Canine diet and behaviour
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Introduction

There has been much debate concerning the link between nutrition and behaviour and in particular, hyperactivity in recent years. Nutrition can certainly have effects on behaviour, but it is important to be aware that whilst a change of diet may sometimes be beneficial, it is not a substitute for training.

Ruling out medical reasons for behavioural problems

Please consult your vet. This is especially important if your dog’s behaviour has changed suddenly and for no apparent reason, since pain, neurological problems and some hormonal conditions such as hypothyroidism can manifest in aggression and other atypical behaviours. Once medical causes have been ruled out, it is recommended you seek the assistance of a behaviourist.

Selecting a suitable behaviourist

Many veterinary surgeons refer behavioural cases to experts in this field with whom they have a professional relationship, whilst others employ staff who have accredited training in animal behaviour. A recommendation from a reputable breeder, rescue centre, close friend or family member may be helpful, but remember to check credentials. Look for a behaviourist who focuses on the positive reinforcement of good behaviour. A good behaviourist will only consider giving advice once he or she has properly observed the dog, studied the interaction between dog and owner and made a full and thorough assessment.

The high protein hyperactivity myth

We are still frequently asked whether the company manufacture low protein diets by customers believing that high protein foods cause hyperactivity. True hyperactivity (hyperkinesis) is rare in dogs, and those suffering from this condition will usually exhibit periods of frenetic behaviour which only ceases when they are too exhausted to continue. However, it can still be difficult to differentiate between an affected dog and one who is simply unruly. Sometimes, frustration with social or environmental circumstances is mistaken for hyperactivity. Hyperactivity has many potential motivators, including genetic temperament predispositions, but a link between high levels of good quality, highly digestible protein in a dog’s diet and true hyperactivity has not been proven.
Protein can be used for fuel if the animal is consuming less energy than it is expending, and the carbohydrate and fat reserves have been depleted, but it is not an efficient energy source. Its primary role is to supply building blocks called amino acids which support the body's structural and functional demands including the growth and repair of cells and tissues, and the production of hormones and enzymes. Protein consumed in excess of the animal's requirement cannot be stored so it is excreted.

**Tryptophan and serotonin**

Serotonin acts as a messenger operating between nerve cells. The correct level is necessary to balance mood and behaviour, and it is sometimes called the ‘satisfaction brain chemical’ or ‘happy hormone’, because at normal levels it provides a sense of wellbeing and keeps hunger at bay. Serotonin is made from the amino acid tryptophan, which dogs cannot manufacture themselves so it must be provided by the diet. Meat, fish, eggs and linseed, which are included in our products, are all rich natural sources. In large quantities, maize can have an inhibitory effect on tryptophan, but it is only present at a moderate amount in the Arden Grange recipes which include it.

In the nutritional management of depression, human patients may be encouraged to moderately increase their intake of starchy foods such as rice. This is because the more easily absorbed amino acids actively compete with tryptophan to cross the blood brain barrier. These complex carbohydrates help to raise insulin levels and cause a diversion so that tryptophan uptake can take place. Low protein / high carbohydrate diets such as the **Arden Grange Light with fresh chicken & rice** are sometimes recommended for dogs suffering from fear aggression, but unless your vet has prescribed a tryptophan supplement, a more moderate balance of protein to carbohydrate, such as that supplied by the **Arden Grange Adult with fresh chicken & rice**, is perfectly acceptable.

**Nutrient balance**

Altering the proportions of the nutrients ingested by the animal can be beneficial if it helps to promote more stable blood sugar, better serotonin levels and a steadier release of energy in that individual. Different dogs digest, metabolise and utilise different diets to varying degrees of efficiency. Some fare extremely well with a high protein / low carbohydrate diet such as the **Arden Grange Prestige rich in fresh chicken**, whilst a product with less protein and more carbohydrate is better suited to others. The fat level is important too, and dogs with a large appetite may be more satisfied with a lower fat diet, given that these foods supply fewer calories and have more generous portions. Conversely, smaller portions of a more fat-rich diet can satisfy some dogs better than larger portions of a low-fat diet. What constitutes the perfect nutrient balance for one dog might be less than ideal for another.

**Food allergies and intolerance**

In rare cases, food allergies can manifest in atypical symptoms such as bizarre behaviour. Food allergies can cause tension in the body which may lead to irritability, lower concentration and mean that the dog is less responsive. Dietary intolerance, which is different to an allergy in that the immune system is not directly involved, might also contribute to a dog exhibiting unusual behaviour.

Some chemical colourants and preservatives have been reported to contribute to learning difficulties and hyperactivity in children, and it is believed that sensitive dogs may suffer from a similar response, although evidence is largely anecdotal. Our entire range is free from artificial colourings and flavourings, and safe, natural, preservatives are used.
Keeping hunger at bay

A hungry dog may engage in ‘antisocial behaviours’ such as coprophagia (eating faeces), scavenging and competitive behaviour towards other animals if present at meal-times. Food guarding might be directed towards people or pets. The timing and frequency of feeding, and the effects of full and empty stomachs on mood and activity levels affect dogs, just as they do us. The following tips may help to keep your dog satisfied:

1. Invest in an anti-gulp bowl if he/she is a fast eater. There are lots of different designs available to suit every size and shape of dog.

2. Feed part of the allowance from feeding toys designed to slow down the rate of ingestion and prolong meal-times. Supervise your dog to ensure he is not becoming frustrated, and provide the necessary interaction.

3. Consider feeding a proportion of wet food which is lower calorie than dry due to its higher moisture content. This is a good way to increase the daily amount without exceeding your dog’s requirements. For puppies, reduce the dry food by about 20g for every ¼ can of Arden Grange Partners canned food. For adult dogs, reduce the dry by 30-40g for every ¼ can.

4. Soak dry food for about half an hour prior to serving. This will cause it to expand a little, and also makes it easier to adhere within feeding toys and not be too rapidly eaten.

5. Work around your dog’s appetite and perhaps, if you find he is generally hungriest in the evenings but not as hungry at breakfast, you could feed a larger meal in the evening, or even split his nightly allowance into a tea-time feed and a supper. Once you have established a pattern and implemented new times if needed, try to stick to the routine to help promote stable blood sugar and good serotonin levels. Be very careful not to exercise too near to a mealtime as this may increase the risk of bloat.

Sometimes medical problems can result in a very voracious appetite or an appetite for non-food items so do seek veterinary advice if your dog is insatiable.
Checklist

• Make sure you feed your dog the correct daily allowance; ensuring energy intake does not exceed that required.

• Make sure your dog’s diet is enjoyed and is satisfying.

• Feed a diet that is suitable for the age and activity level of your dog.

• Choose a diet that contains high quality ingredients that are easily digested and efficiently metabolised.

• Exclude the ingredients most commonly associated with adverse food reactions; wheat, soya, dairy products and beef.

• Avoid foods that contain artificial colourings, flavourings and preservatives.

• Avoid foods that contain added sugar.

• Ensure that treats meet the same high standards as the main diet, and avoid those which contain unspecified meat / cereal derivatives.

• Avoid foods containing largely indigestible proteins such as rawhide.

• Ensure that your dog leads an interesting, stimulating life to minimise behavioural problems associated with frustration. Dogs thrive well on human company, lots of interaction, and stimulation.

• Consult your veterinary surgeon to rule out any possible clinical cause for the problem. A qualified pet behaviourist will be able to give you constructive help in resolving any problems. Seeking professional assistance will also help to restore your confidence. Dogs respond well to confidence and assertiveness.

Arden Grange diets and their benefits

• Inclusion of krill in dry products. Krill is an excellent source of the omega-3 fatty acids DHA and EPA. DHA is a structural component of the brain, whilst EPA provides it with protection via its anti-inflammatory properties.

• Inclusion of MSM in the dry products which may benefit the stressed animal due to its antioxidant, anti-inflammatory and cell-rejuvenating properties [Faerber et al, 2004].

• Added vitamins including inositol (vitamin B8) which is a component of several nerve cell messengers.

• Inclusion of nucleotides which may increase the immune response to outside challenges from which stressed animals are more at risk [de Godoy et al, 2016].
Arden Grange Performance with fresh chicken & rice

This food is primarily designed to support the nutritional needs of the working or sporting dog, but the effects of psychological stress on the body are comparable in some ways to those caused by physical exertion. For this reason, the Arden Grange Performance with fresh chicken & rice may be a suitable option for some dogs with behavioural problems, particularly those who are anxious. The product contains extra antioxidants including green tea extract, which is a rich source of L-theanine – an amino acid that stimulates glutamate receptors in the brain [Pike et al, 2012]. Glutamate receptors play an important role in learning and memory.

Summary

Some owners notice changes in their dog’s behaviour when diet is changed for the better. People that eat poor diets are likely to be lethargic, and much the same can be applied to our pets. A dog previously fed a poor quality diet may become more energetic when a high quality pet food such as Arden Grange is consumed. Active dogs are far more likely to maintain a healthy weight, and natural vitality and exuberance should not be confused with hyperactivity.

As a responsible and ethical company, Arden Grange fully appreciates the caution that must be taken when discussing the potential benefits of nutritional supplements. It is against the law to make medical claims. Whilst these ingredients are safe and natural, and may be beneficial to some of the cats and dogs fed on Arden Grange, we must highlight that their inclusion is not a substitute for veterinary intervention in the case of a sick animal.

References

