
Code of Good Practice Regarding the Responsible use of Antimicrobials on Poultry Farms



These Guidelines have been developed by Irish Farmers and Veterinary Practitioners to guide good practice in the responsible prescribing and use of antibiotics in farm animals, in response to the global societal challenge of antimicrobial resistance.



The Farmer's Role

Strategies to reduce the use of antibiotics and the development and spread of antimicrobial resistance

In order for disease to occur, a number of conditions must be met. These include host (poultry) factors, environmental factors (stresses) and factors dependant on the characteristics of the particular infectious organism. Manipulation of husbandry and management practices on a farm can go a long way toward tipping the balance against disease. Implementing these well recognised strategies will keep your flock healthier and reduce the need for antibiotics in the long run. Poultry farmers have a role to play in the fight against AMR. The key to reducing the overall use of antimicrobials on poultry farms is to reduce the incidence and spread of infection and disease on the farm. The practical strategies outlined in this document outline the important ways that poultry farmers can make a difference in the fight against AMR.



Guideline 1: Prevention of disease is always better than cure.



Guideline 2: Herd Health Plans are an essential tool for Farmers.



Guideline 3: Reduce and Eliminate Disease entry to your farm through Biosecurity:

- ▶ Have a planned and rigorous cleaning and disinfection routine



Guideline 4: Prevent diseases where relevant with vaccination.



Guideline 5: Keep animals stress-free through:

- ▶ Good Husbandry Practices
- ▶ Good Housing and adequate space
- ▶ Plentiful access to clean drinking water



Guideline 6: Prevent and control parasites to enhance performance, reduce stress and prevent disease.



Guideline 7: Where treatment of disease is necessary with Antibiotics, observe the six 'rights' of prescription and use:

- ▶ Right Veterinary Diagnosis
- ▶ Right Animal(s)
- ▶ Right Antibiotic
- ▶ Right Dose
- ▶ Right Duration
- ▶ Right Storage and Disposal

Practical strategies to reduce Antibiotic usage on Poultry Farms

How can Poultry Farmers prevent the development and spread of AMR?

- Greater Focus on Preventative Strategies
- Enhanced Biosecurity
- Improved Husbandry
- Increased Strategic use of vaccination
- Only use Antibiotics on foot of veterinary advice
- Always use Antibiotics as prescribed

Flock Health Plan

The aim of a flock health plan (FHP) is to ensure the best possible health and welfare of the poultry on the farm which, in turn, leads to optimum bird performance and productivity. The FHP is generally devised as a collaborative effort between the farmer and their veterinary practitioner. The plan is developed based on a unique personalised knowledge of the farm in combination with an on-farm risk assessment which includes inspection of facilities, routine examinations, review of selected flock performance records, and decisions and actions related to specific flock management issues.

The stages involved in a standard FHP include:

- ▶ Investigation and establishment of the flock health status.
- ▶ Prevention of disease on the farm.
- ▶ Preventing the spread of disease.
- ▶ Regularly monitor the control strategies/ review the FHP

Day Old

In order to reduce probability of treating day-old infections it is necessary to supply good quality chicks. This is best guaranteed in a fully integrated company with complete oversight of breeder operation. Breeder birds should be healthy and free of any bacterial challenge that could be directly or indirectly transmitted vertically to chicks. There should be a vaccination policy in the breeder birds which guarantees optimum transfer of maternal immunity to progeny. Vaccination of parent stock is not only for the benefit of the parents but also gives chicks a head start against whatever challenges they will face.

Gut health of breeder birds should be optimised to reduce faecal contamination of eggs at laying or in the nest. Litter should be kept in a dry, friable condition to reduce tracking of faecal bacteria to laying area. No floor eggs should be transferred to hatchery. No egg which requires washing to present as visibly clean should be transferred to hatchery. Only clean nest eggs and nest eggs which can be cleaned with a light wipe of single use cloth should be transferred to hatchery.

If an egg requires washing to present as visibly clean there will have been bacterial ingress to egg prior to washing. The wetting, heating, and cooling of washing will cause further ingress. This bacterial ingress will inevitably result in higher instances of yolk sac infection. High bacterial challenge during incubation will increase levels of bangers and rots in hatchery, further multiplying yolk sac and other day-old infections. Eggs should be routinely checked at hatchery under U.V. light to verify they have not been washed. Personnel involved in production of hatching eggs should at all



times be conscious that they are working with a food product and have appropriate hygiene at all times. Eggs should be fogged daily with a suitable disinfectant on farm prior to collection. Eggs should again be fogged or fumigated at hatchery with suitable disinfectant. Early removal of eggs containing non-viable embryos is desirable. This reduces bangers and rots, reducing contamination of adjacent eggs during incubation as well as promoting a cleaner environment at hatching. All hatchery equipment and chick delivery equipment must be thoroughly sanitised between uses. Chicks, once hatched, should be sorted and transferred to brooding environment as quickly as possible. Any stress at this time will exacerbate low-level bacterial challenge and poor hygiene will allow bacterial ingress through incompletely healed navels. Regardless of the above procedures, there will always be a small number of chicks in any placement with a high bacterial challenge. Once in an appropriate brooding environment, these infections should not be transferred to other chicks. Treatment of these day-old infections is largely futile as infections can be overwhelming and course of disease in house is self-limiting. The brooding environment must be as hygienic as possible to reduce bacterial transfer through incompletely healed navels. Prompt removal of any dead chicks, or chicks clearly harbouring a high bacterial challenge, will help maintain hygiene in brooding environment. Stressors must be kept to a minimum in early brooding period to avoid exacerbating any bacterial challenge which would be insignificant otherwise.



Growing Period

Poor gut health/dysbacteriosis/enteritis during the growing period can be predisposed to by any insult or stress up to that point in the bird's life. Enteritis should not be seen as a diagnosis but rather as a clinical sign of an underlying problem. This warrants a full investigation to ensure subsequent batches do not present similarly. Any farm needing regular treatment should be investigated regularly in next batch to determine what factor is predisposing to poor gut health. Bacteria involved in dermatitis, or other diseases that may require treatment during growing period, should be viewed similarly as secondary to other stressors and not as primary causes of disease.

These cases may need to be treated with antimicrobials to safeguard the welfare and performance of the birds, but the underlying cause must also be eliminated regardless

of cost. Farm factors can include poor ventilation, poorly maintained or positioned drinkers, poor water quality, inappropriate temperatures or a high parasite challenge. Factors outside of farmers' control can include poor feed quality or failure of coccidiostats leading to high parasite challenge.

Primary pathogens are rarely causes of disease in commercial poultry. Good biosecurity and hygiene has largely eliminated any novel disease challenges from production houses. There are a number of endemic viral, bacterial and parasitic challenges present in almost all poultry houses that are extremely difficult or impossible to eliminate from the sector. These do not invariably cause disease but can, in combination with other stressors, contribute to enteritis or other disease necessitating antimicrobial treatment. Control strategies such as vaccination or use of coccidiostats may



be in place to counter some of these pathogens. Some pathogens do not have a recognized disease associated with them and their relevance, if discovered during an investigation, may be questionable. Their importance might only become obvious when background challenge is reduced if house is allowed idle for some time or is used to house a different species.

Veterinary practitioners, through bespoke herd health plans, are ideally placed to advise on vaccination or other control strategies depending on individual farm challenge or across a group or area. Routine investigations such as serological surveys or coccidial lesion scoring may be used to tailor advice for each farm or group.

Continuing vigilance with hygiene and biosecurity is necessary to reduce ingress of primary pathogens, which could precipitate treatment. Bespoke advice on hygiene and biosecurity also forms part of herd health plans. There should be an auditing system in place to oversee effectiveness of cleaning and disinfection, and hygiene throughout the batch.

Any substance administered through the drinking water may compromise water hygiene. Drinker lines in poultry

houses are ideal environments for build-up of biofilm. Biofilm is a matrix or plaque usually formed by bacteria which may adhere to a surface protecting the bacteria within. Ideally, only clean water or water containing a cleaning agent will go down a drinker line.

There is often a desire to administer supplements or medication through the drinking water. Such supplementation must always have a sound scientific basis as the risks may outweigh the benefits. Most supplements do not require a prescription, but still should only be given on the advice of a veterinary practitioner. Vaccines should ideally be administered at hatchery. This guarantees more control of vaccination technique and of vaccine supply logistics as well as reducing quantity of products administered through drinking water. Effectiveness of vaccination whether on farm or in hatchery should be regularly monitored serologically or by whatever means is most appropriate for each vaccine.

Chicks receive little opportunity to develop a complete microbiome. A complete microbiome, with beneficial bacteria occupying all available niches within the GIT (gastro-intestinal tract), is desirable for good gut health

and reduction in instances of antimicrobial therapy. Chicks have little opportunity to pick up a complement of beneficial bacteria from parent stock or from other sources. Use of probiotics and competitive exclusion products should be considered and discussed with a veterinary practitioner.

Mature Birds

Mature birds rarely require treatment. If such treatment is necessary there will likely have been a significant failure in environment, water or feed quality. Stress caused by peers or parasite challenges may be contributing and there should be a full investigation of all factors. It has proven impossible, with current best practice biosecurity protocols, to eliminate all parasitic challenges from mature birds. For some parasites the environment can be altered to make it less attractive for parasitic infestation. Regular monitoring and knocking back of infestations with anti-parasitic treatments can reduce stress and need for antimicrobial therapy. Antibiotic therapy can be common around the time when breeding or laying birds begin production.

Reducing stress around this time is essential. One stressor that is being increasingly recognised is lighting up birds before they are fully ready. This can lead to prolapses and peritonitis. If levels of these go up, treatment will be warranted on welfare grounds, but results are commonly unsatisfactory. It is too late to correct the underlying problem as you cannot unlight the birds.

The Processor's Role in Antimicrobial Reduction

- ▶ Supply of good quality chicks.
- ▶ Supply of good quality feed.
- ▶ Oversee biosecurity protocols on all farms.
- ▶ Audit hygiene and disinfection on farms between and during batches.
- ▶ Promote a continuous focus on improving animal health and welfare.
- ▶ Provide an advisory service to help maximise farm productivity and sustainability in tandem with reducing the requirement for antibiotic therapy.
- ▶ Be part of the investigation team if there is a need for antibiotic therapy, to determine underlying causes.
- ▶ Commit fully to antimicrobial reduction and ensure that antibiotics are not used to compensate for inadequate husbandry practices.

The Farmer's Role in Antimicrobial Reduction

- ▶ Provide an environment which reduces all stress on birds. Minor environmental adjustments can lead to major effects on the health, welfare, and productivity of the birds. Commercial poultry are kept in a very controlled environment and the farmer is responsible for meeting all their needs. It pays to be a fussy chicken farmer.
- ▶ Recognise that there are flaws in a system where antibiotic therapy is regularly needed.
- ▶ Be open to a full investigation, involving veterinary partners and field advisors, of these flaws. Flaws may lie beyond the farmers control, but an investigation should still begin at farm level.

The Vet's Role in Antimicrobial Reduction

- ▶ Fully investigate the underlying causes necessitating any therapy. Treat, if necessary, but follow up to ensure such treatments become less necessary over time. Focus on disease prevention, and the objective to optimize animal health and welfare.
- ▶ Follow recommended prescribing practices in line with professional codes and legislative requirements.

Recommendations for the Responsible use of Antimicrobials in the Poultry Sector

Any medications prescribed and used must be recorded appropriately in the medicine book. This must be stored for 5 years and made available for the purposes of audit. Antimicrobials should only be used therapeutically to treat disease that is already present. Prophylactic or preventive use of antimicrobials must only be in exceptional circumstances. If prophylactic therapy is necessary, it must be for a defined problem, and there must be a plan in place to deal with this problem and eliminate the medium-term need for prophylactic medication. From January 2022, in feed prophylaxis will be banned as new legislation becomes binding in Europe with regard to use of antimicrobials. There will be much stricter controls on the prescribing and use of antimicrobials due to concerns of increasing development and spread of antimicrobial resistance. No antimicrobial should be present on any farm prior to or upon completion of a prescribed course of antimicrobial. The majority of commercial poultry farms operate on an all-in/all-out basis. Any medication dispensed should be sufficient for prescribed treatment course only and the course must be completed. An antimicrobial of critical importance for human health

should only be prescribed and used in exceptional cases. If an antimicrobial from the critically important list is to be used it must be as a last resort, when no other product is demonstrated to be effective, and where bird welfare is likely to be compromised if treatment is not initiated. All prescriptions must follow the principle of as little as possible but as much as necessary. Vets and farmers must ensure the 'Six Rights' of responsible use of antimicrobials are adhered to: Right Veterinary Diagnosis; Right Animal; Right Antibiotic; Right Dose; Right Duration; Right Storage and Disposal. All prescriptions should be immediately available in computerised format for monitoring by processors. Prescribing practices should be in a position to present reports when requested of all antimicrobial treatments. This allows processors to monitor trends in antimicrobial usage and identify undesirable trends on individual farms. Monitoring of prescribing data can be used to support interventions by veterinary practitioners and field advisors to take actions that will reduce disease prevalence, improve animal health and welfare and ultimately reduce the need for antimicrobial use. Collaboration amongst all the stakeholders in the poultry sector to ensure responsible use of antimicrobials will ensure that antimicrobials remain effective for both the human and animal health sectors into the future.



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