

Let's Talk Greyhounds™

The Newsletter with News, Views and Practical Advice

Issue #10
Australia

From the Editor.....

The Easter carnival races are coming up in Sydney and it will be good to see which greyhound takes this year's honours.

Thanks to all of you who requested copies of our Feeding and Breeding booklets. A new booklet on training will be available shortly. If you would like to register your interest in obtaining a copy, please email Gary at newsletters@sprintergold.com and add your name to the email subscriber list for mailing out.

In this issue, we discuss the benefits of a balanced fatty acid intake on health and performance. Most trainers are aware from human advertising that Omega-3 fatty acids, which are provided in vegetable oils, are important for a range of metabolic and natural hormone control functions in the body. We also provide handy hints on maintaining the health of your greyhound.

Good Racing

Dr. John Kohuke BVSc RDA



Fats and Fatty Acids

Natural animal fats in meat and vegetable oils provide a valuable source of concentrated energy, fluid and the fat-soluble vitamins, Vitamins A, D and E to the diet. Stabilised polyunsaturated fats (PUFA's) also protect vital tissue and body membranes and are essential for optimum skin health and condition.

Over recent years, trainers and veterinarians have realised that an adequate level of fat in the diet is important for efficient digestion in a racing greyhound. Fat also has a very high calorific value, being two and a quarter (2¼) times higher in energy when metabolised, compared to carbohydrates or protein on a weight for weight basis.

Relatively small amounts of fat will boost the energy content of the ration dramatically, without significantly increasing the volume of food that the greyhound has to eat. An overall fat level of 12-15% is considered to be most suitable for racing greyhounds. Lean meats contain about 10-12% fat, and dry foods range from 3-30% fat. Therefore, when very lean meat is combined with a dry food containing 3-8% fat, it is essential to add extra fat to the diet to meet energy demand, particularly during hot weather.

Greyhounds in training and exercised daily can tolerate relatively high levels of fat without apparent ill effects in comparison with less active breeds of dog. However, to avoid digestive upsets, the fat level should be increased slowly in a step-wise manner over one or two weeks. The body weight should be monitored regularly every 5-7 days during this time to avoid a gain in condition. It is most important to provide extra Vitamin E when feeding diets boosted with fat and polyunsaturated vegetable oils in particular.

In This Issue:

📍 Fats & Fatty Acids – The Omega Fats

Plus Handy Hints and much more

Handy Hint #1: Keep the Teeth Clean

Regular dental hygiene in racing greyhounds is essential to help reduce the build-up of tartar and oral infections in the tooth-gum margins which harbour bacteria that can increase the risk of chronic tonsillitis, airway and even digestive problems. When a greyhound is galloping large volumes of air inhaled through the mouth can carry anaerobic bacteria in saliva from tartar on the teeth and throat in the airflow deep into the lungs. This can lead to lower airway disease and reduced oxygen uptake and ultimately performance. Lying the animal onto its side and swabbing the tooth-gum margins on the inside and outside once a week with a 50:50 hydrogen peroxide solution in water will help keep the teeth clean and result in less plaque or tartar build-up, which harbours infection and leads to 'bad breath'. Providing a beef brisket bone to chew once a week helps to physically remove tartar from the canine and cheek teeth as the teeth sink into the spongy bone structure. Some dry foods contain a chemical which reduces the adhesion of food particles and secretions to form tartar on the teeth. In retired greyhounds, tartar build-up can lead to dental decay and loss of cheek teeth at an

Omega Fatty Acid Ratios in Vegetable Oils

All vegetable oils and animal fats contain fatty acids which make up their distinctive structures, in much the same way that amino acids are the 'building blocks' of proteins. They are digested from the feed in the small intestine and incorporated into a wide variety of body metabolic and structural compounds. Fatty acids are the 'building blocks' of many tissues as lipid compounds, including natural anti-inflammatory compounds, hormones and a valuable source of energy. There are over 100 different fatty acids isolated from animals, plants and micro-organisms. For many years, animal and vegetable fats have been used as a source of energy as a low bulk energy boost for greyhounds, as fats contain over twice the amount of energy as compared with a similar weight of protein or carbohydrate. Fats also are widely used to help counteract dehydration as they provide 'metabolic water' when metabolised as energy in the body. Each 100g of fat, whether as vegetable oil or animal fat, provides 107g of water to the blood and tissues when oxidised as an energy source. Certain fatty acids, such as Omega-3, and particularly Omega-6 long chain fatty acids, are used to improve the texture of the skin, manage inflammatory skin diseases, assist the immune system and are essential for optimum brain function and normal growth and development.

Over the last decade, the role of Omega-3 (also known as n-3) and Omega-6 (also known as n-6) fatty acids has been

investigated in human and animal nutrition because of their distinctive actions and importance of having an optimum ratio between them as a dietary balance. Some of these fatty acids are termed 'essential', as they cannot be synthesised in the body and must be provided in the diet. They are referred to as essential fatty acids, or EFAs, for this reason.

Omega-3 Fatty Acids

Omega-3 fatty acids are involved in natural anti-inflammatory protective functions, hormone synthesis and the immune system. They cannot be synthesised in the body from fatty acid 'building blocks' and must be provided in the diet, otherwise a deficiency can develop which will affect vital body functions and metabolic activities required for normal health and athletic performance in a racing greyhound.

The n-3 fatty acids are based on the parent fatty acid of alpha-linolenic acid, which is converted metabolically to the other n-3 fatty acids. They contribute compounds classified as 'eicosanoids', which provide natural anti-inflammatory protection to the skin, joints, tendons and other connective tissues. The major sources of these 'essential' n-3 fatty acids are animal fats, which contain the converted n-3 fatty acids, with the highest concentrations being found in cold water fish oils, such as salmon oil. The vegetable sources only provide alpha-linolenic acid in the oil seeds of flax (linseed oil) and canola and soya bean, but once they are ingested and enter the metabolic system, they are converted to other n-3 EFAs.

*A blended fatty acid and energy supplement, such as **Sprinter GOLD™ Energy-E™**, contains Tasmanian Salmon oil, a pure cold-water fish oil, as a source of eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) in a balanced Omega-3 to Omega-6 ratio, which have roles as natural anti-inflammatory fatty acids, especially in muscles after strenuous exercise.*

Optimum Ratio of Omega-3 to Omega-6 Fatty Acids in the Diet

Ideally, the ratio of Omega-3 to Omega-6 fatty acids in the total diet should be 1 part Omega-3 to 5-10 parts Omega-6 for optimum natural anti-inflammatory activity. This is best achieved by feeding blended oil containing a ratio of 1.0 part Omega-3 to 3.5 Omega-6, such as contained in **Sprinter GOLD™ Energy E™**, which also contains natural source Vitamin E to help maintain antioxidant protection within the muscle cell walls.

However, whilst the Omega-3 fatty acids cannot be synthesised in the body, supplementing with excessive amounts of n-3 compounds, usually by feeding large amounts of cold-water fish or fish oils, such as cod liver oil, can be detrimental, as it can cause oxidative stress on the animal, possibly decreasing Vitamin E levels in the blood. In racing animals, such as greyhounds, excess dietary Omega-3 may increase the risk of blood vessel fatigue when subjected to high blood pressures when galloping and result in capillary rupture and bleeding in the lungs.

Omega-6 Fatty Acids

Omega-6 fatty acids are based on the parent fatty acid, referred to as linolenic acid, and this provides the base for other n-6 fatty acids in the body. The major sources of n-6 fatty acids are provided in beef and chicken fat, as well as evening primrose oil, safflower and sunflower oils. Although Omega-6 fatty acids also provide a source of eicosanoids, they can also contribute inflammatory mediators to stimulate tissue reaction. In a study in rats, it was observed that nervous function recovered more rapidly after supplementation with n-3 fatty acids as

contributors of anti-inflammatory EFAs, as compared with supplementation with n-6 fatty acids, which appeared to decrease this protective action in healing nerve tissue.

Protection against Oxidation

Vegetable oil sources of polyunsaturated fatty acids (PUFAs) are prone to oxidation during storage and particularly in high oxygen environments, such as in the rapidly contracting muscle cells of a racing greyhound, where oxygen passes through the muscle walls at around 100 mL per kilogram of body weight per minute at the gallop oxidising the structural lipids or PUFAs. Anti-oxidant protection of the cell wall structural fatty acids with Vitamin E and selenium is important. When oils or fats, particularly fish oils, are supplemented to boost energy or provide EFAs for metabolic function, then up to at least 10 IU of Vitamin E per gram of supplemented oil should be added as anti-oxidant protection. Vitamin E is added to **Sprinter GOLD™ Energy-E™** at 20 IU Vitamin E per gram of cold water fish oil to protect it against oxidation. The trace-mineral selenium is often low in greyhound diets, and because it acts along with Vitamin E, Vitamin C and Vitamin A to protect muscle cell membranes against oxidation during exercise to inflammatory superoxide compounds, it is important to supplement greyhound diets with selenium. Selenium is available in inorganic selenium selenite and selenate forms and 'organic' selenium-amino acid (proteinate) forms. Studies suggest that inorganic selenites or selenates have a pro-oxidant effect in the tissues and may increase the risk of muscle wall oxidation. Supplements containing 'organic' selenium are preferred for this reason. Natural source RRR Vitamin E and organic selenium are contained in both **Sprinter GOLD® Results Plus™** as a general supplement and **Sprinter GOLD® ACE™** formulated as a specific anti-oxidant supplement specifically for racing greyhounds.

More information on Fats and Fatty acids is provided in the booklet 'Feeding the Racing Greyhound'. Contact Cheryl on 1800 112 227 for a free copy of this informative 52 page booklet.

Handy Hint: For every tablespoonful (17g) of fat added to the diet, an additional 20IU of Vitamin E should be supplemented above the normal supplementary levels of 50IU of Vitamin E each day. Do not use cooking oil which has been used for frying food, or dripping from roasted meat, because burnt fat can contain harmful oxidised compounds that may accumulate in the liver of racing greyhounds.

PRODUCT OF THE ISSUE



Sprinter Gold® ACE™ is the most comprehensive antioxidant available and is the 'ace' many trainers are looking for to ensure their greyhounds run to maximum ability.

**Sprinter
GOLD™**

8 Speedwell Place, South Windsor NSW 2756

Tel: 1800 112 227

Website: www.sprinterGold.com

Email: info@sprinterGold.com

Dr John Kohnke accepts no responsibility or liability for unseen consequences resulting from the hints and advice given in this newsletter.