Coccidiosis control — where next?

Coccidiosis in poultry is an enteric disease caused by the coccidial parasite. It is a disease of the digestive tract which, in most cases, means the intestines (the exception being caecal coccidiosis which is caused by Eimeria tenella) and the clinical signs reflect this.

In intestinal coccidiosis the efficiency of the intestines at absorbing food is impaired resulting in growth depression which, in the severest cases, means runts.

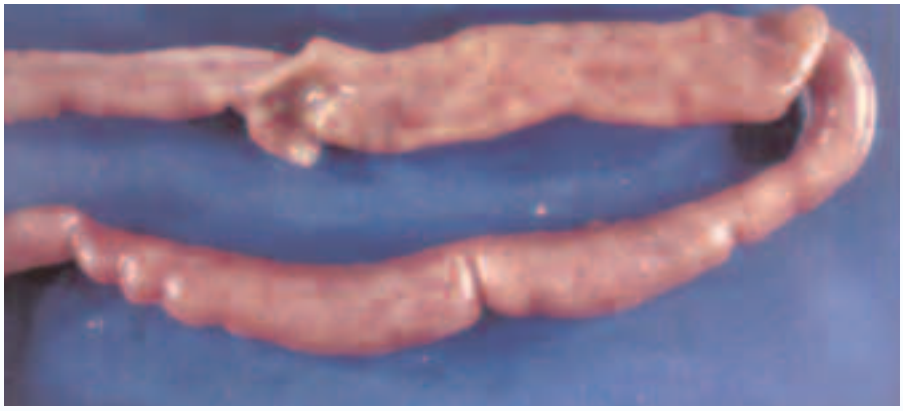
Different birds in a flock can be affected to differing degrees and so this is often referred to as a 'loss of uniformity'. Very occasionally in intestinal coccidiosis the intestinal damage can be so severe that death results.

In caecal coccidiosis damage to blood vessels in the caecal wall causes a severe diagnostic haemorrhage. In caecal coccidiosis we tend to see an all or nothing effect – that is death or nothing. The caeca are not involved in nutrient absorption into the body and so an adverse effect on performance is not seen.

In essence, in caecal coccidiosis a few birds may die but in intestinal coccidiosis virtually all the birds in the flock can have their performance adversely impaired. If you are brave enough you will not treat for caecal coccidiosis because those that are affected are unfortunately often past the point where treatment will do much good.

However, in intestinal coccidiosis the investment in treatment is repaid many times over in the impact of the treatment on bird performance.

Coccidiosis is a 'performance robber' and as the parasite is virtually ubiquitous prevention or prophylaxis has been used for many years. This has done a great service to the poultry world and is one of the reasons why the intensification of poultry occurred. However, it has some limitations and these are worth considering.



Intestinal coccidiosis is caused by E. necatrix.

Discrete lesions caused by Eimeria acervulina.

Firstly, some of the modern anticoccidials are so effective they do not leave any parasites in the bird to stimulate its immunity. This can be very important in birds with a long life, such as table egg birds or breeders, because as the anticoccidial is only given pre point of lay, if no coccidia survive the treatment then there are none to stimulate the bird's immune system to give it protection later in life.

This is why for breeders and table egg birds if an anticoccidial is to be given one of the older less efficient ones is often preferred. Conversely, some farmers used to not give anticoccidials and waited for the first signs of coccidiosis and then treated it therapeutically.

Such flocks tended to develop a good immunity throughout their lives and as long as the coccidiosis was caught early the small losses associated with it were regarded as a 'price well worth paying'.

This scenario has tended to become a part of history because in flocks that are going to live a long time the use of coc-

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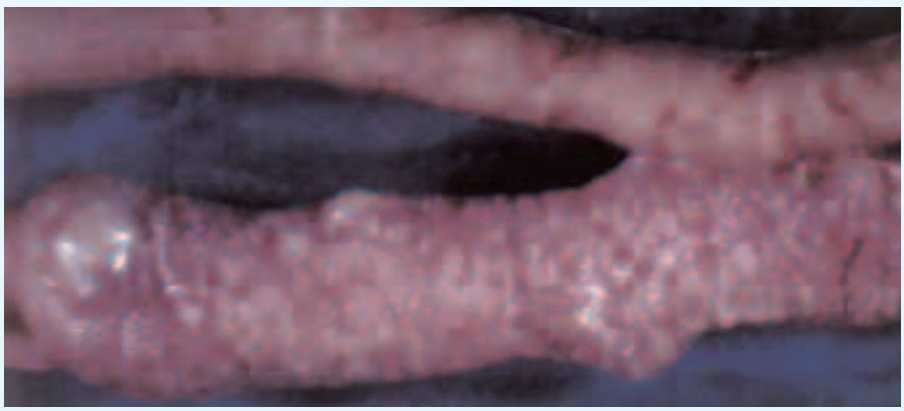
Severe intestinal lesions caused by E. acervulina.



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cidiosis vaccines has become a popular coccidiosis control strategy.

However, coccidiosis vaccines have their limitations and one of these is the accidental administration of an anticoccidial in the feed concurrently with the vaccine. This causes problems because the current coccidiosis vaccines are live vaccines containing the parasite and the anticoccidial will be effective against them. Thus, it is very important when administering a coccidiosis vaccine to your flock to be sure that no anticoccidials are in the feed, be they there intentionally or accidentally.

Coccidiosis vaccines are currently most popular in birds with a long life span such as table egg or breeder flocks. In broilers with a shorter life span the number of days of protection once immunity has been established from a vaccine given at 5-7 days of age is limited.

This may be countered somewhat by having coccidiosis vaccines that can be administered on placement or even in ovo at transfer in the hatchery but this will not totally counter the problem.

Also, in broiler flocks the larger number of birds per m^2, older houses and poor terminal hygiene can all increase the early coccidial challenge in a young broiler flock so if there is any hiccup in the administration of the vaccine the field challenge may get in first.

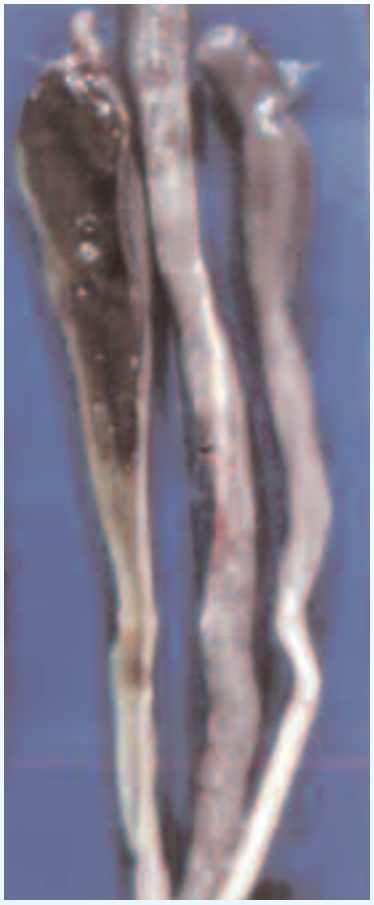
There may be a glimmer of light at the end of the tunnel! Salmonella enteritidis control in the young broiler flock can be assisted by the passage of antibodies from a vaccinated mother to her offspring so why should this principle not apply to broiler chickens and coccidiosis?

Such a vaccine for administering to the breeder flock to protect the progeny chicks has recently been developed in Israel. It is early days but early field trial results are looking very promising.

One big advantage of such an approach is that compared to the number of broiler flocks, the number of broiler breeder flocks is relatively small and so time and effort can be put into ensuring that vaccination is done correctly. In addition, a significantly higher vaccine unit cost per bird is acceptable at breeder level. Perhaps this will be the way forward – the next few years should provide the answer!

A final issue to remember is 'all that does not grow is not necessarily coccidiosis' and when one has a poor performing flock or one with a lack of uniformity one must consider other causes.

These include dysbacteriosis, enteritis, worms, poor feed, chronic septicaemia, hock synovitis and depressed feed intake because of poor environment or management as well as other entities. It can be dangerous to automatically assume that every poor performing flock has coccidiosis because other causes that can be treated will be missed, as will the opportunity to treat them.



Caecal coccidiosis.

Finally, with coccidiosis never put all your faith in the anticoccidial or the vaccine. These products must be given a chance to perform and good management should always keep this in mind.

First and foremost it is always prudent to thoroughly clean out a broiler house between cycles, although in some parts of the world this is not done. The argument is that good micro-organisms are passed on to the next flock.

Incidentally, where would you stand legally if you knew the previous flock had S. enteritidis and that product from this flock was implicated in the death of someone from salmonellosis?

Then one must remember that wet litter favours coccidial oocyst survival and whenever possible wet litter should be removed.

When using an anticoccidial and your broilers are receiving 20% whole grain consider putting 25% extra of the anticoccidial in the feed so that the birds actually get the recommended dose of anti coccidial and not just 80% of it.

Finally, work with your veterinarian to assess the background coccidiosis picture in your flock and to see whether your current control strategy is really working. ■