Disease background
Coccidiosis is one of the most important poultry diseases worldwide and is ubiquitous, the only limit to the distribution of this disease is the distribution of the hosts.

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Cause and clinical signs
A protozoal parasite which multiplies in the gut, specific to different hosts. Not all species of coccidia are harmful but there are five of the Eimeria species pathogenic to chickens, five in turkeys, three in geese, three in ducks and three in pheasants.

Enteritis (inflammation of the intestine) is present in all coccidia infections and usually accompanied by diarrhoea which may or may not have blood in it. Poor growth and impaired feed conversion is common and mortality can be increased.

Transmission
Parasitic phase: the infective oocyst (coccidia egg) is eaten by the bird and then multiplies over about 7 days within the gut, thousands of new oocysts resulting from just one ingested oocyst.

Non-parasitic phase: excreted in the droppings, the oocysts then take 2 days to mature (ideal conditions 25-30°C and moist) before being ready for the next host to eat.

Economic Impact
This disease is very common and unless controlled has a severe economic impact. Even low levels of infection cause ill thrift and loss of production with increased mortality.

Diagnosis
Clinical signs plus a faecal sample containing oocysts and/or post mortem where the intestines are dark purple and the laboratory finds stages of the coccidia in the lining of them.
Fig 2: Oocysts in a faecal sample

Anticoccidial drugs in the feed for only the first 6 weeks of life which reduce but not eliminate the numbers of coccidia has been the norm in order to let the chicks have a low level of infection and therefore acquire immunity. Permitted drugs in feed are however, being reduced on an annual basis across the board. Resistance to the anticoccidial drugs has occurred. Free-range reduces the incidence of disease while still providing trickle infection to boost immunity.

The only product currently licensed for treatment of a coccidiosis outbreak in chickens is Baycox: this use is restricted to broiler breeders on the data sheet (licence details). Sulphonamides can be ordered from specialist poultry veterinary practices. On a small scale and where the birds do not enter the food chain, the pigeon product, Coxoid, is used by fanciers and small-scale keepers. This contains amprolium which used to be licensed for chickens and has proved to be safe.

There are no products licensed for treatment in turkeys and waterfowl but Coxoid has been used with success. The coccidia life cycle is similar to chickens and the oocysts persist in the ground for months or years. Certain compounds are toxic and lethal to turkeys, particularly the ionophores such as monensin, lasalocid, salinomycin, narasin and maduramicin, therefore the label on the feed bag must be checked to avoid these.

Temperatures above 56ºC and below freezing are lethal to oocysts, as is desiccation. Oocysts can stay in sheds despite disinfection unless a specific oocidal (“egg-killing”) disinfectant is used.

Vaccination

By far the better treatment and prevention for chickens is the vaccine, Paracox. This contains all seven species of coccidia but these are weakened so that they cause the chicken to mount an immune response but not to become infected. As this is an industrial product it normally comes in quantities to treat thousands of birds. Paracox is available from PHS Pharmacy (01845 577907) with a prescription, in 100 and 200 dose containers. Paracox will be administered once as a solution from a dropper bottle to a healthy dayold chick via its mouth. The shelf-life of the product will be 4 weeks, so orders need to be made with the monthly expected hatch in mind.

Any feed used for vaccinated birds should not contain anticoccidial drugs as this will counteract the vaccine. The vaccine can be used on unvaccinated chicks up to 9 days old but is most effective at dayold.
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