NEWSLETTER

Volume 1Number4 August 2007

IN THIS ISSUE

Australian equine industry hit by influenza (see editorial)

PRACTICAL TIP

What Dilution rate do I use?

Last month we discussed application rates of disinfectants and detergent/sanitisers. Now we should look at how to determine the optimum dilution rate for a particular situation.

Dilution rates are either expressed as a proportion e.g. 1:100 or a percentage e.g. 1%.

With our products we recommend a *standard* dilution rate for any particular product e.g. 1:200 (0.5%) for Farm-Gard for example. If you elect to use Farm-Gard at the standard dilution rate 200 Litres of diluted disinfectant should contain 1 Litre of concentrate Farm-Gard. For a powder product e.g. Viru-Gard, to achieve a 1:200 dilution dissolve 1 kg of the powder in 200L water.

When there is a specific or suspected challenge the recommended dilution rate for that problem should be ascertained. If it is a higher concentration than the standard, use that higher rate.

COMPANY NEWS

During this month there have been a some important developments. In view of our constantly developing association with Biolink Ltd we are amalgamating our head office facilities. The new head office contact details, applicable from 1st September are at the foot of page 4 of this newsletter and will be on our website from this date.

Last month we announced that we would be launching three new products in the third and fourth quarters of this year and in the first quarter of 2008. This month we are launching Cyst-Gard, a convenient product primarily for the control of coccidia. Details of this product can be found on page three.

All of the company's current range of 11 products are now available from stock.

EDITORIAL

For FarmCare GB's Fourth monthly news letter we are focusing on the launch of our new product, Cyst-Gard (Page 3) which is now available in 4 x 5L bottles or 20L drums.

In coming issues we will focus on one FarmCare GB product, either existing or new and also one specific disease condition and its control.

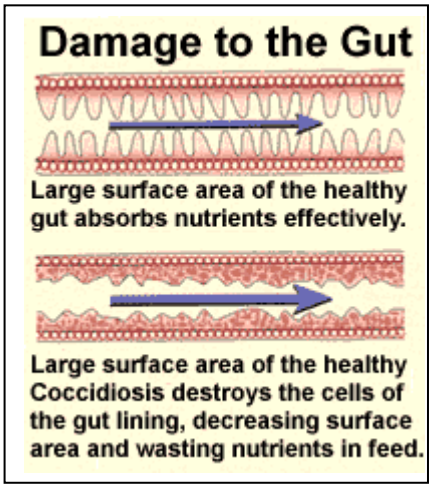
The continuing occurrence of H5N1 Avian Influenza in many regions and other recent virus outbreaks such as Foot and Mouth Disease in UK and Equine Influenza in Australia highlights the need for constant supervision and the application of strict biosecurity programs.

We are always available to answer customer's questions on these or any other topic.

COCCIDIOSISS

Introduction

Coccidiosis is a highly important disease in poultry, particularly chickens. However, it is often overlooked that coccidiosis can effect most of our domestic species either clinically or sub-clinically. The potential loss of production due to subclinical infection, particularly in poultry must not be overlooked.



Poultry can be infected by a number of species of coccidia affecting different parts of the intestine and even in the case of *Eimeria truncate* in geese, the Kidneys.

As an example here we will review caecal coccidiosis of chickens.

Caecal Coccidiosis

This was at one time the commonest type of coccidiosis and is certainly the most easily diagnosed. It is caused by *Eimeria tenella* and results in lesions in the caecum of chickens worldwide. Morbidity is 10-40% and mortality up to 50%. The infective agent is found in litter, faeces and on fomites and birds are infected by the oral route with an incubation period of 2-5 days. The disease occurring is proportional to the amount of infective agent ingested.

Caecal Lesions

Signs

- Depression.
- Ruffled feathers.
- Closed eyes.
- Inappetance.
- Diarrhoea, blood in faeces.
- Production less affected than in some of the other forms of coccidiosis.

Post-mortem lesions

- Petechiae.
- Thickening, ecchymoses, of caecal mucosa.
- Accumulation of varying quantities of blood and caseous necrotic material in the caecum.

Diagnosis

Is by the signs, lesions, microscopic examination of scrapings and by differentiation from ulcerative enteritis and histomonosis.

Treatment

Can be with Toltrazuril, Sulphonamides, Amprolium and Vitamins A and K in feed or water.

Prevention

By the use of coccidiostats in feed, but this is being restricted in more and more countries and vaccination by controlled exposure. With the general reduction in the use of coccidiostats, hygiene becomes increasingly important in the control of coccidia infections.

PRODUCT PROFILE –

Cyst-Gard

General properties

Cyst-gard is one the most versatile disinfectants available today and has been specifically designed to meet the exacting demands of the modern livestock industry.

Its broad spectrum of activity is effective against endoparasites (OOcysts) viruses, bacteria, moulds and yeasts.

Its versatility offers farmers a product which will disinfect and control coccidiosis in one simple operation.

Instructions for use

Cyst-Gard is a foaming product which is easy to monitor during application. Convenient and economical, it removes the need to use two separate products to disinfect and control coccidiosis.

After washing and cleaning the premises, thoroughly apply Cyst-Gard at the required dilution rate via a power washer set on High pressure (3000 psi) through a foaming lance.

Thoroughly cover all floors, dwarf walls and posts up to a maximum of one metre. Avoid excess application on walls and posts as this will result in premature movement and downward drift reducing contact time.

Cyst-Gard a disinfectant that is a powerful virucide as well as being effective against endoparasites, especially OOcysts.

Dilution rates

General Purpose	**1:100**
Foot & Mouth Disease	**1:300**
Swine Vesicular Disease	**1:125**
Disease of Poultry Orders (DEFRA approved)	**1:125**
Coccidiosis control	**1:30**

In the fight against coccidiosis, livestock managers need a product which will reduce and maintain a low-level coccidiosis burden. In addition to the control of endoparasites, the control of other pathogens such as bacteria, fungi and viruses, as well as insects, is also important.

Cyst-Gard is formulated to meet all these demands and should be used as part of a complete disinfection programme.

Use Bi-OO-Cyst at 1:100 as a routine end-of-crop disinfectant.

1. Remove equipment and litter
2. Clean down with Quat-Gard at 1:1000
3. Spray walls and roof space with Farm-Gard, Ultra-Gard or Viru-Gard at 1:200
4. Allow to dry
5. Foam floors, dwarf walls and posts with Cyst-Gard at 1:100. If a coccidiosis outbreak has occurred, use Bi-OO-Cyst at 1:30 to remove the pathogenic burden.
6. Shut doors and leave overnight.

Summary

Cyst-Gard is DEFRA approved as a virucidal disinfectant

Cyst-Gard is independently proven (by the IAH) to interfere with the sporulation of OOCysts

Cyst-Gard is 96% effective against OOcysts at 1:30 after two hours, easily controlling a regular coccidiosis burden

Cyst-Gard is completely effective against OOcysts at 1:30 overnight, allowing a coccidiosis outbreak to be effectively combated

Cyst-Gard is highly effective against unsporulated OOcysts in *In vivo* trials.

Cyst-Gard foams allowing application to be easily monitored and to visibly ensure no area is missed also allowing increased contact time for a more effective application.

Trials

The following trials were independently undertaken by the Institute for Animal Health. An *in vitro* study was carried out to determine the optimum concentration of the formulation of Cyst-Gard and the most effective exposure time to prevent sporulation of *Eimeria tenella* OOcysts.

The effectiveness of killing Eimeria spp. by a disinfectant can be determined by its ability to interfere with the process of OOcyst sporulation.

The study was conducted in two stages. During Stage 1, a range of disinfectant concentrations and exposure times were investigated. Concentrations and exposures which were most effective were then investigated further in Stage 2.

Stage 1 utilised a factorial design, with no replication, to investigate a range of exposure times and dilutions.

In **Stage 2**, exposure of OOcysts to Cyst-Gard for 120 minutes at 1/30 and 1/50 dilutions was investigated further, this time with replicated samples.

The effectiveness of a 1/125 dilution following exposure for 120, 180 and 240 minutes was also investigated, together with overnight exposure to a 1/30 dilution.

Stage 1 Results

Exposure of unsporulated OOcysts to 1/30 or 1/50 dilutions of the Bi-OO-cyst for 90 or 120 minutes resulted in abnormal morphological changes in some of the OOcysts following sporulation, suggesting that they were no longer viable. This effect was most pronounced following 120 minutes exposure to a 1/30 dilution of the product where over 96% of the OOcysts were deemed "irregular".

Exposure of unsporulated OOcysts to 1/30 or 1/50 dilutions of the Cyst-Gard for 90 minutes resulted in abnormal morphological changes in some of the OOcysts following sporulation, suggesting that they were no longer viable.

In vivo Trials

There were two groups of birds, each of six animals. One group was infected with OOcysts that had been exposed to disinfectant prior to sporulation and a control group was infected with OOcysts which were simply exposed to water.

Faeces were collected from the birds on the fifth to eighth day following infection, which is when we expected the OOcyst counts to peak. The total number of OOcysts in these bulked samples was then calculated. Hence we obtained two counts for each bird.

***In vivo* Trial Results**

The two groups of birds demonstrated the power of the Cyst-Gard formulation to combat the pathogen burden considerably reduced the OOCyst challenge.

***In vivo* trial result**

The number of viable OOcysts counted is considerably reduced in the group where there was pre-sporulation exposure to Cyst-Gard

Summary from the Institute for Animal Health Study:

"The formulation of Cyst-Gard was highly effective at interfering with the sporulation process of Eimeria tenella."

Available Packs

Cyst-Gard is available in 4 x 5L bottles or 20l drums.

FORTHCOMING EVENTS

In Association with **Dairy Focus Asia 2008**

FarmCare GB is proud to be associated with the above events and we are providing a speaker (Dr John Woodger) for both the Poultry and Dairy events. John will be presenting a paper entitled "Effective breeder/hatchery biosecurity" on day three of the Poultry conference and one entitled "Dairy Farm Biosecurity" to Dairy Conference.

We hope that as many of our distributors and key customers as possible will make plans to attend one or more of these events. March 2008 may seem a long time off, but I think we all know how time flies. Of additional interest to some will be the fact that these conferences precede the Victam Asia Exhibition at a convenient location close to the conference centre.

We hope to be able to arrange a dinner on the evening of Wednesday 5th March 2008 for all distributors and their Key customers attending the event.

Programs for Poultry Focus Asia 2008 and Pig Focus Asia 2008 are available. Anyone who would like a copy, please contact john@farmcaregb.com.

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DEFRA APPROVALS

We frequently asked to explain what DEFRA approvals mean. DEFRA stands for the UK Governments Department for the Environment, Food and Rural Affairs, formally known as Ministry of Agriculture, Fisheries and Food (MAFF). Full information on DEFRA can be found on their website at www.defra.gov.uk.

The department includes the UK government's veterinary department which deals with all maters relating to notifiable infectious diseases and animal welfare.

The UK has never had a registration system for agricultural disinfectants as there is in many other countries. However, for many years, initially under MAFF and now under DEFRA, there has been a disinfectant approval scheme.

Under this scheme, disinfectant manufacturing companies may submit their products for activity testing by the department in one or more of a number of categories. These include Foot and Mouth Disease (FMD), Swine Vesicular Disease (SVD), Diseases of Poultry, Tuberculosis and General Orders (covering bacterial diseases such as salmonella)

Once a product has been tested, it becomes a DEFRA approved disinfectant in respect of the category or categories under which it has been tested. In the case of an outbreak of a notifiable disease (e.g. FMD, SVD etc.) the government require that only a disinfectant approved in the relevant category be used.

In the past, once a product was approved, the department used to issue a certificate (DEFRA approval certificate) stating the approved dilution rates in the appropriate categories. The product was then added to the list of approved products published from time to time as an amendment to The Diseases of Animals (Approved Disinfectants) Order. The disadvantage of this system was that the product concerned was not deemed approved under the Order until a new list was published, which was only once or at the most twice a year.

Under a revised scheme the Department no longer issues Approval certificates. Once a product is approved, it is now added immediately to the officially approved products list available on the DEFRA website (direct link shown below)

This means that now, as soon as a product is passed for approval and added to the list, it becomes fully approved for use.

The official list of DEFRA approved products can be found at: -

http://disinfectants.defra.gov.uk/Default.aspx?Location=None&module=ApprovalsList_SI