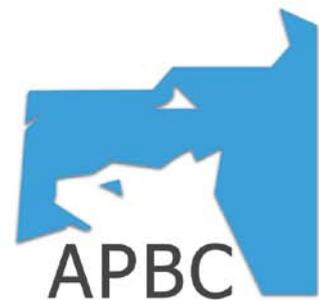


Association of Pet Behaviour Counsellors

Promoting the Best in Pet Behaviour



Rearing puppies 1.

Advice sheet written by APBC member Elaine Henley (www.dogbehaviour.org.uk).

Screening for genetic influences on behaviour

Many breeders breed for a purpose. They may be hobby breeders who enjoy rearing a litter of puppies, they may breed to have a dog for showing or work or they may derive income from breeding puppies.

Whatever their principle reason for breeding, the majority of dogs bred will live as pets in a home. Breeders therefore have a responsibility to ensure that the puppies that they breed are “fit for purpose” i.e. can cope with life as a pet.

Responsible breeders will consider the medical health of the parents before mating. Both parents will be tested for any hereditary medical conditions, as recommended by



the British Kennel Club & British Small Animal Veterinary Association, and will only be bred from if they are pronounced clear of any genetic health problems.

However, whilst screening for medical problems is relatively straightforward, screening and eliminating those individuals who are not behaviourally sound is a little more difficult. There is a growing awareness that puppies can inherit less than desirable genetic behavioural traits from both their Sire and Dam.

Unwanted traits can include: -

- a) Noise sensitivity: this trait has also been linked to information processing by researchers in the USA.
- b) Nervousness
- c) A higher propensity for anxiety and stress when presented with novel environmental stimuli
- d) Idiopathic aggression (i.e. aggression there is no clear cause for) toward other dogs and/or people.

Association of Pet Behaviour Counsellors, PO BOX 46, Worcester, WR8 9YS, United Kingdom

Web: www.apbc.org.uk

E-mail: info@apbc.org.uk

Tel: 01386 751151

Breeders should avoid breeding from dogs showing any of these traits unless they are certain that the behavioural problems cannot be attributed to the genes of either parent. If breeders are unsure, they can consult with an APBC member.

Controlling the behavioural effects of gestation and birth

So both the Dam and the Sire are genetically behaviourally sound, and a mating has been arranged; what other factors should be considered?

Pre-natal stress

Many animal behaviourists will note that pre-natal stress may be an initiating factor for the dogs presenting behavioural problem. In other words, pre-natal stress may be one of the reasons why the dog is behaving abnormally. Scientific research suggests puppies born to Dams who have experienced acute or chronic stress during their pregnancy are more likely to show retarded motor & learning development and abnormal exploratory, play, social, sexual and maternal behaviour. Such stress therefore needs to be prevented.

How to avoid stress in the Dam.

The mating process

The period during which a dog will be accepted by a bitch corresponds in a general way to oestrus. At this time the bitch will “stand” for the dog and mating takes place. Maiden bitches and novice dogs may need kindness and patience from the owners the first time they are mated. However bitches that are ready to accept a dog will generally do so,



especially if normal canine courtship behaviour is allowed to take place. There is a growing trend amongst some breeders to *force* a mating by either muzzling or sedating a reluctant bitch. Doing either of these things will cause considerable acute stress to a bitch and may have behavioural repercussions for any resulting puppies. Recent research in cows has suggested that cows that are exposed to an acute stressor (in this case a sudden change in temperature) at the time of fertilisation, or within 9 days post fertilisation, were more likely to give birth to calves who displayed increased fearfulness and a reduced ability to cope with changes in their environment.

Keep the bitch in a familiar environment during pregnancy.

Many breeders sell dogs to pet owners on *breeding terms*, which means that the bitch is sold, generally to a domestic household, and then returned to the breeder in order for a litter of puppies to be taken from her. She is then returned to her owner. A change in familiar environment during pregnancy can cause psychological stress to a pregnant bitch, which in turn can lead to behavioural and developmental problems with the puppies.

Avoid sudden changes in temperatures.

A sudden change in body temperature, for example by going swimming, may cause physiological stress. Research in other mammals suggests that this may cause abnormalities such as cleft palette and may also lead to puppies that are behaviourally abnormal.

Avoid changes to the domestic environment

Avoid moving house, making major changes to your home or introducing another pet or animal into the social group during the dam's pregnancy.

Be aware of where you take your pregnant bitch to

The pregnant bitch should be exercised as normal, unless there is a medical reason not to, as this provides her with mental and physical stimulation. Depriving her of this may cause increased stress and boredom. However busy locations such as dog shows and parks should be avoided, as should taking her outside during stressful events such as fireworks displays. As the pregnancy progresses' she should be allowed to decide for herself how far she walks.

Be aware of unexpected single event fearful responses.

Research suggests that a single fearful or stressful event can have a detrimental effect on the behavioural development of the puppies.

What if any of the above stressors inadvertently occur?

It is difficult and sometimes impossible to control our pregnant bitches environment sufficiently to avoid all stress. In future advice sheets we will be discussing what breeders can do in order to reduce the detrimental effects stress may have had on your puppies.

The importance of worming the Dam.

The majority of dog owners and breeders know that they should regularly worm their dogs with an adequate worming preparation obtained from a Vet. However very few breeders understand why worming is so vital and what the consequences may be for the puppies' behavioural development.



Toxocara Canis (T.canis) and *Toxascaris Leonina (T. leonine)* are two types of intestinal worms that can occur in dogs. Dogs acquire infection by ingesting embryonated eggs as they lick or eat objects that bear eggs in their habitat. Eggs can survive for up to a year after faeces has been removed so infestation is more likely to occur in densely populated areas where large numbers of dogs are exercised together, such as public parks, or housed together, such as in kennels. Low infection of both *T.canis* and *T. leonina* can be well tolerated without overt clinical signs in adult healthy dogs. However prenatal infection of *T.canis* can occur by larvae crossing the placenta into the unborn pups and both *T.canis* and *T. leonina* can pass to the pups through the Dam's milk. Infestation of both types of worms in pups will impair food absorption, stunt growth, may cause gastrointestinal dysfunction and can lead to anaemia. Pups who have a large burden may appear to be lethargic and intolerant to being picked up due to discomfort (swollen bellies). Although the behavioural consequences of a large worm burden in dogs has been little researched, research in mice suggested that a large burden of *T.canis* can cause impaired learning, increased fearfulness of non-novel stimuli and increased aggression.

It is recommended that the dam should be wormed with a veterinary worming preparation licensed for use during pregnancy at day 40 (set periods from day 40 to 2 days past partum) of her pregnancy and that this should continue for 2 days post delivery. In addition, every dog in the household should be wormed at day 40 and wormed again when the puppies are first wormed. Extra care should be paid to communal exercise areas and faeces should be removed promptly to reduce the risk of re-infestation. It is further recommended that the Dam should not be walked in locations where she is likely to encounter the faeces of other unknown dogs during the later stages of her pregnancy.