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# 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 AMR?

- Greater Focus on Preventative Strategies
- Enhanced Biosecurity
- Improved Husbandry
- Increased Strategic use of vaccination
- Only use of 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 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. This message has been communicated to and by poultry farmers through forums such as knowledge transfer groups and there is now little desire to treat. Few ask why we no longer treat. The more common question is why we ever treated in the first place. Early treatment can reduce early mortality but the extra survivors contribute little to profits for that batch as they have already been compromised.

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 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.

Vets, 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 surgeon. Veterinary surgeons are not salespersons. The advice of a veterinary surgeon may not always be perfect but at least they will have carefully considered

their advice and will believe it at the time they give it. 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, 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 surgeon.

### 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 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.
- ▶ Provide an advisory service to help maximise farm productivity and reduce probability of antibiotic therapy.
- ▶ Be part of investigation team if there is a need for antibiotic therapy to determine underlying causes.
- ▶ Commit fully to Antimicrobial Reduction. Vets and farmers cannot forward this agenda if they are competing with farms or practices where poor husbandry is supplemented with cheap antibiotics.

### 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 full investigation involving veterinary partners and field advisors of these flaws. Flaws may lie beyond farmers control but 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.
- ▶ Put greater value on advice than on sales of antimicrobials. Good advice should be the unique selling point of a veterinary practice and not ability to dispense medications.
- ▶ Follow the recommended prescribing practices as outlined below.



## Recommended Prescribing Practices for Poultry Industry

Any medications used must be recorded appropriately in medicine book. This must be stored for 5 years and made available at audit.

Prophylactic administration of any antimicrobial is strongly discouraged. Antimicrobials should only be used therapeutically. 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.

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 course must be completed.

No antimicrobial of critical importance for human medicine should be used. 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 medicating are adhered to: Right Patient; Right Medication; Right Dose; Right Time; Right Route; Right 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 is so processors can monitor trends in antimicrobial usage and highlight undesirable trends on individual farms or from individual prescribing practices.

The processor should control which veterinary practices are allowed to prescribe to birds within their integration. This is to ensure all prescriptions are in spirit of law of article 43 of Animal Remedies Legislation and not merely to letter of law. This also ensures the above two points are met.



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