



## Health Information March 2012

### Joint Irish Setter Breed Clubs

#### Statement on the control of the rcd4 mutation in Irish Setters

The Joint Irish Setter Breed Clubs (JISBC) have drawn up the following guidelines for the control of the recently discovered rcd4 mutation which causes Late Onset Progressive Retinal Atrophy (LOPRA) in Irish Setters. Whilst it should be stressed that clinical signs of LOPRA usually appear after the age of 9 years, the JISBC still believe it to be a welfare issue, although it is noted that many dogs can cope with blindness.

Data from the Animal Health Trust so far suggest the prevalence of carriers of the rcd4 mutation (i.e. heterozygotes) in the breed is about 42% and therefore the proposed guidelines are considered appropriate at this time. The JISBC recognises the need to maintain genetic diversity within the breed and does not yet recommend a complete ban on breeding using carrier or affected dogs.

However, the principle of these guidelines is that no dogs should be produced that will develop PRA and become blind, and therefore all members of the JISBC agree that:

1. All caring and responsible breeders will test their stock before planning a mating.
  - Any rumour and supposition about a dog's genetic status should be ignored; DNA-testing should be undertaken.
  - As DNA-testing is now available, 'hereditarily clear' dogs will be produced. However such dogs should still be tested before being used for breeding because of the potential difficulty in proving parentage.
  - If the rcd4 status of any stud dog, or its semen, is unknown then the bitch to be mated must be tested and found CLEAR.
2. AFFECTED dogs (i.e. homozygous for the rcd4 mutation) should never be mated with other AFFECTED dogs as all progeny will be AFFECTED.

Thus the following are recommendations about potential matings that the JISBC consider acceptable at this time:

- CLEAR x CLEAR matings are encouraged.
- CLEAR x CARRIER\* matings: progeny will, on average, be CLEAR (50%) or CARRIERS (50%) and should be DNA-tested before breeding.
- CLEAR x AFFECTED\* matings: all progeny will be CARRIERS.

\* It is recommended that any use of AFFECTED and CARRIER stud-dogs is given serious, cautious consideration by both stud-dog owners and breeders before planning a mating.

Purchasers of any dogs produced by CLEAR x CARRIER and CLEAR x AFFECTED matings should be advised that these dogs will not develop PRA rcd-4, but should not be used for breeding unless tested.

All breeders should note that AFFECTED x CARRIER or CARRIER x CARRIER matings may produce some AFFECTED dogs.

- a. CARRIER x CARRIER matings will produce, on average, 25% AFFECTED progeny.
- b. AFFECTED x CARRIER matings will produce, on average, 50% AFFECTED progeny.

Purchasers of any dogs produced by such matings should be advised that some of these dogs may develop PRA rcd-4 and should not be used for breeding unless DNA-tested.

The JISBC will continue to monitor the prevalence of the rcd4 mutation within the breed. However it is aware that a further PRA mutation that causes blindness at an earlier age (so-called mid-onset PRA) may be present in the breed but has yet to be confirmed and characterised genetically. Thus control measures for rcd4 may need to be modified if this new form of PRA is prevalent, as the earlier onset of blindness clearly has an even greater welfare implication.

Professor EJ Hall Chairman, Irish Setter Breed Clubs Health Coordinator Group  
29 February 2012

#### Archiving DNA at the AHT

Please continue to provide cheek swabs to store for research purposes at the Animal Health Trust. Also please remember to send updates on the history of your dogs' health. As we have said before, this is an ongoing procedure including finally informing the AHT of the death of each dog. Please contact Bryan McLaughlin by email [bryan.mclaughlin@aht.org.uk](mailto:bryan.mclaughlin@aht.org.uk) for cheek swabs and any further information.

#### Bloat Research

Sadly Dr Mellersh of the AHT was not awarded a grant from the American Kennel Club (AKC) for her genetic research programme into gastric dilatation volvulus (bloat). She has now decided to split the study into two sections, hopefully funding the first part more readily from funds available here such as the Irish Setter Breed Clubs, the Irish Red Setter Charitable Trust and the KC Charitable Trust. May I emphasise that this is probably the first time bloat research will have been tackled from a genetic viewpoint.

Dr Mellersh hopes to contact the owners of all Irish setters, to identify dogs that have suffered from bloat, and older dogs (over 10 years old) that have not suffered from bloat as controls. She requires around 350 controls. Working with the Kennel Club, she hopes to contact approximately 11,000 Irish Setter owners. She will require fresh DNA samples for this research programme. The initial funding required will be around £15,000, largely to pay for a research assistant. In a subsequent stage, she will apply for funding to genotype these samples – a much more costly part of the research programme.

Success depends on the co-operation of every Irish Setter owner. If there is any chance of finding a solution we must make every effort to offer our assistance in whatever way possible. As soon as we know exactly what she requires of us, the breed will be informed and encouraged to help.

The online survey undertaken by the Joint Health Group re-inforces the fact that gastric dilatation volvulus(bloat) is the major health problem in our breed. We very much hope that this research programme will get underway in 2012.

### **Online Survey      Ed Hall, Feb 2012**

Last year, the Joint Health Coordinators Group set up an anonymous online survey to gather information about the incidence of diseases in the setter breed between 2005 and 2010. Diseases that are known or have been suggested to have a genetic basis were specifically investigated. The survey results have now been analysed and give a snapshot of potential inherited problems in the breed. These results will not just allow the Group to focus on current problems but will also provide hard evidence for researchers seeking funding to investigate these problems. So I must therefore thank all Irish setter breeders and owners who took the time to complete the survey; the large number of responses received serves to strengthen any conclusions.

In fact, two surveys were conducted; one for owners of breeding bitches, and one for owners of stud dogs and pet setters. In total we had 159 owners of breeding bitches reporting on 767 puppies, and 361 stud dog and pet owners reporting on 1,031 dogs. The reason for this dual approach was to test the validity of the results. If results between the two surveys were vastly different, it might suggest that one group was being 'economical with the truth'. In fact, the results were, gratifyingly, very comparable. Of course the survey was anonymous and we cannot know how many individual dogs may have been reported in both surveys; nevertheless the minimum number of unique dogs has to be over 1000, which is a fantastic response.

A summary of the key results is tabulated.

| <b>Disease category</b>            | <b>Breeding bitch survey</b> | <b>Stud dog / non-breeding pet survey</b> |
|------------------------------------|------------------------------|---|
|                                    | <i>Percentage</i>            | <i>Percentage</i>                         |
| <b>Entropion</b>                   | <b>9.25</b>                  | <b>6.49</b>                               |
| <b>Epilepsy</b>                    | <b>3.91</b>                  | <b>4.46</b>                               |
| <b>GDV / Bloat</b>                 | <b>9.13</b>                  | <b>9.99</b>                               |
| <b>Hip dysplasia causing signs</b> | <b>1.83</b>                  | <b>1.36</b>                               |
| <b>Megaesophagus</b>               | <b>3.91</b>                  | <b>2.71</b>                               |

In addition, the good news is that there were no (or only one) report of a number of conditions that have been listed as an inherited problem in the breed in the scientific literature, namely anal furunculosis, galactocerebrocidosis, carpal subluxation, osteosarcoma and tricuspid valve dysplasia. Respondents were also asked to name other conditions of concern, and Cushing's disease (a steroid hormone problem) and cancer were most frequently named. This new information again allows your Health Coordinators to focus on real problems, and further more targeted surveys may be instituted in future.

The current survey results have highlighted some areas of concern; clearly bloat (syn. gastric torsion, gastric dilatation/volvulus, GDV) is the most common condition reported, and was also chosen by over half of all respondents as the condition that concerned them the most. The survey was however, performed before the identification of PRA rcd4. Entropion (rolled-in eyelids) was

reported in similar numbers, but respondents did not consider it such an important issue, presumably because it is not life-threatening.

Finally, as a caveat, we can not simply extrapolate to say that ~10 % of all setters are affected with bloat; it must be pointed out that the reported incidence of any condition may be biased by breeders/owners of afflicted dogs being more inclined to complete the survey. However, the relative incidence of the different conditions still provides guidance as to what diseases we should focus our efforts on in order to improve the health of the breed.

### **Cushing's Syndrome**

This was one of the problems highlighted in our breed by the survey of DNA samples held at the AHT and also evident as a major issue in the Joint Health Group's online survey. I have spoken to my own vet about this and it appears to be a problem that is becoming more evident in older dogs of all breeds (not only pedigree dogs) now that it can be diagnosed by blood testing. It often continues unnoticed, thought just to be part of the normal ageing process. It is treatable by medication and the dog will, if treated correctly, have a much improved quality of life.

The most obvious symptoms are:-

- large water intake
- frequent urination and possible incontinence
- ravenous appetite
- pot belly
- thin skin
- hair loss or recurrent skin problems
- muscle wastage
- lethargy
- excessive panting.

Not all dogs react in the same way or have all the symptoms but if you feel it may explain a problem with your own dog, do talk it over with your vet and, if you feel it advisable have the blood tests. The treatment is not cheap but all our dogs are worth being given the best possible care.

Our Committee is there to help if you need us. Please don't be afraid to ask. Our aim is to serve the breed. May our wonderful Irish Setters lead long, happy and healthy lives.

Gillian Townsend, ISAE Health Representative.

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**N.B. For information on DNA testing go to [www.ahtdnatesting.co.uk](http://www.ahtdnatesting.co.uk)**