

## **Policy on use of antimicrobial agents**

This policy outlines Mowi's approach towards responsible use of licensed antimicrobials as veterinary medicines and minimising the risks of development of antimicrobial resistant bacteria, while ensuring compliance with respective laws and regulations. Further, this policy ensures that 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 when needed. All prescriptions are signed 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 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, 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 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 antimicrobials under such circumstances would be unacceptable from a fish health and welfare perspective.



Antimicrobials 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 possible, a sensitivity test is performed before any antimicrobial treatment, to avoid development of resistance. Antimicrobials are never used prophylactically or to promote growth.

### **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 there are no residues and no impact on the quality of 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 have adopted the recommendations and support the best practices as outlined in the "WHO guidelines on use of medically important antimicrobials in food producing animals". Hence, we restrict use and do not use antimicrobials for growth promotion, prevention of infectious diseases or for control of dissemination. In addition, we only use antimicrobials under veterinary prescription and apply disease prevention, husbandry and management, biosecurity practices, and the use of effective vaccines to limit the need for use of antimicrobials. Further, we restrict use of all antimicrobial classes, which according to the WHO appears to be more effective in reducing antimicrobial resistance compared to narrow restrictions of single antimicrobial classes.

As per WHO recommendations, antimicrobials listed as critically important for human medicine should be avoided and 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.



**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 in our annual report.

We replace licensed antimicrobials with evidence-based and sustainable solutions to prevent bacterial diseases and safeguard fish health 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. We are committed to certify our farms with standards, namely GLOBALG.A.P., ASC and 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 regards to product supply and stewardship.

**Continuous improvement**

We focus on the development of better practices, and conduct R&D on new vaccines, to further reduce bacterial infections, antimicrobial use and the risk of resistance development. We expect continuous advances in our breeding programme, and compliance with the ASC standard, to further contribute to responsible use.

