

Coccidiosis Control: What are the options?

Conor Sheehy, Poultry Business Unit
Director, MSD Animal Health



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The Science of Healthier Animals®

What is Coccidiosis?

Intestinal parasite (*Eimeria* spp) causing poor performance and/or mortality

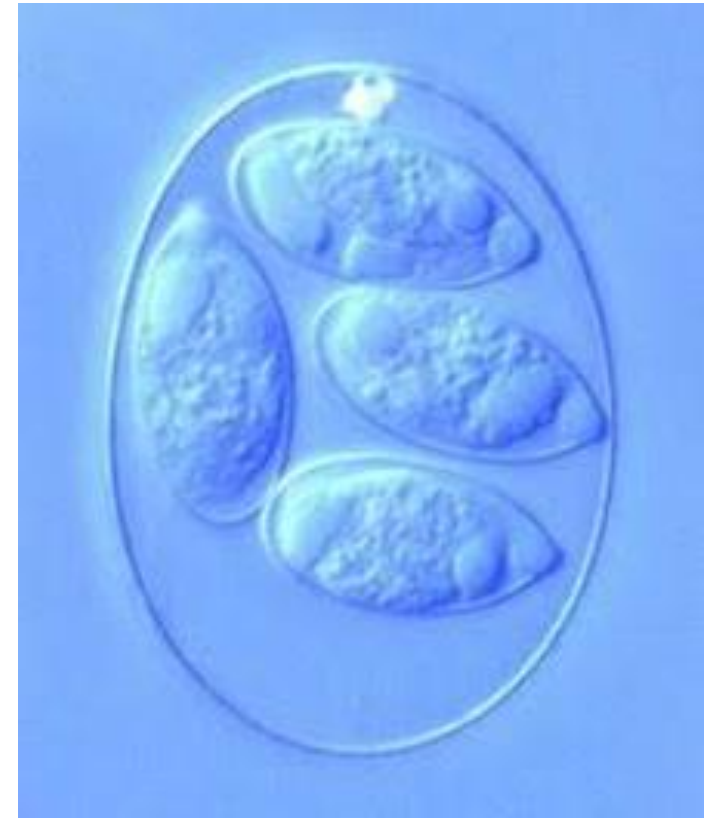
Different cocci species infect different animal species

7 different cocci species infect chickens

Replicate in cells of gut lining and burst out causing damage

Infection is transmitted via oocysts in litter

Massive economic significance in chickens



Effects of Coccidiosis

Clinical Case

Mortality

Wet litter



Subclinical Case

Poor weight gain

Increased FCR

Unevenness and downgrades



Study: Cost of Coccidiosis



Losses due to Reduced Performance, ↑ FCR ↓ ADG

£82.40 per 1,000

Each 2 point increase in FCR = £10 per 1,000

If feed cost increases production losses more costly

Feed Cost at time was £275/Ton or €336/T at 2016 exchange rates

In Feed Prophylaxis (coccidiostats) ca. £10 per 1,000

Cost to treat clinical case:

£20 per 1,000. Only 3% need treatment. → £0.63 per 1,000

Losses due to Mortality estimated at £0.90 per 1,000

UK 2016 Figures for Commercial Broilers (Blake et al, 2020)

Control by In-Feed Additives

Most popular method worldwide for control of poultry coccidiosis

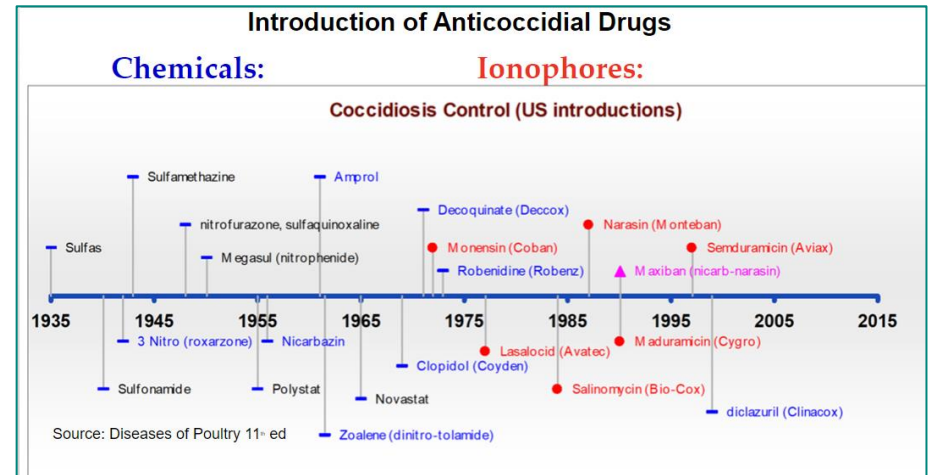
- No new molecules since 1995
- Unlikely to be new molecules or combinations coming along

Using the same product for a period selects for resistance to that product

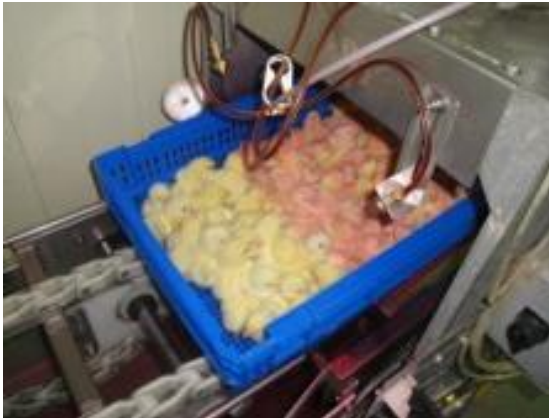
- Need to rotate throughout year and within same batch

Same molecules used repeatedly

- Increased Resistance and Poorer Control



The role of vaccination



Vaccination is a useful aid in cocci control

- Should be used to preserve and reinstate the effectiveness of coccidiostats
- Not a tool to replace coccidiostats

Seed the house for 2-3 flocks with vaccine strains

- Vaccine strains have never been exposed to coccidiostats
- Highly Sensitive

Go back onto coccidiostats

- Improved Cocci Control ↓FCR ↑ADG throughout year
- Reduces the need to constantly rotate coccidiostats
- Vaccinate for part of year (usually summer months) and one product for remainder
- Provides long-term effective control



Study: Control by Vaccination and In-Feed Additives

Study compared sensitivity to coccidiostats in farms that had previously been either vaccinated or treated with coccidiostats

- All farms in study that previously received MSD Animal Health vaccine demonstrated excellent sensitivity to narasin+nicarbazin after
- Samples from farms without vaccination demonstrated resistance to narasin+nicarbazin
- Samples from vaccinated flocks had better FCR and ADG in subsequent flocks when receiving narasin+nicarbazin

Conclusion:

- The use of vaccination improved sensitivity to coccidiostats and improved FCR and ADG in subsequent cycles
- Rotation including vaccination is the sustainable way to control coccidiosis

Sustainable coccidiosis control implications based on susceptibility of European Eimeria field isolates to narasin + nicarbazin from farms using anticoccidial medication or coccidial vaccines. (Newman et al, 2022)

As an industry we need sustainable coccidiosis control strategies.

- Vaccines offer an excellent opportunity to extend the effectiveness of coccidiostats
- Resistance has been found to all coccidiostats
- Biosecurity alone is insufficient
- Vaccine usage reduces pressure on other control measures
- Makes commercial sense as well as improving welfare and sustainability
- Better control of coccidiosis while on vaccine and when return to coccidiostat
- We are lucky in Poultry to have vaccines available to us

Thank you



Conor Sheehy
Poultry Business Unit Director
MSD Animal Health

