



# Tysul Vets

## Farm Newsletter

### November 2015

#### Trace Element Deficiencies in Sheep

by Elizabeth Harries BVSc, MRCVS

Clinical signs associated with trace element deficiencies in sheep are often slow in progression and tend to present as lambs which are poorly growing during the late summer and early autumn. There is a strong link between parasitic gastroenteritis (PGE) and trace element deficiency status and it is important to consider both when suspicious of a problem.

The trace element deficiencies usually involve one or more of the following:

- Cobalt
- Copper
- Vitamin E
- Selenium

#### Cobalt deficiency (Pine)

Cobalt has an important role as a constituent of vitamin B12 which is made by microbes in the rumen. Pine occurs when there are low soil cobalt concentrations and these are often further complicated by PGE which causes diarrhoea and may further reduce the absorption of vitamin B12.

Clinical signs are most often seen in lambs weaned at pasture in the late summer. Signs include reduced food intakes, small size, poor wool quality and poor body condition. Sheep may fail to respond to vaccinations and are more susceptible to clostridial diseases and pasteurellosis.

In severe cases of cobalt deficiency lambs present with nervous signs including head pressing and aimless wondering.



The deficiency is much less common in adult sheep but is reported to play a role in reduced fertility.

Diagnosis of cobalt deficiency is by specific testing. Low blood levels of B12 or low levels found in liver biopsies at post mortem alongside clinical signs are usually diagnostic.

The most effective treatment in ailing lambs is a combination of intramuscular injections of vitamin B12 alongside drenching with cobalt sulphate. Drenches often need repeating monthly for the remainder of the

season. Concurrent anthelmintic treatments is important too.

Oral cobalt supplementation is very cheap. Some anthelmintic drenches contain sufficient levels and where appropriate this can be used as a preventative measure. In flocks with a problem, monthly dosing lambs with cobalt drenches from about 3 months old is usually sufficient. Soluble boluses containing a combination of trace elements are more expensive but are advisable in situations where there are multiple deficiencies and will last all through the risk period, eliminating the need for multiple doses.

#### Copper deficiency (Swayback)

Copper deficiency is common when sheep graze pastures low in copper or more commonly high in iron, molybdenum and sulphur. These elements act



together to bind out copper from the diet.

In the UK copper deficiency of the ewes during mid pregnancy may lead to swayback in lambs. In growing lambs, fleeces do not have their natural crimp and deficiency is associated with increased susceptibility to infections and anaemia. This presentation is more common in Australia than in the UK.

Provisional diagnosis is usually made by clinical examination and is confirmed by histology of the brain at post mortem. Blood samples can also be useful in its diagnosis.

Prevention of deficiency is important, as many of the changes that occur with a deficiency are irreversible and even after treatment measures, full compensatory growth may not occur. As well as this, treatment of swayback is generally without success.

In an outbreak of deficiency the most effective correction method is injection with copper heptonate. Appropriate supplementation of ewes during pregnancy will help prevent the development of swayback in newborn lambs. However, extreme care must be taken to prevent overdose with copper products and is one of the main reasons why sheep must NOT be fed cattle concentrates.

### **Selenium and vitamin E deficiency (White muscle disease)**

Risk factors in the UK for this disease are feeding home grown cereals, root crops and poorly balanced rations; however the prevalence is generally low. Selenium deficiency in soil tends to be found in certain geographic areas whereas Vitamin E deficiency is often seen when green crops are grown in drought conditions.

Generally, this disease most commonly affects rapidly growing lambs between 2 and 6 weeks old, most commonly in ram lambs of lowland breeds. A selenium deficiency can also manifest as early embryonic loss after mating so should be considered in a flock if barren rates are higher than usual.



Diagnosis is usually based on clinical signs but blood samples to analyse muscle enzyme levels can also be taken.

Treatment is best with intramuscular or subcutaneous injection. Prevention is best by oral drenches, and many anthelmintic treatments have selenium in them. Boluses are the best option in cases where multiple deficiencies are present.

*(Images courtesy of NADIS)*

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### **Events**

#### **Youngstock Conference 2015**

Feed company, **ForFarmers**, is hosting a conference on **Tuesday 10th November 2015 - 11.00am - 2.00pm** at Gwesty Nant-Y-Ffin Hotel, Llandissilio, SA66 7SU.

Speakers will share latest research and techniques aimed at achieving healthy and profitable youngstock.

The conferences are **FREE**, but please register your attendance with Lizzie Jackson by phone, text or email on 07973 955905 or [elizabeth.jackson@forfarmers.eu](mailto:elizabeth.jackson@forfarmers.eu) Lunch and refreshments will be provided throughout the conference.

#### **Roundworm & Liver Fluke Control - FREE evening meeting in Brecon**

**Wednesday 11 November 7.30-9.30pm** at Bishops Meadow Restaurant, Brecon, Powys LD3 9SW.

( Moredun Research Institute)

At this meeting Moredun's Philip Skuce and Dave Bartley will give an update on fluke and roundworm research whilst, for a local context, you can also hear about Hybu Cig Cymru's project that looked at levels of anthelmintic resistance on welsh sheep farms and the strategies that the project farmers have adopted to control parasites on their farms. Admission is FREE and open to all.

#### **(AHDB - DairyCO) 26th November - Aberaeron**

A talk by Neil Howie on the financial costs of Heifer replacements. Venue to be confirmed.

From January 2016, to save on paper and consumables and to be a bit 'greener' our newsletters will be available only from the website or from the surgery.

All our newsletters are available to download from our website - if you have missed a copy, look back at previous issues to find some useful topics.

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