Coccidiosis

Cause
Coccidiosis is caused by protozoa, unicellular parasites. In chickens there are 9 different species of coccidia of which main 5 are Eimeria acervulina, Eimeria necatrix, Eimeria tenella, Eimeria maxima and Eimeria brunetti.

Transmission
Infected droppings, containing oocysts of coccidia are the main means of transmission, between birds. The incubatio period is 4 to 6 days.

Species affected
Chickens have their own specific coccidiosis types which do not cross-infect other bird species.

Clinical signs/Diagnosis
Coccidiosis can be divided into 2 groups:

The caecum is involved (Caecal coccidiosis). Mainly caused by E. tenella in chickens up to 12 weeks. Mortality may run as high as 50 %. Infected birds are listless, have bloody droppings, a pale comb and show a lack of appetite. Laboratory examination will show haemorrhages in the caecal wall. After severe bleeding a core will be formed in the lumen.

The small intestine is involved (small intestinal coccidiosis). Caused by E. acervulina, E. brunetti, E. maxima, E. necatrix.

F. acervulina
May affect birds of any age.
E. acervulina is not normally very pathogenic, but in some cases considerable mortality may be seen.
Birds infected show loss of weight, combs may be shriveled and a drop or even cessation of egg production in layers may be seen.
At necropsy, haemorrhagic lesions of E. acervulina are seen throughout the upper portion of the affected intestine and also grey or whitish patches may be present.

F. brunetti
May affect birds of any age.
E. brunetti is definitely pathogenic, in severe infections mortality can be high. Birds infected show emaciation and diarrhoea.
At necropsy a white cheese-like material is found in the lumen of the lower intestine and rectum.
The caeca and cloaca are inflamed. The gut wall is thickenened.

F. maxima
May affect birds of any age.
E. maxima is less pathogenic than E. acervulina, necatrix and brunetti, mortality is generally low.
Diarrhoea, loss of weight and a drop in egg production of layers, will be seen; bloody droppings are common.
At necropsy the lower portion of the small intestine is dilate and the wall is thickened; the gut is filled with thick mucus grayish, brownish or pinkish in color.

E. necratix
Mainly in chickens up to 4 months of age.
E. necratrix is very pathogenic. Infection with E. necratrix may result in a two stage clinical outbreak of coccidiosis. In the acute stage mortality may be high in the first week after infection.
In the chronic stage blood may be seen in the droppings, the birds are listless and lose weight. In layers a drop in egg production will be observed. At necropsy the middle portion of the intestine is affected, haemorrhage will be seen. The unopened intestine looks spotty, white areas (schizonts) intermingled with bright or dull red spots (haemorrhages) will be observed.

Treatment and control
This heading is most appropriate in the case of coccidiosis as there is no disease group in poultry where both control and treatment are employed more. The well established principles of good management and husbandry are of basic importance.

It is common practice to include low levels of

chemotherapeutics in the feed of birds. These chemicals are referred to as coccidiostats and as such keep in check the development of the parasites so that a pathological situation does not develop. It should, however, be taken into account that coccidia can develop a resistance to all chemicals so far used for this purpose and for this reason it is necessary to change from one chemical to another periodically. Treatment of infected flocks may be carried out by the administration of coccidiostats at a higher therapeutic level to the affected birds. There are certain products available which are specifically designed for treatment and which are not satisfactory for prevention. These chemicals are sometimes referred to as coccidiocidal agents.

Whenever administering these products, particular attention should be paid to the dosage recommendation of the manufacturer.