

Earn money by battling subclinical coccidiosis

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In today's modern poultry farming coccidiosis is one of the most common parasitic diseases. Because most broiler feeds contain anticoccidial drugs, cases of clinical coccidiosis are rare. However, subclinical coccidiosis is the most frequently diagnosed disease in broiler chickens.

It is difficult to diagnose and treat subclinical coccidiosis because the birds appear normal although their performance (feed conversion rate and body weight gain) is lower.

Prevention through hygiene and control methods via medication must be used to minimise the negative economic impact of subclinical coccidiosis on broiler flock performance.

Major parameters for loss

The clinical form of coccidiosis manifests through prominent signs of mortality, weight loss, depressed animals, diarrhoea or bloody faeces. In this case it is very obvious that these losses lead to direct costs.

However, due to the professional approach from farmers, veterinarians and feed companies to try to control or minimise prevalence of coccidiosis through vaccines or coccidiostats will give rise to the highest proportion of the total economic losses.

The subclinical coccidiosis manifests mainly by poor weight gain and reduced efficiency of feed conversion rate (FCR).

The FCR is one of the major economic parameters used worldwide to estimate profit/loss in the broiler industry.

Several other bacterial and viral diseases



The problem can hide in a small corner like cracks in the floors, drinking water cups, or feeders.

sometimes get more 'time in the spotlight' because of sudden attack and high mortality.

However, coccidiosis is a type of protozoal disease that causes maximum economic loss and has remained unattended, may be due to the subclinical form of the disease.

The overall comparison of economic traits for all types of poultry has revealed that loss is mostly due to reduced body weight gain, followed by increased feed conversion ratio in the total loss due to subclinical coccidiosis. So, needless to say, subclinical coccidiosis in a poultry flock has a negative economical impact for the poultry producer.

Another predisposing factor is the confined host rearing conditions, which lead to an increase in the numbers of oocysts, which are ingested by poultry via the litter. When there is an outbreak, there is an immediate and considerable drop in production figures and the recovery and reestab-

lishment period after treatment is slow. Some flocks never fully recover or regain their full production potential.

Economic impact

The models developed by Williams (1999) to estimate losses due to poultry subclinical coccidiosis can be a good guideline.

1A: Total loss due to reduced body weight gain (TLRBG). If considered that 80% of the broilers are suffering from subclinical coccidiosis (RI = rate of incidence) and each bird leads to a reduction of 0.1 kg from the final live weight (RBW = Reduced Body Weight gain), the model to use is A.

1B: Total loss due to increased feed conversion (TLIFCR). If considered that 80% of the broilers are suffering from subclinical coccidiosis (RI = rate of incidence) and each bird leads to an increased FCR of 0.1 (=DiffFCR), the model to use is B.

So in this example the farmer's loss for one round is presented from two different

Continued on page 16

A

$$[(\text{No. of birds} \times \text{RI}) - \text{mortality, No. of birds}] \times (\text{RBW, kg}) \times (\text{rate of poultry meat, €/kg})$$

Example: $\{(20,000 \times 80\%) - 500\} \times 0.1 \times 0.80 = \text{€}1240$

B

$$[(\text{No. of birds} \times \text{RI}) - \text{mortality, No. of birds}] \times (\text{LW, live weight per bird}) \times (\text{DiffFCR}) \times (\text{CF, cost of broiler feed, €/kg})$$

Example: $\{(20,000 \times 80\%) - 500\} \times 2.2\text{kg} \times 0.1 \times 0.35\text{€/kg} = \text{€}1193.5$

Continued from page 15

points of view: lower income (meat price vs. a reduced body weight gain) and higher cost (feed price vs. increased feed conversion).

Based on the models of Williams (1999) it can be concluded that, with the given feed price and meat price in the example, the loss due to coccidiosis for parameter B (total loss due to increased feed conversion) is €0.06 per bird or could yearly add up to €8354.5.

Hence, it is a recognised fact that treatment alone cannot prevent the economical losses. It is well established within the poultry sector that the only choice is therefore prevention of the disease through a well considered hygiene program that should be



Disinfect removable equipment.

a symbiosis between veterinary support, feed additives and a strict protocol for cleaning and disinfecting.

CID LINES tackles the problem of coccidiosis with KC5000 or Kenocox (both products with proven efficacy according to DVG guidelines, Germany). KC5000 is a phenolic based disinfectant, while Kenocox is non-phenolic and consists of triamines.

Although Kenocox or KC5000 have a high and proven killing rate against the oocysts and sporulated oocysts from *Eimerias*, on farm level these products should be implemented as part of a Total Bioprotection Program.

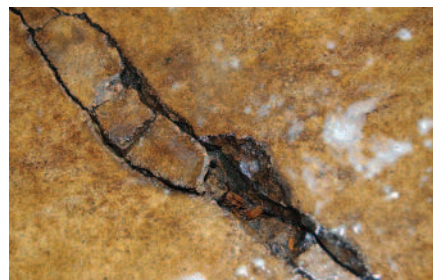
These programs written by CID LINES' hygiene specialist are a well balanced symbiosis between product efficacy (laboratory) and extended field experiences (field trials) with proven results.

A Total Bioprotection Program allows a correct application of the products, at the right time and place, which therefore ensures a high and faster success rate. Next to maximising the product efficacy, following the protocol of a Total Bioprotection Program also means that the method of working is standardised and no steps can be overlooked or forgotten.

A strict protocol and the repetition will create a strong guideline for all farm workers and will leave little or no room for possible mistakes.

The base for coccidiosis control in terms of hygiene through cleaning and disinfection is CID LINES' Total Bioprotection Program for poultry house cleaning.

Critical control point: cracks (floor). Fill up cracks with an anti-coccidiosis disinfectant.





Moist dirt in undismantled drinking cup.

In this protocol it is crucial that the procedure is executed correctly and in the right order. The basic steps are as follows:

- 1 Dry cleaning. Removal of litter, feed residues and manure.
- 1 Clean drinking lines. Fill the lines during 2-4 hours with a 2-4% solution of CID2000 or CID Clean, flush with water afterwards.
- 1 Apply detergent. Foam 1-3% Biogel or Biorex, 0.3L solution/m² (saves time and increases efficacy of main cleaning).
- 1 Main cleaning. High pressure, 12-30L/min. All surfaces. High pressure and hot water saves time and money.
- 1 Let dry. When dry, there is no further dilution possible of the disinfectant.
- 1 Visual control. Dirt cannot be disinfected.
- 1 General disinfection. Spray or foam 0.5% Virocid, 0.3L solution/m².

In the standard cleaning protocol it is important to respect the order of the different steps so the chance of recontamination between the steps due to splashing of dirt for example is minimised.

That is why one must always start with foaming and rinsing out the ventilation shafts first, proceed with the ceiling, then foam and rinse the drinking and feeding lines and conclude with the same procedure for the walls and floor.

Further in this poultry house cleaning protocol, the visual control after each foaming-rinsing step is crucial. All visual organic material must be gone before the disinfection phase is started. Dirt cannot be disinfected. When the last step (Virocid disinfection) is done and the floor is dry we can finally focus on the last step:

- 1 Anti-coccidial disinfection. Spray or foam 4% Kenocox or KC5000, 0.4L solution/m² for a minimum of two hours contact time.

Prevention of oocysts

Oocysts will survive in wet and warmer conditions. They will take shelter in cracks in the floor and/or walls where litter and manure can build up. These cracks should be rinsed out and filled up with Kenocox or KC5000.

Also, when feeding pans and drinkers are not dismantled, moist litter, manure or feed rests can build up in them and be a reservoir for remaining oocysts. Undismantled feeders cannot be properly cleaned or disinfected.

Together with floor and wall cracks they are the most important CCPs (critical control points).

In order to control and drastically minimise coccidiosis in the broiler flock it is of vital importance that one pays attention to these details (CCPs) and always implements an anti-coccidial disinfectant as part of a Total Bioprotection Program. ■

*References are available
from the author on request*