

International Poultry Council
**Best Practice Guidance to reduce the
need for antibiotics in poultry production**

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Supported by



Foreword

Addressing antimicrobial resistance through the sharing of best practices is essential to maximizing the health, welfare and productivity of poultry, and minimizing the potential spread of food borne antimicrobial resistance to humans.

This Guidance, written by poultry industry experts in conjunction with the World Organisation for Animal Health (OIE), provides practical and proven actions that can be taken at farm level. These will support poultry farmers and veterinarians in their duty to use antibiotics through a responsible, prudent and targeted application, to reduce the risk of resistance and ensure they remain effective in the future.

I strongly commend this Guidance to all poultry farmers and producing companies. Together we can continue to benefit and protect the health and welfare of our poultry through a sustainable and thriving poultry industry.

**Robin Horel, President
International Poultry Council**

Antimicrobial resistance (AMR) is a serious global threat to human health, animal health and welfare, and food security throughout the world. AMR is a natural phenomenon in bacteria, but overuse or misuse of antibiotics in humans, animals and in plants, and uncontrolled release into the environment, has created a problem that now threatens the advances made in modern human and veterinary medicine. The solution to AMR requires multi-sectorial cooperation under a One Health approach.

As part of this, the World Organisation for Animal Health (OIE) is implementing its Strategy on Antimicrobial Resistance and the Prudent Use of Antimicrobials in terrestrial and aquatic animals and is working with our Tripartite partners, the World Health Organization and the Food and Agriculture Organization of the United Nations, on all aspects to tackle AMR and to support Member Countries to implement globally agreed responsible and prudent use standards. Sustainable management changes by livestock farmers, including poultry producers, in collaboration with veterinarians can successfully reduce the need to use antibiotics on farms.

The OIE partnership with the International Poultry Council (IPC) to produce these straightforward guidelines which are easily accessible for poultry farmers, in line with OIE standards and readily acted upon, is another proactive step towards this goal.

I therefore welcome this valuable collaboration and urge the poultry industry to implement this sound guidance as part of its ongoing work to help reduce the threat of antimicrobial resistance.

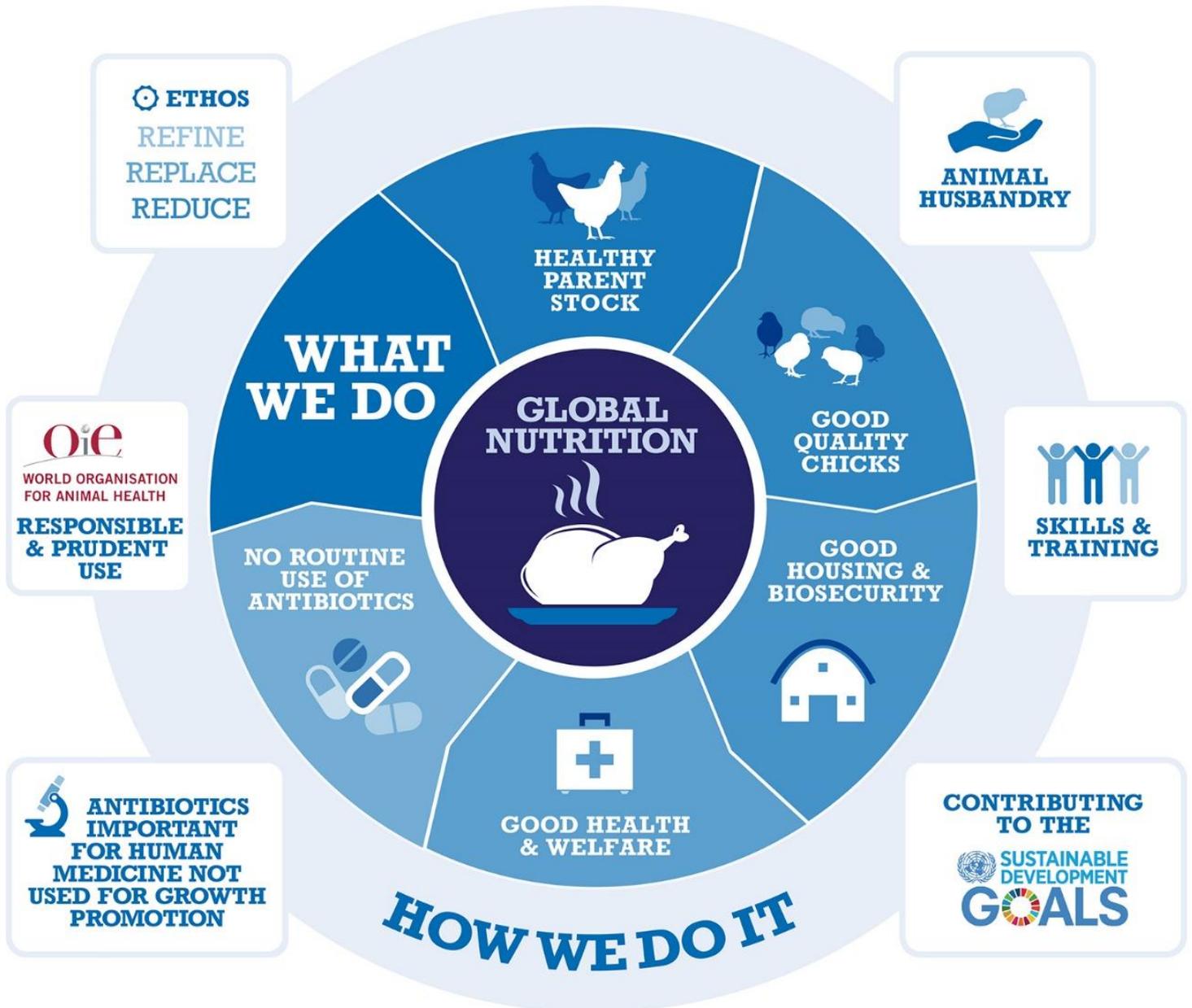
**Dr Monique Eloit, Director General
World Organisation for Animal Health (OIE)**

Introduction

The objective of this guidance is to raise awareness of the management approaches that should reduce the need for antibiotics in poultry farming. It promotes best practices for responsible use with the aim of safeguarding the efficacy of antibiotics against infectious diseases.

The International Poultry Council (IPC) is engaged with the World Organisation for Animal Health (OIE) and other international bodies in addressing antimicrobial resistance in relation to the poultry meat sector. In 2017 IPC adopted the *“International Poultry Council (IPC) Position Statement on Antimicrobial Use and Antimicrobial Stewardship Principles”*. Members committed to adopting management practices that reduce the use of those antimicrobials for which resistance could pose the greatest global public health risk. The global poultry industry recognised the need to be proactive in its engagement with stakeholders and to implement practices that advance the One Health objectives extending across human, animal (terrestrial and aquatic), plant, and environmental health sectors.

The World Health Organisation (WHO) and OIE have categorized antimicrobial classes and respectively ranked them according to their importance to human health and animal health. The WHO Critically Important Antimicrobials (CIA) list identifies types of antibiotics which are particularly important in human medicine and which, therefore, need to be restricted and follow responsible and prudent use in animals to minimise risk of resistance. This IPC Best Practice Guidance follows the definitions in the WHO CIA list and the OIE list of Antimicrobial Agents of Veterinary Importance.



Antibiotics and Poultry Production

Antimicrobial agents, including antibiotics, are medicines used to treat, control and prevent bacterial infections. Antibiotics are a subset of antimicrobial agents that act specifically against bacteria that cause disease. These medicines are essential to protect animal health and animal welfare. Inappropriate use can accelerate the emergence of resistant bacteria that do not respond to antibiotic treatment. Bacterial infections in poultry could threaten the future of all poultry production. To help preserve the efficacy of antibiotics, farmers must be continually refining practices to ensure antibiotics are used responsibly and only when medically necessary to address a bird health or welfare issue.

IPC recognizes that Member Countries are at different stages of their journey to minimize antibiotic use in their domestic poultry production and therefore the best practice outlined in this guidance is neither prescriptive nor exhaustive. Putting in place fundamental best practices in all stages of poultry production is conducive to good bird health and welfare, and flock productivity, and will help to reduce the need to treat poultry with antibiotics. Farmers and veterinarians have a duty of care to prevent pain and suffering in the birds under their management and thus the goal is to reduce the need for use of antibiotics and promote the judicious use of antibiotics when medically necessary.

Best Practices

The following key management practices help to protect flocks against disease, maintain bird health and welfare, and reduce the need to use antibiotics at all stages of poultry production.

Stockmanship and Training

The prevention of disease throughout the whole supply chain from breeding to hatching and rearing is crucial in reducing the need for antibiotic usage. Good bird husbandry, or stockmanship, is key to achieving this.

The three essentials of good stockmanship are:

1. *Knowledge of animal husbandry* – staff should have sound knowledge of the biology and husbandry of animals, including how their needs may be best provided for.
2. *Skills in animal husbandry* – staff should show demonstrable skills in observation, handling, care and treatment of animals, and problem detection and resolution.
3. *Personal qualities* – staff should have qualities such as affinity and empathy with animals along with dedication and patience.

Ensure that all farm and hatchery staff have the necessary skills, training and understanding of how to best meet the needs of the birds along the production chain, and actively promote good management practices. An openness by staff and management to understand, assess and implement changes in husbandry practices will reduce the need to medicate with antibiotics whilst maintaining good flock health and welfare.

Biosecurity: External environment

- Prevent all non-essential vehicles from entering the bio-secure area of the farm site.
- All vehicles entering the bio-secure area should be disinfected when entering and leaving the poultry farm.
- Access to the live bird areas should be restricted to farm staff and essential visitors only.
- An effective vermin control programme around the perimeter of the poultry house is essential to prevent rodents and other vermin accessing the live bird area.
- Standing pools of water on surfaces around the poultry house should be cleaned up immediately to prevent access by wild waterfowl.
- Litter should be stored under cover to prevent contamination by wild birds and vermin.
- Ensure any feed spills are removed immediately to discourage access by wild birds and vermin.
- Culled birds awaiting disposal should be securely stored and where possible the mortality container should be covered and locked.
- Farm equipment should not be shared between farms to prevent spread of disease.

Biosecurity: Internal environment

- Farms should have a robust biosecurity protocol in place to reduce the risk of bringing disease into the poultry house and to reduce the risk of spreading disease from one house to another.
- Farms should limit people entering the live bird area to essential staff and professional experts only.
- A double barrier system on entry to the poultry house is recommended to reduce the risk of carrying disease into the house via footwear or other fomites.
- Dedicated farm clothing should be worn on the farm and should not leave the farm.
- Clean water for hand washing or hand sanitising facilities should be available in every house.
- All equipment should be cleaned and disinfected after each production cycle.

Bird Environment

Creating the right environment for birds throughout the whole production chain is vital in reducing disease challenges and thereby the need to treat the flock.

- Reducing the need for antibiotic use requires healthy stock and starts by sourcing good quality viable chicks from healthy parent source flocks. Parent flocks should be free from mycoplasma, *Salmonella* or other health risks.
- Hatcheries should have good hygiene practices to ensure high quality healthy chicks are delivered to the farm.
- Prior to the chicks arriving on the farm, the houses should be cleaned and disinfected, and any litter treated before re-use to prevent the carry-over of any disease between flocks, and the environment in the house prepared to receive the new chicks.
- The size and structural condition of the house, the capacity of the ventilation system for environmental control, maintenance of litter quality, the function of the feed and water systems, breed and intended slaughter weight, and the capability of the stockman should all be considered when determining the appropriate stocking density.

- Housing should be effectively ventilated to optimize the environmental conditions for poultry kept indoors. Avoid build-up of carbon dioxide and ammonia levels for optimal bird health and welfare results.
- An all-in all-out system should be practiced. Where this is not possible visit the youngest birds on the site first.
- Records should be kept of every flock, house, and farm, and should contain information on origin of flock, mortality, daily culls, water intake, feed intake, and medicines administered.

Hygiene: Houses

- Birds must be provided with fresh clean drinking water.
- Drinking water systems should be sanitised after each flock to prevent a build-up of biofilms.
- Header tanks should be cleaned after depletion of each flock.
- Litter should be dry and friable.
- Avoid build-up of moisture underneath nipple drinkers.
- Maintain litter in a dry and friable condition throughout the house, with particular attention around drinkers, to prevent pododermatitis.

Hygiene: Hatcheries

- High levels of hygiene in the hatchery are critical to reducing exposure of the eggs and chicks to bacteria and viruses.
- All equipment and surfaces in the hatchery should be thoroughly cleaned and disinfected after every hatch.

Flock Health and Welfare Plans

Every farm should implement a plan to proactively manage and improve the health and welfare of the birds under their care.

The Health and Welfare Plan should:

- Be developed and agreed in consultation with a veterinarian or professionally qualified person.
- Be specific to a group of farms under the same company's control.
- Be reviewed annually or more frequently in the event of substantial changes to husbandry practices or poor performance of the birds.
- Set out health and husbandry measures covering the whole of the production period or year.
- Include a comprehensive programme of biosecurity measures focussed on prevention of disease entering the poultry house and at the whole farm level.
- Set out an effective vaccination programme to prevent disease which is tailored to the needs of the farm or farms covered by the Plan and record the vaccinations administered.
- Be available to all staff who have responsibility for the birds.

Nutrition

- Birds should be provided with optimal nutrition including nutrient / energy supply using feeding strategies to meet the differing needs of breeder and grower flocks.
- In all poultry, water and feed consumption should be monitored and bodyweights recorded to ensure the birds are growing as expected for age and breed, taking account of the breeder company guides.
- Feed should be heat treated at the feed mill during the manufacturing process to reduce potential pathogens. For any on-farm feed mixing, records should be kept of all ingredients incorporated. Feed should be stored in a way to minimise risk of contamination.
- The use of appropriate strategies to optimize gut health need to be considered and may include non-antibiotic additives such as probiotics, prebiotics, acidifiers, essential oils, phytobiotics, enzymes, and inclusion of whole grains in feed.

Antibiotic Stewardship Principles

The key principles of stewardship are to **Refine, Reduce, and Replace** antibiotic usage.

- **REFINE** – continuously assess the most appropriate antibiotic for use considering all antimicrobial options and selecting the one with the best efficacy taking into account the OIE List of Antimicrobials of Veterinary Importance and its recommendations and minimizing resistance development that could pose the greatest global public health risks.
- **REDUCE** – reducing the number of birds receiving treatment, through effective monitoring of every flock, by production system (breeder, grower, indoor, free range, organic). Monitoring should be put in place to identify reasons for use and an Action Plan followed for farms using higher levels of antibiotics, to help improve their flock management systems to reduce the need for antibiotics.
- **REPLACE** – reviewing where and why antibiotics are being used and how they can be replaced by management practices focused on effective disease prevention including interventions such as vaccination, non-antibiotic additives for gut health and immune balancers for overall health, changes to husbandry, improved biosecurity, reduction of stress, and control of coccidiosis to reduce the need for antibiotics.

Antibiotic Medication - Responsible use

- Use antibiotics only when medically necessary to alleviate or avoid pain and suffering in consultation with the veterinarian or professionally qualified person.
- Antibiotics should not be used routinely or without a proper assessment of disease risk by the veterinarian, in order to preserve their efficacy.
- Utilize the optimal dosage and duration of the medication to address the health and welfare of the flock.
- Antibiotics should not be used as part of a programme to control *Salmonella* in poultry flocks.
- All medicine used should be recorded and regularly reviewed by the farmer and the veterinarian, and in the case of integrated companies, by appropriate senior managers, to understand reasons for use and possible changes in management systems to reduce the need for antibiotics.

- Use of any WHO Highest Priority Critically Important Antimicrobials (HPCIA) in poultry production is strongly discouraged and should be avoided to safeguard their use in human medicine.
 - Current (2018) OIE guidance is that WHO HPCIA agents should only be used as an absolute last resort, based on results of bacteriological tests, and considered by the veterinarian to be the sole remaining therapeutic choice to alleviate bird pain and suffering.¹

Growth Promotion

- In no circumstances should any antibiotics on the WHO list of Antimicrobials Critically Important, Highly Important, or Important for Human Medicine be used for the purpose of growth promotion. Other antimicrobials used as growth promoters should be phased out in the absence of risk analysis.

Data Collection

- Response to antibiotic treatment outcomes should be objectively measured, recorded and periodically reviewed.
- On-farm collection of antibiotic usage data is a useful tool to analyse volumes and categories of antibiotics used.
- Quantities of active ingredients (mg/kg), by licensed product type, should be entered into a user-friendly database on a farm basis.
- The data should be used to review reasons for treatment. Sharing comparative data can help inform best practice.
- National industry organisations are encouraged, in collaboration with the national veterinary services, to collect, verify and share actual antibiotic usage data and analysis of data in relation in the number of birds slaughtered.

¹ The OIE List Of Antimicrobial Agents of Veterinary Importance states that Fluoroquinolones, Cephalosporins of 3rd and 4th generations, and Colistin should be used according to the following recommendations: i) Not to be used as preventative treatment applied by feed or water in the absence of clinical signs in the animal(s) to be treated; ii) Not to be used as a first line treatment unless justified, when used as a second line treatment, it should ideally be based on the results of bacteriological tests; iii) Extra-label/off label use should be limited and reserved for instances where no alternatives are available. Such use should be in agreement with the national legislation in force; and iv) Urgently prohibit their use as growth promoters.

References and useful links

- IPC Position Statement
http://www.internationalpoultrycouncil.com/storage/images/international_poultry_council_position_statement_antimicrobial_use_2017_final.pdf
- OIE 2nd OIE Global Conference on Antimicrobial Resistance and Prudent Use of Antimicrobial Agents
http://www.oie.int/amr2018/wp-content/uploads/2018/11/A_2nd-OIE-Global-Conference_Recommendations_Final_ic.pdf
- OIE List of Antimicrobial Agents of Veterinary Importance
http://www.oie.int/fileadmin/Home/eng/Our_scientific_expertise/docs/pdf/AMR/A_OIE_List_antimicrobials_June2019.pdf
- WHO Critically Important Antimicrobials for Human Medicine
<https://apps.who.int/iris/bitstream/handle/10665/312266/9789241515528-eng.pdf?ua=1>
- OIE Terrestrial Animal Health Code, Chapter 6.10 “Responsible and Prudent Use of Antimicrobial Agents in Veterinary Medicine”
http://www.oie.int/fileadmin/Home/eng/Health_standards/tahc/current/chapitre_antibio_use.pdf
- OIE Terrestrial Animal Health Code, Chapter 6.11 “Risk analysis for Antimicrobial Resistance arising from the use of Antimicrobial Agents in Animals)
https://www.oie.int/fileadmin/Home/eng/Health_standards/tahc/current/chapitre_antibio_risk_ass.pdf
- UN Interagency Coordination Group on AMR Final Report “No Time to Wait: Securing the future from drug-resistant infections” April 2019
https://www.who.int/antimicrobial-resistance/interagency-coordination-group/IACG_final_report_EN.pdf?ua=1