in the 1980s and 1990s. This represents a ‘generation bottleneck’, with genetic variation lost from the population. However, since 2000 the rate of inbreeding has decreased, implying a slowdown in the rate of loss of genetic diversity.”

A key indicator of the genetic health of a breed is the Effective Population Size which the KC defines as “the number of breeding animals in an idealised, hypothetical population that would be expected to show the same rate of loss of genetic diversity (rate of inbreeding) as the breed in question. It may be thought of as the size of the ‘gene pool’ of the breed.”

In September 2015, the KC published the estimated Effective Population Size (EPS) for Clumber Spaniels as 24.5

An EPS of less than 50 “indicates the future of the breed may be considered to be at risk”, and that it is also “at risk of detrimental effects of inbreeding which could increase the chances of the breed being at risk for both known and unknown inherited disorders.” The breed is also “at risk of inbreeding depression which is an overall decrease in general fitness, or general health, and may

reduce litter size and fertility across the breed.” It is understood that the KC will calculate the EPS for all breeds again in 2020

The OVERALL OBJECTIVE is to improve and protect the genetic health of the breed

TARGETS:

- 1. To increase the number of puppies born in a way that improves genetic diversity and in line with current recommendations**
- 2. To increase the estimated Effective Population Size to more than 50 by 2025**

Individual targets are included for some of the factors which contribute to the rate of inbreeding and would affect any future calculation of the estimated EPS.

Actions:

1. Continue to promote the breed at Game Fairs, Discover Dogs and other similar events to ensure sufficient suitable homes will be available for any increase in numbers
2. Appoint ‘Breed Mentors’ who would encourage and support owners new to breeding

There are three key factors which contribute to the rate of inbreeding and would affect future calculation of the estimated EPS. These are overuse of popular sires, repeat matings and selection of pairs with a resultant high Coefficient of Inbreeding.

Overuse of popular bitches is already limited by the KC, because they “will not normally register more than 4 litters from any one bitch because of concerns that the current legal limit of six litters per bitch can be potentially detrimental to a dog’s welfare.”

1. OVERUSE OF POPULAR SIRES

Overuse of popular sires can be a particular issue in a numerically small breed and has been highlighted in previous reports on Clumber Spaniel litter registrations available on the Club website.

Current advice and recommendations: The Bateson report published in 2010 included a recommendation that over a 5-year period no sire “should have more offspring than 5% of the total number of puppies registered for that breed”. Each Clumber Spaniel Breed Health Plan has advised stud dog owners on the maximum number of puppies each sire should produce. This has been amended each year according to the number of puppies registered. The 2016 plan stated that no sire “should produce more than 53 puppies in a 5-year period”.

Compliance with current recommendations:

The full history of the dogs that had sired a litter in 2015 and/or 2016 was analysed and the total number of puppies produced by each over their life up to the end of 2016 was calculated. Details of the four most prolific sires are listed below.

Sire	Total puppies	Total litters
Dog A	100	16
Dog B	89	16
Dog C	67	14
Dog D	53	9

An analysis of the 5-year rolling total number of puppies produced by these four most popular sires was calculated to assess whether these dogs would have exceeded the Bateson recommendation and this is shown in the table below.

	Dog A		Dog B		Dog C		Dog D	
	actual number per year	5-year rolling total	actual number per year	5-year rolling total	actual number per year	5-year rolling total	actual number per year	5-year rolling total
2005			14					
2006			14					
2007			0					
2008	31		0					
2009	26	57	6	34				
2010	22	79	23	43				
2011	8	87	5	48	3			
2012	0	87	0	48	6		15	
2013	7	63	12	46	22		14	
2014	0	37	5	45	26		9	
2015	6	21	10	42	7	64	6	
2016	0		0		3	67	9	53
total puppies	100		89		67		53	

In this table the black line indicates the date of the first Breed Health Plan which included the Bateson recommendation; and the highlighted boxes show the years when their 5-year total would have exceeded the 2016 recommendation.

Although no advice had been given at the time, Dog A clearly exceed the target of 53 puppies in a 5-year period. However if Dog B, for example had had 2 more litters in 2016 to produce 12 puppies then he would exceed the total sired by Dog A but his rolling total in 2016 would only have been 39 and so he would not have exceeded the Bateson recommendation.

This illustrates the potential problem with using Bateson in a numerically small breed. there are also limitations in a numerically large breed such as Cocker Spaniels which have an average number of registrations in excess of 20,000 per year would be recommending that sires could have up to 1,000 puppies in a 5-year period.

OBJECTIVES: To maintain a maximum number of puppies per sire and increase the number of different sires used

TARGET: to limit the maximum number of litters per sire to no more than 10 litters in a lifetime (approx 55 puppies)

Actions:

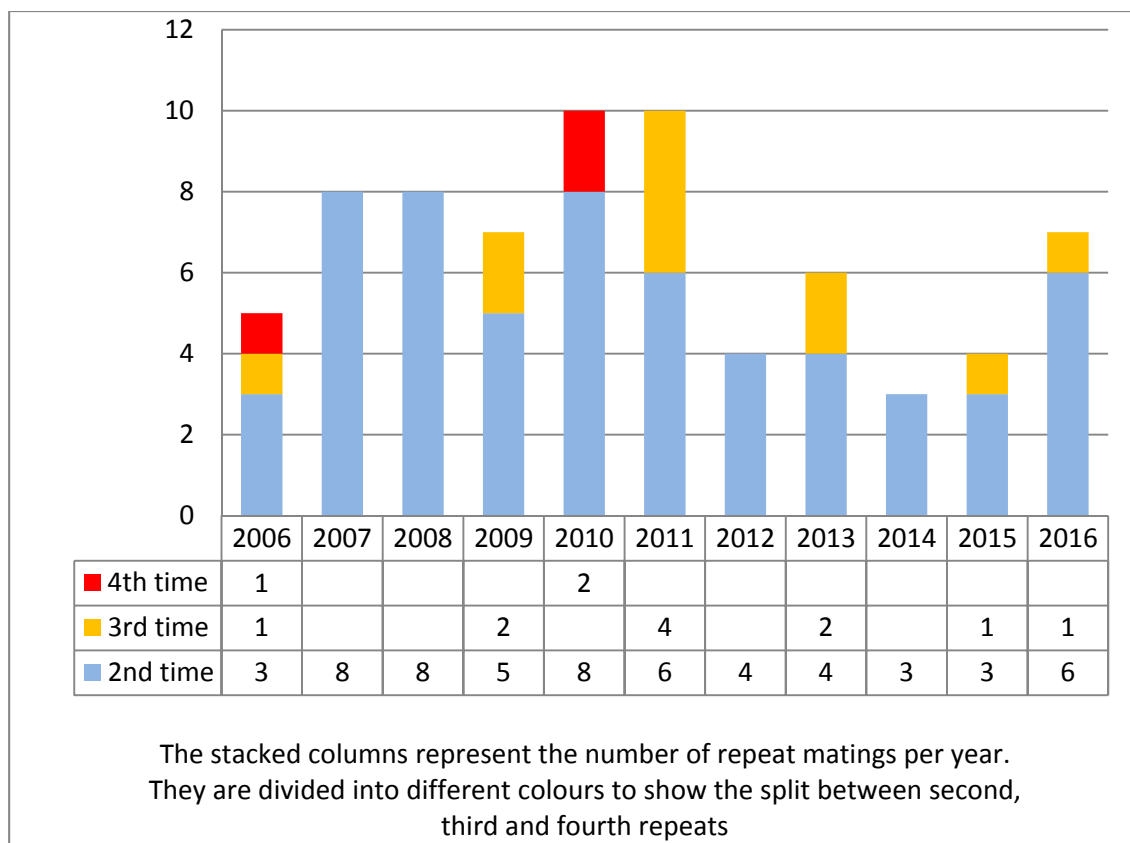
1. Stud dog owners to limit number of puppies to comply with agreed target
2. Continued analysis of registrations to monitor whether breeders are following the recommendation
3. Appoint of 'Breed Mentors' who could also advise new stud dog owners

2. REPEAT MATINGS

The use of repeat matings ie same dam mated to the same sire, is another factor which can lead to a loss of genetic diversity in a breed.

Advice and recommendations: there is no current advice about repeat matings.

During the past ten years some matings have been repeated three or even four times. The next figure shows the number of second, third and fourth repeats by year.



OBJECTIVE: to reduce the number of repeat matings

Actions:

1. Breeders to avoid repeating a mating more than once, and to consider using siblings of dogs previously used.
2. Continued analysis of annual registrations and calculation of numbers of repeat matings to monitor whether breeders are following the recommendation

3. HIGH COEFFICIENT OF INBREEDING

The Coefficient of Inbreeding (COI) is a measure of the extent of inbreeding. It can be calculated for an individual dog or for a mating, and is expressed as a percentage and the higher the figure the higher the level of inbreeding. The COI is calculated over a stated number of generations, usually 5 or 10, although the KC produces figures which are based on all the available information it has and so it can vary from dog to dog. However this figure is the one that is published on the KC website and by which breeds are measured.

Litter analysis has been undertaken since 2013 and average 5-generation COI and 10-generation COIs have been calculated and are shown in the table below. In addition, the COI was also calculated using the KC Mate Select tool which is referred to as the KC COI. The following table shows a comparison of all the different calculations plus the KC's published average COI for the breed.

	5-Gen COI	10-Gen COI	KC COI	Average COI published on KC website
2013	10.5%	20.2%		18.2%
2014	11.9%	21.8%	19.3%	18.5%
2015	12.5%	21.3%	19.5%	19.1%
2016	10.4%	20.2%	17.9%	17.9%

The KC Mate Select website includes guidance which states that “where possible, breeders should produce puppies with an inbreeding coefficient which is at, or below, the annual breed average” “and ideally as low as possible”.

Current advice and recommendations: Since the first Clumber Spaniel Breed Health Plan was produced in 2014, breeders have been advised that they “should take into the account the resultant COI for any litter and strive to at least be below the current breed average”.

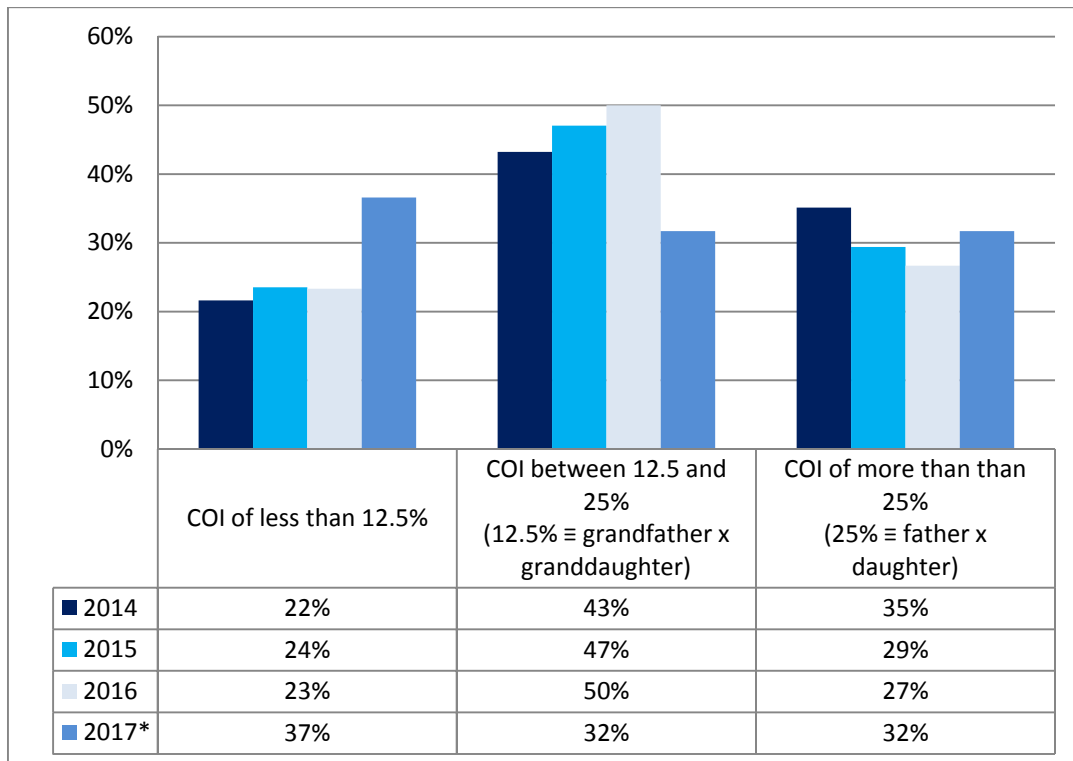
It is important to note that breeders could use any one of the four methods to calculate the COI of a planned litter but they should always compare this to the average COI calculated by the same method.

Compliance with current recommendations:

On the Kennel Club Mate Select website, in its section on breed averages for COI, it highlights three key measurements for COI which are:

- 0% which indicates that the offspring have an unrelated sire and dam
- 12.5% which is the “genetic equivalent” of a mating between a grandfather and granddaughter
- 25% which is the “genetic equivalent” of a mating between a father and daughter

These three categories have been used to compare matings to assess how the COI is changing and whether the advice is being followed. The Figure below shows the percentage of matings that fell into the categories separated by these three key measurements: ie 0 to 12.4%; between 12.5 and 24.9%; and 25% or more.



Percentage of matings which fall between the three categories used

Although approximately half (49%) of 2017* matings have a COIs at or below the KC published average of 17.9%, there were around a third (32%) with a COI of more than 25%.

OBJECTIVE: to reduce the average COI for the breed.

TARGET: to reduce the number of litters with a COI of over 25% to less than 10% of the total number of litters by the end of 2019

Actions:

1. Breeders recommended to select mating pairs with a COI as low as possible and below the current breed average which is 17.9%
2. Continued analysis of annual registrations and calculation of average COIs

PART 3: RECOMMENDATIONS

Recommendations are given for different groups of owners ie breeders, stud dog owners, and puppy buyers, as well as general advice for all Clumber owners.

RECOMMENDATIONS FOR ALL CLUMBER SPANIEL OWNERS:

- Weight of all dogs should be assessed regularly using the Body Condition Score, as well as actual weights and feeding and exercise regimes adjusted as appropriate to ensure the dog stays at a healthy weight
- Eye tests: all dogs should have an eye test between 2 and 5 years old, and when 8 years of age
- Participate in health surveys

RECOMMENDATIONS FOR BREEDERS:

All dogs used for breeding should:

- Have been hip scored
- Have a DNA test result for PDP1 and EIC which is clear or hereditarily clear
- Hold a current eye test certificate (within 12 months)
- Have an optional elbow score

When selecting breeding pairs the following should be applied:

- Hip scored for both should be as low as possible and ideally below the current median which is currently 11. Estimated Breeding Values for hips should also be taken into account
- For EIC: no untested dogs or affected dogs should be used for breeding; no carrier to carrier matings; and all puppies should be tested prior to being sold unless known to be hereditarily clear. If a carrier puppy is produced it should ideally be sold to an owner who does not wish to breed from their dog.
- For PDP1 only dogs with clear or hereditary clear status should be used; and all puppies should be tested prior to being sold unless known to be hereditarily clear. If a carrier should be found this should be reported as soon as possible to the H&W Sub-committee
- Avoid repeat matings and consider siblings of dogs previously used
- Calculate COI of the litter and compare with the current average using the same method of calculation; and then only select pairs with a resulting COI below the current average

It is worth noting here that the Kennel Club will not register puppies from a litter where the bitch has:

- Already had 4 litters
- Has reached the age of 8 years at the time the puppies were born
- Was under 1 year at the time of mating
- Has already had 2 litters by caesarean section (unless approved by the KC)

They will also not register puppies from a mating between father and daughter; or mother and son; or brother and sister (unless approved by the KC)

RECOMMENDATIONS FOR STUD DOGS OWNERS:

All stud dogs should:

- Have been hip scored
- Have a DNA test result for PDP1 and EIC which is clear or hereditarily clear
- Hold a current eye test certificate (within 12 months)
- Have an optional elbow score

Health status of bitches should be established and all recommendations above should be followed
Stud dogs should not have <words to be inserted here when maximum number of puppies is agreed>

RECOMMENDATIONS FOR PUPPY BUYERS:

The KC publishes general advice for puppy buyers and how to select a breeder. In addition to their advice Clumber buyers should establish the health status of both parents and check the following:

- Hip scores for both should be as low as possible and ideally below the current median which is 11, especially if the puppy might be used for breeding
- For EIC: both parents should have a valid result and avoid litters where untested dogs or affected dogs were used; avoid a carrier to carrier mating; and check that puppies have been tested prior to being sold unless they are known to be hereditarily clear. Only buy a 'carrier' if the dog is not to be used for breeding.
- For PDP1 only dogs with clear or hereditary clear status should have been used; and all puppies should have been tested prior to being sold unless known to be hereditarily clear.
- Check the COI of the litter and compare with the current average using the same method of calculation; and then avoid buying from a litter with a resulting COI above the current average if the dog is to be used for breeding.

PART 4 ACTION PLAN

ACTIONS FOR THE CSC H&W SUB-COMMITTEE to support breeders and owners to comply with the recommendations in the Health Plan:

- a) To prepare and promote a guide to good practice for new breeders based on the recommendations for breeders
- b) To prepare and promote a guide for puppy buyers to provide information about choosing breeders who follow current advice
- c) To introduce and promote a 'breeder mentoring scheme' to offer advice to first time breeders or those who appear not to be following recommendations
- d) To develop and promote a scheme to publicly recognise those breeders who are following breeding recommendations and to offer advice to those who do not
- e) Update advice on the Club website to emphasise and promote good breeding and which includes all of the agreed recommendations
- f) To continue to organise and promote annual eye testing clinics in conjunction with the Championship Show each October with subsidised eye testing for all Clumber owners.
- g) Promote and encourage owners to take part in all health testing initiatives through facebook, website and newsletter
- h) To prepare and promote a guide to the care and welfare of Clumbers especially for first time pet owners.