

# WORLD ANTIMICROBIAL AWARENESS WEEK

18 – 24 NOVEMBER 2021



Australian Government  
Department of Agriculture,  
Water and the Environment

World Antimicrobial Awareness Week (WAAW) aims to increase awareness of global antimicrobial resistance (AMR) and to encourage best practices among the general public, health workers and policy makers to avoid the further emergence and spread of drug-resistant infections.

The WAAW 2021 campaign calls on stakeholders, including policymakers, health care providers, and the general public to recognize that everyone can be an AMR Awareness champion. Participants are encouraged to spread awareness about what AMR is, share stories about its consequences, and demonstrate how the actions of individuals, families, professionals, and communities affect the spread of AMR.

## Spread awareness, stop resistance



Antibiotics  
Antivirals  
Antifungals  
Antiparasitics



**World Antimicrobial  
Awareness Week**



# Mitigating AMR in Animals

Dr Mark Schipp, Australian Chief Veterinary Officer



The World Health Organization (WHO) has declared antimicrobial resistance (AMR) as one of the top ten global public health threats facing humanity. AMR is being highlighted from November 18 to 24 during World Antimicrobial Awareness Week 2021, with the theme of 'Spread Awareness, Stop Resistance'.

The department is involved in multiple initiatives working to combat AMR and raise awareness of the issue. Australia's National Antimicrobial Resistance Strategy – 2020 and Beyond was released in 2020, outlining a 20-year vision to protect the health of humans, animals and the environment through minimising the development and spread of AMR.

Any effective response to antimicrobial resistance therefore requires a 'One Health' approach, involving coordinated action across all sectors where antimicrobials are used, as well as close alignment with global action.

The implementation of the 2020 strategy requires collaboration by all Australian governments, along with the private sector, industry, professionals, the research community and the general public. Only through working together can we ensure the continued availability of effective antimicrobials both now and into the future.

The department is funding a prescribing behaviour survey to investigate current prescribing by veterinarians, the reasons behind prescribing decisions, and the attitudes of animal owners. The results from the survey will inform the development of evidence-based antimicrobial prescribing guidelines and best practice industry supports.

Antimicrobial prescribing guidelines should be used in all health care settings where antimicrobials are used. The Australian Veterinary Association in conjunction with Animal Medicines Australia have developed antimicrobial prescribing guidelines for sheep, poultry and pigs, and are progressing similar guidelines for dairy cattle.

The AMR Vet Collective website is a fantastic AMR resource for veterinarians, along with the recently updated veterinary antimicrobial stewardship (AMS) online training program, which has been designed to help veterinarians make optimal decisions when using antimicrobial agents in clinical practice.

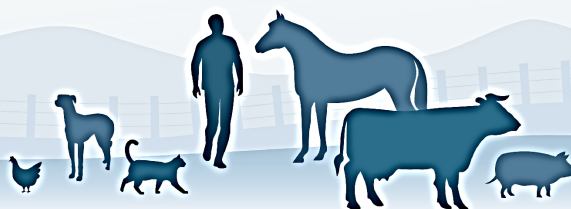
The interactive modules incorporate scenario-centred learning for veterinarians across all areas of practice, and participants can achieve continuing education points. This collaborative

project was developed by the Veterinary Schools of Australia and New Zealand, the University of Sydney, Charles Sturt University with funded contributed by the department.

Everyone has a role to play in spreading the word about AMR, and for further information on AMR please visit: [www.amr.gov.au](http://www.amr.gov.au)



To access the AMR Vet Collective and AMS Online Training Program, visit: [www.amrvetcollective.com](http://www.amrvetcollective.com)





# Antimicrobial Prescribing principles



- ✓ Do not use antimicrobials for self-limiting disease
- ✓ Where you can, treat topically or locally
- ✓ Choose the narrowest spectrum effective agent available
- ✓ Use the latest resources to inform dose rate and frequency (Access guidelines here:  )
- ✓ Treat for the shortest duration necessary
- ✓ If there is more than one effective agent available, choose the one with the lowest importance rating to human health (ASTAG rating in Australia:  )





# Spreading the seed of AMR awareness

Gabrielle Vivian-Smith, Chief Plant Protection Officer



Antimicrobial resistance (AMR) is a significant threat to human and animal health and food security, but the full extent of AMR development in plants is still under investigation. While the International Plant Protection Convention (IPPC) Commission on Phytosanitary Measures (CPM) recognises the need to limit the use of antimicrobials to curb the emergence and spread of AMR under a global 'One Health' framework, the IPPC community does not have robust data on the extent and volume of antimicrobial use by the plant sector worldwide. There are regional and national differences in antimicrobial recommendations,

which may be due to agricultural needs, legislation, availability, cropping systems, extension services, or the nature of the pathogens. A recent study indicated that only 3% of 158 countries in the study indicated they were regularly assessing the use of antimicrobial agents in crop production.

The present limited data demonstrates extreme variation between the use of antibiotics in crop production across the regions, as well as in the amounts of antibiotics used by various countries within the regions. At least 20 countries authorize antibiotic use to control fire blight and citrus greening bacterial diseases in plants. In some countries, streptomycin is authorized to control certain bacterial diseases in pip fruit, stone fruit, seedling tomatoes and kiwifruit. Kasugamycin, oxytetracycline and oxolinic acid are other antibiotics used to control plant pests.

CPM-14 (2019) supported the IPPC Secretariat maintaining a watching brief on the contribution of plant health related actions to Antimicrobial Resistance, through the UN Food and Agriculture Organisation's AMR working group, subject to CPM and IPPC Secretariat priorities and resources. Recently CPM-15 (2021) requested

that the agenda of the next Strategic Planning Group (October 2021) include a discussion on the extent of the involvement of plant health in the One Health approach, and the role of plant health in biosecurity, biosafety and environmental protection, to allow a further assessment and to make an informed CPM decision on this issue. Finally, it was agreed that the IPPC Secretariat involvement in AMR should be limited to the scope of the Convention, that is, supporting the prevention of the spread of plant pests through the development of International Standards for Phytosanitary Measures (ISPMs).



The CPM also continues to encourage the use of integrated pest management techniques to prevent or reduce the incidence and severity of plant pests and diseases, and therefore the need to apply plant protection products. This may include best agricultural practices, such as crop rotation, or pest impact reduction strategies

using host resistance, induced resistance, or biological control. Another strategy is the use of antimicrobials with different modes of action to those used in human medicine and selective breeding to decrease plant host susceptibility.

Australia continues to monitor whether widespread use of fungicides in broadacre grains production could potentially lead to AMR resistance. As previously reported, the ascomycete fungus *Aspergillus fumigatus* can cause the development of aspergillosis, a lung infection in humans and fungal disease in grain crops. The same demethylation inhibitor (DMI) fungicides used to control the fungal pathogens in crops, are needed to treat aspergillosis in people. To date, insensitivity to DMI fungicides has been recorded in several pathogens, including septoria tritici blotch of wheat, wheat powdery mildew, barley powdery mildew, the net form of net blotch in barley and blackleg in canola.

# Go Blue for AMR

- 'Go Blue' as an individual:
  - Wear blue during WAAW events;
  - Adjust your social media profiles with WAAW campaign digital resources;
  - Tell your family, peers, colleagues, and communities why you 'Go Blue' during WAAW
- 'Go Blue' as a workplace:
  - human and animal hospitals, clinics, laboratory facilities, pharmaceutical companies, universities) are encouraged to light up blue throughout the week
- 'Go Blue' as a community:
  - On the final day of WAAW, we encourage local landmarks and other buildings to light up in light blue to raise AMR awareness



# Fishing for alternatives to reduce AMR

## Aquatic Pest and Health Policy

Aquaculture is one of the fastest growing primary industry sectors in Australia. The gross value of production of Australia's fisheries and aquaculture sector was \$3.18 billion in 2017-18. With the global demand for high quality seafood rising, Australia is well positioned to supply fresh, safe and sustainably sourced seafood to markets at home and abroad. Infectious diseases are a significant threat to the profitability of Australia's fisheries and aquaculture industries. The global impact of aquatic animal diseases exceeds \$6 billion per annum. The Australian, state and territory governments and aquatic animal industry are working hard to mitigate the risk of disease, whilst being careful to not overuse veterinary chemical products, including antimicrobials.

Veterinary chemical products are important for managing aquatic animal health and welfare, ecological sustainability (i.e. reduce risk of disease spread to wild populations), food security and human health (i.e. reduce risk of zoonosis). Products must be controlled so that consumers and the environment are not put at risk.

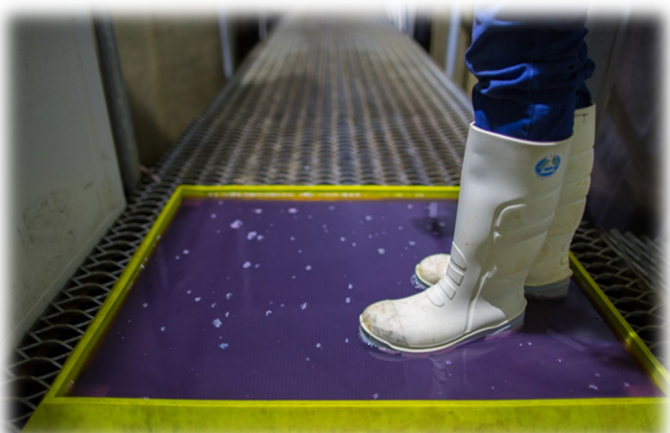


The aquaculture industry has applied several good aquaculture practices to reduce the risk of disease without having to use antimicrobials. This includes the use of vaccines, on-farm biosecurity, and strict regulatory requirements for antimicrobial use.

For example, the Tasmanian Government, together with its Atlantic salmon industry, has pioneered the development and use of several vaccines for finfish. The use of these vaccines has reduced the need for antibiotic use in the salmon industry and antimicrobial resistance surveillance has shown no evidence of resistance among the industry.

Biosecurity describes the systems put in place to protect industry and farms from disease. Several generic and aquaculture sector-specific biosecurity plan guidelines and templates were developed through Australia's third [National Strategic Plan for Aquatic Animal Health, AQUAPLAN 2014-2019](#). The guidelines assist farmers to develop fit for purpose biosecurity plans that can be used to reduce on-farm biosecurity risks such as the use of alternatives to veterinary chemical use.

There are a number of good lessons that can be learnt from Australia's aquatic animal industries in regards to their prudent use of antimicrobials and uptake of alternative methods. Access to safe and appropriate veterinary chemicals is an ongoing concern for aquatic animal industries and is included in the current industry-government national strategic plan for aquatic animal health ([AQUAPLAN](#)).



# Useful Resources

## Australian Government Website

<https://www.amr.gov.au>

<https://www.awe.gov.au/agriculture-land/animal/health/amr>

## AMR Vet Collective

<https://www.amrvetcollective.com>

<https://www.amrvetcollective.com/home/continuing-education>

## Australian Veterinary Association

<https://www.ava.com.au/library-resources/other-resources/fighting-antimicrobial-resistance>

## Agriculture Victoria

<https://agriculture.vic.gov.au/livestock-and-animals/livestock-health-and-welfare/antibiotic-resistant-infections>

## OIE

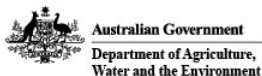
<https://www.oie.int/en/event/world-antimicrobial-awareness-week-2021>

## WHO

<https://www.who.int/health-topics/antimicrobial-resistance>

## FAO

<https://www.fao.org/antimicrobial-resistance/en>



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**Antimicrobial resistance** remains a serious and long-term threat to human and animal health worldwide as bacteria and viruses become resistant to antimicrobial treatments.

