

Policy on use of antimicrobial agents

This policy outlines Mowi's approach towards responsible use of licensed antimicrobial veterinary medicines and minimising the risks of development of antimicrobial resistance, while ensuring compliance with all respective laws and regulations. Furthermore, this policy ensures that any use of antimicrobial agents is in line with World Health Organization (WHO) guidelines to mitigate the risk of human health consequences related to development of antimicrobial resistant bacteria.

Governance

Mowi's strict practices and standards, matched by our dedicated fish health professionals and trained staff, ensure we can treat fish with licensed veterinary medicines only when needed. All prescriptions are signed and approved by certified veterinarians/fish health professionals and are strictly controlled by the authorities. We apply withdrawal periods set by the respective authorities and test fish before harvesting to ensure there is no negative impact on the quality of our final product. Our Managing Directors and Group Management Team have responsibility for our antimicrobial use policy and implementation of best practices on responsible use.

Scope

This policy applies to all our farming operations and ensures compliance with the WHO Guidelines on Use of Medically Important Antimicrobials in Food Producing Animals and the WHO list of Critically Important Antimicrobials for Human Medicine. Furthermore, this policy promotes the 3 R's framework (Refine, Reduce and Replace) on antimicrobial stewardship in veterinary medicine.

Mowi ensures licensed antimicrobials are used in a responsible manner through:

Employee training

Our fish health professionals continuously exercise their duty of care and attention to the well-being of our fish. Our site staff regularly attend fish health courses (internally and externally), which focus on disease prevention, management and medicine use.

Fish health management

Mowi applies good husbandry and management practices, biosecurity programmes and veterinary health plans on all our sites, all under the supervision of our fish health professionals, to control bacterial infections.

Our fish health/veterinary health plans are designed with an emphasis on fish well-being disease prevention, mitigation of stress and to limit any potential spread of infection if fish become sick.

Vaccination

Vaccines reduce the need for antimicrobial use to a minimum, in most farming regions. Mowi vaccinates 100% of its fish for the majority of bacterial and viral infections of salmon.

Treatment with licensed antimicrobial medicines

Mowi only uses medicines when other measures are not sufficient or when fish welfare may be compromised. To not use antimicrobial medicines under such circumstances would be unacceptable from a fish health, well-being and welfare perspective.

Antimicrobial agents potentially used are classified as veterinary medicines and are approved, based on very strict criteria, by the relevant licensing authorities. Where licensed antimicrobial medicines are used, this is either because current vaccines provide limited protection or vaccines need to be developed. Only when specific bacterial infections are diagnosed, and there is no alternative, do we treat fish with medicines that are approved. If used, strict policies and regulations apply.

All treatments are prescribed by certified veterinarians/fish health professionals and are strictly controlled by the authorities. Whenever required, a sensitivity test is performed before any antimicrobial treatment, to avoid development of resistance.

Antimicrobials are never used prophylactically or to promote growth.

Annually, we report the use of antimicrobials in all our farming operations (as g antimicrobials/t produced) and the percentage of fish treated in both freshwater and seawater, which remains low. In addition, we report on the main causes (disease diagnoses) associated with antimicrobial use. Our reporting of antimicrobial use is audited by an independent third party, for all salmon we produce. Antimicrobial use in each of our farming operations is also disclosed in our quarterly financial reports.

Residue and quality control

Mowi always respects pre-harvest withdrawal periods, set by the authorities, on respective licensed antimicrobials. Treated fish are analysed before harvesting to ensure any residues are below safe levels in our final product.

Managing antimicrobial resistance

Our good husbandry and management practices, biosecurity programmes and veterinary health plans provide a sound basis for managing the risk of antimicrobial resistance. These indicate what measures should be used, when and which combination of measures to apply. This systematic approach ensures alternation of measures and sufficient following periods, which minimise the risk of resistance development.

Licensed antimicrobial medicines are only used when specific diseases are diagnosed and there is no alternative, or when fish welfare and health may be compromised. We never use antimicrobials prophylactically or to promote growth.

We practice prudent and responsible use of licensed antimicrobial medicines and optimise their use to preserve effectiveness. All treatments are prescribed by certified veterinarians / fish health professionals and are strictly controlled by the authorities.

We apply pre-harvest withdrawal periods set by the authorities and conduct systematic analyses to document that residue levels are below legal limits for the markets where we produce and sell our fish. Residue controls are additionally verified by the authorities on a regular basis.

We adopt the recommendations and support best practices as outlined in the “WHO guidelines on use of medically important antimicrobials in food producing animals”. Hence, we never use any antimicrobials (critically important, medically important or otherwise) for the purposes of growth promotion, prevention of infectious diseases or for control of dissemination. We also prohibit the use of Highest Priority Critically Important Antimicrobials in our operations.

In addition, we only use antimicrobials based on clinical diagnosis by a veterinarian, under veterinary prescription and we apply disease prevention, husbandry and management, biosecurity practices, and the use of effective vaccines to limit the need for use of antimicrobials. Furthermore, we restrict the use of different classes of antimicrobial drugs,

which according to the WHO is more effective in reducing antimicrobial resistance than restrictions on the quantity of single antimicrobial drugs used.

As per WHO recommendations, antimicrobials listed as Critically Important for human medicine can only be used as exemptions, under the judgement, prescription and supervision of a veterinary professional, and if microbial sensitivity results demonstrate that the selected antimicrobial is the only treatment option.

Furthermore, Mowi can unequivocally state that medically important antimicrobials are restricted for disease treatment only. Highly Important Antimicrobials (HIA) are only used as a last resort (e.g. in cases of resistance to other antimicrobials) and based on clinical diagnosis by a veterinarian.

Only two antimicrobials have been used by Mowi in recent years, namely oxytetracycline (tetracycline) and florfenicol (fluoroquinolone), which are classified as HIA's. No Highest Priority Critically Important Antimicrobials (HPCIA) or Critically Important Antimicrobials (CIA) have been used in our operations.

Application of the 3 R's framework

We refine the use of licensed antimicrobial medicines by ensuring informed product selection, correct dosing, optimised administration, as well as sharing best practice strategies on refinement, as per WHO recommendations.

We aim to reduce use, while preserving fish health and welfare (as per WHO recommendations). In addition, we monitor and control all use, and we report antimicrobial use (and specific health reasons for use) in our annual report.

We replace licensed antimicrobials with evidence-based and sustainable solutions to prevent bacterial diseases and safeguard fish health, well-being and welfare, such as vaccination, and improved husbandry and management practices.

Internal and global standards on licensed antimicrobial use

We adopt standards that meet and exceed regulatory requirements and industry guidelines on use of antimicrobials. All our farms are certified to respected standards, namely GLOBAL G.A.P., ASC and GSA BAP, that address aspects of antimicrobial use and reducing the risk of resistance development.

Supplier standards

Suppliers of licensed medicines are required to follow standards no less stringent than our own. Our Code of Conduct defines what suppliers are required to do with respect to product supply and stewardship.

Continuous improvement

We focus on the development of better practices, and conduct extensive R&D on new vaccines and health solutions, and alternative vaccine technologies, to further reduce bacterial infections, antimicrobial use and the risk of resistance development.

We work continuously with academic and commercial partners, and relevant suppliers, to discover and research new approaches and alternative treatments for the management of bacterial infections, including research on probiotics, phage-therapies, genomic selection and novel vaccine technologies.

Furthermore, we continue to address antimicrobial resistance and management through the Chilean Salmon Antimicrobial Reduction Programme and Global G.A.P. Aquaculture Technical Committee.

We expect continuous advances in our breeding programme, and compliance with the ASC standard, to further contribute to responsible use.

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