

## **Information Sheet: Vitamin D Supplementation**

South American Camelids are susceptible to Vitamin D deficiency. In growing animals, this manifests clinically as rickets: affected animals exhibit stunted growth, angular limb deformities and lameness. They may also be lethargic, have depressed appetites, and may walk with a hunched back due to pain and are typically smaller than age-matched herd mates.

Vitamin D is made in the skin by the action of UV light: it can also be consumed in the diet. During the winter time there is little possibility of vitamin D production in the skin since the amount of UV light is greatly reduced at locations away from the Equator and at low altitudes (eg Europe, North America, Australasia). This results in most animals becoming deficient in vitamin D and this has the most obvious effect on growing animals. Therefore supplementation during the winter months with Vitamin D is vital. Vitamin D is also involved in immunity as well as improving foetal growth and mammary development so adults can also benefit from Vitamin D supplementation.

### **Dosing Recommendations**

Alpacas and llamas can be supplemented with either injectable or oral forms of vitamin D. For prevention of rickets in growing alpacas and llamas, the following dosing programme is recommended:

#### ***Using Injectable Vitamin D Products (eg Duphafrol ADE)***

- Dose at 1000 IU of vitamin D per kg of bodyweight SQ.
- Injectable vitamin D lasts for 6-8 weeks at this dose, so repeat dosing every 2 months
- Start in October and continue until March/April (Northern Hemisphere)
- For Duphafrol ADE, this contains 50,000 IU /ml: so dose for 10kg is 10,000 IU or 0.2ml.

#### ***Using Oral Vitamin D Products***

- Dose at 1000 IU of vitamin D per kg BW, per os.
- Take care to calculate the dose accurately based on body weight and *not* per cria
- Comes in large tubes: commonly containing 100,000 IU of vitamin D per 10ml: owners will source this product themselves. Check the doses they are giving! At this concentration, 1ml doses 10kg (5ml is the dose for a 50kg animal).

#### ***For treatment of rickets or vitamin D deficiency:***

- Dose at 1000-2000 IU of vitamin D per kg of bodyweight using either oral or injectable products. This dose can be repeated one month later.

**NOTE: Dosing above these recommendations can induce vitamin D toxicity and is not advisable. Different products have different concentrations, so always check the product!**

### **Availability of Vitamin D Products in the UK**

Owners can source oral pastes containing Vitamin D from various places including camelid product retailers without a prescription.

The injectable products can only be bought through vets since they are not licensed in the UK (any other source is illegal) and you will need to apply for a free Special Import Certificate from the Veterinary Medicines Directorate (VMD)<sup>1</sup>. Injectable vitamin D products can then be bought from a veterinary wholesaler that stocks it, or from another EU member state. If doing the

latter, these orders are usually subject to a minimum quantity requirement (eg 10 bottles). In either case, you still need to apply for the SIC. Duphaftral ADE is the recommended product and this is available from the following suppliers (February 2012):

- Within the UK, Centaur Services ([www.centaurweb.co.uk](http://www.centaurweb.co.uk): 01963 350005) and possibly other veterinary wholesalers – check with your regular supplier.
- From Ireland:
  - C&M Vetlink, based in Limerick
  - Contact: Jim Spratt, +353 (0) 86 259 4137

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<sup>i</sup> <http://www.vmd.defra.gov.uk/sis/default.aspx>