

# Farm Edition - June 2014 Solve The state of the state

# Dear Farmer,

With the summer months here our vets are beginning to see a lull in large animal emergencies for now. We have had a busy spring with a wide variety of work load. Our vets have carried out an abundance of lambings and calvings. Mr Arnold has spent what equates to a just over a week castrating Dartmoor Hill Ponies in order to preserve a breed that is an essential part of the ecology of Dartmoor.

We would also like to congratulate our Animal Nursing Assistant Debbie Seward and her new husband Peter. Debbie and Peter married on Saturday 24<sup>th</sup> May at Diptford parish church and celebrated with family and friends at Debbie's home farm.



Do you have farm cats? You may be interested to know that the Teignbridge and Totnes Cats Protection branch are offering free neutering between May and July. To take advantage of this campaign please contact Marion on 08453 712728 for a log number to pass on to us when you book your cat in for neutering. Please consider a £10 donation to Cats Protection Teignbridge and Totnes to help them continue rehoming cats in our area. For cats neutered through this campaign we are offering microchipping for the reduced price of £10 (normally £12.50).

For those who are online our new website is now live. In the news section of the website you will find our farm animal newsletter archive. www.moorgatevets.co.uk

# TUBERCULIN TESTING

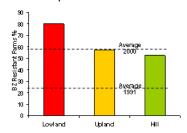
We are now entering our quieter time of year for tuberculin testing and have a few spaces available for June and July. Please be aware that after August and as we go into the autumn months we book up very quickly. Remember routine annual herd testing happens at the same time every year, providing your TB status hasn't changed, so book in advance to avoid disappointment. Please call Debbie on 01647 440441 to book your TB tests.

Please remember on the day of your TB test cattle should be in and ready for the vets arrival with the correct ear tags!

# SUSTAINABLE WORM CONTROL IN SHEEP

Over the last 30 years we have become increasingly reliant on wormers to control parasites whilst being able to intensify sheep keeping practices, and due to this resistance has developed to these wormers. As the understanding of how resistance develops has improved it has become apparent that some worming practices previously recommended actually increased the rate at which problems develop.

White drench resistance has become especially prevalent, the following graph shows the percentage of farms in different parts of the UK which have worms resistant to white drenches:



# What is Anthelmintic Resistance, and how does it develop?

Defined as "...the heritable ability of the parasite to tolerate a normally effective dose of the anthelmintic" Anthelmintic resistant worms are those which can survive treatment and then pass this ability on to their offspring.

Resistance is measured by fecal egg count reduction tests, where the change in egg count before and after drenching is measured – in the normal, non-resistant, situation egg counts should reduce by over 95% after treatment with wormers.

The development of resistance is based on a few simple principles:

- •Genes for resistance are present in all worm populations at very low levels
- •When wormers are used worms with these genes survive to breed
- •Resistance genes are passed onto new generation
- •Less susceptible worms in next generation
- •As the number of resistance genes in population increases, rate of development of resistance increases

Unfortunately once resistance develops on a farm, the situation cannot be reversed by stopping the use of that wormer, as resistant worms will continue to breed and multiply, maintaining the population.

Several factors affect the rate at which resistance develops, and an understanding of these can help in devising a worm control plan which will reduce the development of resistance:

# 1. The relative size of the in-refugia population.

Refugia means the worm population not exposed to the effect of any drenches – that is worms on pasture and untreated sheep. The greater the proportion of the total worm population exposed to wormer, the faster resistance will develop i.e. the greater the population in refugia the slower resistance will develop. Moving treated sheep immediately to clean pasture reduces the in refugia population and increases the rate of development of resistance.

#### 2. Frequency of treatment

Treatment gives resistant worms a reproductive advantage over susceptible worms, and more frequent treatment means resistance can develop faster, especially if treatment interval approaches the pre-patent period of 3 weeks.

#### 3. Rate of re-infection after dosing

After dosing, resistant parasites have a period of reproductive advantage and this period is shorter if the sheep become quickly re-infected. If re-infection is delayed, resistant survivors have this advantage for longer. Re-infection is influenced by:

- Infectivity of pasture
- Susceptibility of the host (Lambs >>> Ewes)

Worming of immune ewes is a significant factor in the development of resistance, worming ewes at tupping is a good way of increasing the levels of resistant worms on your farm!

#### 4. Dose rates

Underdosing allows partially resistant worms to survive, and increases the number of resistant genes being passed on and also increases speed at which resistance develops.

So how can we manage the development of resistance on farms to ensure long term viability of the sheep farming enterprise?

#### 5. Proper use of wormers

Dose for heaviest in group, and always check dose rates as formulations do sometimes change. Check the calibration of dosing equipment as drench guns can be inaccurate. Remember the correct use of different classes: holding off pasture before and after using white drenches. Rotation of wormers delays development to specific class, but overall you will eventually end up in the same situation! So it may be better to rotate within a season

# 6. Avoid 'Buying-in' resistance

Not everyone looks for resistance, so it is possible that sheep for sale are carrying resistant worms inside like a "Trojan horse"!

Proper quarantine procedures:

- Treat worms to try to remove all resistant worms
- Use multiple classes, with least resistance
- Post treatment hold off pasture for 48hrs to 'empty out' worm eggs
- Then put on 'dirty' pasture
- Now recommend Monepantel (Zolvix) and Moxidectin (Cydectin) used sequentially
- Moxidectin also treats for scab

# 7. Using different classes in same season

Mid season lambs have highest worm burden and will have highest number of resistant worms. Treatment with Monepantel (Zolvix) at this point will remove maximum number of resistant worms. Then return to normal class to reduce chances of developing Monepantel resistance!

Other useful strategies include leaving a proportion of any group untreated, e.g. the best 10% who will have less to gain from worming. Using monitoring to aid decision making and avoid pointless use of wormers and avoiding 'off target' use for example using combination worm / fluke treatment.

If you would like to discuss developing a worm control program for your flock, or to investigate possible resistance in your flock then please contact the surgery.

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