Position paper of the working group anticoccidials of the PVSG concerning the phasing out of anticoccidials as mentioned in EU Regulation 1831/2003.

POULTRY VETERINARY STUDY GROUP OF THE EU

Contents

Introduction

Coccidiosis is a parasitic infection of the intestinal tract caused by a family of single celled obligate intracellular parasites, the most common family affecting poultry being Eimeriidae. All livestock species, as well as wild animals, can be infected, however each species is infected by its own specific species of coccidia. Coccidiosis affects all types of poultry production, conventional, free range and organic, but as with all parasitic infections the prevalence tends to be higher when animals or birds are grouped together in significant numbers.

After ingestion by the host of the infective form of the parasite(oocyst) the parasite penetrates the cells lining the intestinal wall of the host The parasite then undergoes several stages of growth and multiplication, during which there is damage to the mucosal and submucosal tissues of the hosts intestine. The extent of the intestinal damage is a consequence of the coccidial species infecting the host and the level of challenge. With some coccidial species eg *Eimeria tenella* in *Gallus gallus* severe intestinal haemorrhage may result and mortality in an unprotected poultry flock can be extensive. For this reason, it is essential in most commercial poultry rearing situations to use an anticoccidial agent during the rearing period to prevent illness and control infections.

Coccidiosis in poultry exacerbates a number of other diseases eg. Reoviral infections, Gumboro disease, Marek's disease, clostridiosis and can predispose poultry to infection with food borne pathogens eg Salmonella and Campylobacter. Coccidiosis infection often disrupts the intestinal microbiome and intestinal integrity causing diarrhoea and wet litter, resulting in poor production performance, health and welfare problems (breast blisters, foot pad burns).

In 2006, the EU banned the use of antimicrobial growth promoters (AGPs) in livestock species due to concerns over antibiotic resistance development of bacteria. Although approved as production enhancers, a number of these AGPs had the side effect of controlling intestinal clostridiosis and microbiome disruption (intestinal integrity). Following the ban of AGPs in the EU, producers, veterinarians and nutritionists altered and refined management practices and feed composition to help control intestinal integrity. Despite these changes management of intestinal integrity is still one of the major challenges in commercial poultry production, so any tool that minimises that disruption is critical to the success and sustainability of poultry production.

In feed anticoccidials not only affect coccidiosis, they also indirectly help manage intestinal integrity and intestinal microbiome. If in feed anticoccidials were to be phased out we can expect more coccidiosis and disruption to intestinal integrity.

Different management practices and further alterations to feed composition will not be sufficient to mitigate the impact of in feed anticoccidial removal and the consequences will be lower production performance, lower quality of meat produced, higher mortality, poorer welfare, and greater use of therapeutic antibiotics.

Therefore we strongly advise that in feed anticoccidials are retained as part of the toolbox to control coccidiosis and its complications.

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Review of 1831/2003 The Feed Additives legislation

Regulation EU 1831/2003 includes the option to reconsider the future of anticoccidials with the view to phase out anticoccidials as feed additives by December 2012. Regulation EU 1831/2003 is currently under review as mandated under European law. Experience with No Antibiotics Ever (NAE) programs in the USA and various alternate programs in Europe has enabled scientists and veterinarians to model the impact of reduction or removal of in feed coccidiostats on production, health, welfare and sustainability of poultry meat production in European countries. The conclusions of those models is increased production costs, increased production of greenhouse gases and overall reduction in sustainability of production which is contrary to current European policy to mitigate the impacts of climate change. Furthermore studies have shown that in feed coccidiostats do not contribute to antibiotic resistance which was a major driver for the banning of in feed antibiotic growth promoters. It would be contrary to current scientific knowledge to phase out the use of in-feed coccidiostats.

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Veterinary considerations

- **Coccidiosis – Impact on poultry health:**
  Without treatment, the effect on poultry health ranges from mild intestinal inflammation with depressed feed intake and poor weight gain to haemorrhagic diarrhoea and death. Morbidity is up to 100 % and mortality depends on the severity of the infection and the Eimeria species involved (6 main species for poultry and 2 for turkeys) and can easily reach 5 -10 % within hours.
  Uncontrolled field infections, impact on intestinal integrity and the intestinal microbiome and 'open the door' for dysbacteriosis, and, in particular clostridial infections: The large intestine is the normal site of colonisation for these bacteria. However, field infection with Eimeria promotes the localisation of pathogenic clostridia in the small intestine. This mechanism is one of the major causes of Necrotic Enteritis in poultry. Secondary effects are diarrhoea and wet litter which can increase the incidence of contact dermatitis conditions including, pododermatitis, breast blisters and hock burns. These lesions are all key welfare indicators, and should be minimised in all poultry production.
  Economic losses are caused by unevenness, mortality, rejects and increased feed conversion and also by the need of costly treatments with therapeutic antibiotics. Such antimicrobials can belong to categories used for human therapy (with their associated resistance concerns).

- **Alternatives**
  - **Cleaning and disinfecting**
    Eimeria coccidia are highly adapted parasites and are present on all poultry farms. The sporulated oocyst(resting form), is very tolerant to normal chemical disinfectants and can readily be transferred between poultry sites This makes it impossible to eradicate the infection. The only chemical disinfectants which destroy the sporulated oocysts in the environment are ammonia and cresols. Many EU Member states have banned the use of Cresol disinfectants due to their negative environmental impact. Oocysts can be destroyed by high temperature treatment, this has led to the development of flame burners for disinfection of surfaces. However the success is limited by the kind of the surface and only floors in poultry houses can in reality, be treated with this method. Despite the use of good hygiene and biosecurity protocols in commercial production to manage most endemic diseases, these protocols are insufficient to eradicate coccidiosis. However their implementation is important in reducing the coccidial challenge and play an important part in the toolbox of control along with in feed coccidiostats.

- **Vaccination**
  At the present time, coccidial vaccines are licenced EU-wide only for *Gallus gallus* and thus can be used in breeder and layer rearing flocks and broilers. There is no vaccine registered for turkeys in the EU. Therefore vaccination is not an option for turkey production. Vaccination in rear of breeder and layer flocks is common and widespread practice to protect these flocks against coccidiosis challenge. In broilers vaccination is used to a lesser extent as a control strategy, due to the length of the fattening cycle of the modern broiler chicken: To immunize effectively it is necessary to have 3 multiplication cycles of the vaccine oocysts in the intestine. This equates to about 18 to 21 days of the growing cycle to develop a stable immunity. Under normal production conditions the life of a conventional fast growing broiler strain is too short for coccidiosis vaccination to be the first choice method to protect these broilers against coccidiosis. In addition the replication and cycling of the vaccine oocysts can cause some damage to intestinal tissues, whilst not as severe as the ”wild strains” destabalisation of the intestinal integrity can result in negative effects similar to the “wild challenge”. In broiler production systems such as “free range and organic” the growing cycle is longer and the impacts of vaccination are perceived to be less than the conventional broiler. However these alternate broiler growing systems are well recognised as having higher production costs and being less sustainable due to reduced feed efficiency of the broiler strains employed.

- **Treatment (long withdrawal periods)**
  There are limited products registered to treat coccidiosis in the EU. Those products that are registered have long withdrawl periods which means that few if any will be used due to the regulatory impact on slaughter age of the treated animals. Currently the use of in feed coccidiostats means very few cases of coccidiosis are uncontrolled and require further treatment. If more coccidiosis treatments were required, due to the removal of in feed coccidiostats, this would increase selection pressure on coccidia to develop resistance to the limited treatments licenced. This will impact the long term efficacy of these products.

- **Alternative treatments (acids, herbs, feed etc.)**
  Alternative treatments have been proposed, but currently there are no alternative control methods with proven efficacy. Some control is claimed by herbal products, but there are no registered products in the EU available with proven efficacy to replace anticoccidials in the feed. Research is ongoing in this area but until product lines are developed and proven it would be premature to ban the use of in feed coccidiostats.

- **Anticoccidials under veterinary prescription**

  There has been a suggestion that in feed anticoccidials are moved from feed additives to veterinary medicinal products, limiting their use to under veterinary prescription only. The use of these in feed coccidiostats are already regulated in the EU and changing the status to veterinary medicinal products would not impact on their responsible use. However this would have a number of consequences, most of which would be negative:

  New veterinary medicines legislation requires that veterinary medicinal products cannot be administered prophylactically. However the mode of action of many of the in feed coccidiostats requires that they are administered prophylactically to be effective. Thus moving them to veterinary medicinal products will limit their effectiveness.

  Re-registration of the products as veterinary medicines which would add unnecessary cost to licence holders which will be passed to the end consumer.

  Veterinary medicines legislation requires a higher level of product purity, thus again additional cost in production of the active ingredients.

  Management of feed production programs in the mills would become potentially more difficult as the veterinarian responsible for the farms would dictate the in feed coccidiostat program used, including dosage and product type.

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Position and recommendations

1. In feed coccidiiostats are proven to be safe and effective for controlling coccidiosis and are an crucial tool in the toolbox of control methods for coccidiosis in the commercial poultry meat sector in EU.

2. Peer reviewed modelling of the impact of reduction or removal of in feed coccidiostats in commercial broiler production has demonstrated there would be a financial and environmental impact on productivity and sustainability if they were removed from the market.

3. For turkeys there is currently no proven, licenced alternative to in feed anticoccidials.

4. For conventional broilers, whilst vaccination is licenced their use in practice is limited due to the broiler cycle length and impact on productivity.

5. The active ingredients of in feed coccidiostats are NOT used in human medicine and their legal and responsible use is already regulated under a feed additives legislation. These factors mean that their ongoing use in animal feeds does not pose any risks for resistance development in human medicines.

6. The requirement to provide data to establish Maximum Residue limits(MRL's) under brand specific approval has already brought the existing anticoccidials in line with medicines in this key aspect of product safety for consumers.

7. We see little benefit in requiring that anticoccidials are subject to veterinary prescription as a medicated feed, in fact moving them to medicinal feed additives would result in an unnecessary financial and regulatory burden on the poultry sector and they should continue to be licenced as feed additives.

8. Phase-out of in feed anticoccidials would have a significant impact on animal welfare,international competition and environmental damage. Therefore before any regulatory changes are implemented there would need to be a comprehensive investigation and consultation of socio-economic aspects and the consequences for the whole production chain within the EU.

9. We as PVSGEU incorporate almost 100 % of practicing poultry veterinary experience within the EU would prefer and recommend that anticoccidials remain as safe and proven feed additives as the only effective and recommendable system currently available. We have no verified alternative, nor expect one in the near future.

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Addendum

The “Poultry Veterinary Study Group of the EU” (PVSG) exists since 1965 and is a study group of about 80 European specialised poultry vets. The members are mostly working as private practitioners or are sometimes working for a company (breeding companies, integrations, hatcheries, pharmaceutical companies). Government veterinarians are not eligible for membership. The membership is only by invitation.

Two times a year (spring and autumn) a two-day symposium is held. The main topic during these symposia is the current health status of commercial poultry in the European member states. In this way the members are offered a quick way to update their knowledge. Because of the structure and the knowledge of the PVSG the PVSG is on speaking terms with several committees of the EU.

At this moment the following 23 countries are represented in the PVSG: Austria, Belgium, Bulgaria, Cyprus, Denmark, Germany, Finland, France, Germany, Great Britain, Greece, Hungary, Ireland, Italy, Latvia, Netherlands, Norway, Poland, Portugal, Romania, Spain, Sweden, Switzerland

Each country is represented by their Country Secretary in the Committee, the members of the committee are:

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