

Antimicrobial Usage in Animals:

Surveillance Insights and

Mitigation Strategies to Combat

Antimicrobial Resistance

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World Organisation
for Animal Health

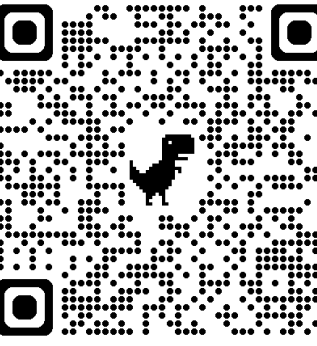
Antimicrobial Resistance (AMR) occurs when bacteria, viruses, fungi and parasites no longer respond to antimicrobial agents. As a result of drug resistance, antibiotics and other antimicrobial agents become ineffective, and infections become difficult or impossible to treat, increasing the risk of disease spread, severe illness and death.

Concerned about antimicrobial resistance?

Spread the word using this social media toolkit



World Organisation for Animal Health
Founded as OIE

Fighting antimicrobial resistance as a pet owner

Antimicrobials, including antibiotics, help animals and humans live longer and healthier lives. But many of these life-saving drugs are losing their effectiveness as the microbes they target develop resistance. The phenomenon is known as "antimicrobial resistance" or AMR.

AMR can greatly affect the health, treatment options, and overall well-being of our pets. As these animals often live in our houses and in close contact with our families, appropriate use of antibiotics can also ensure that our family members remain healthy and that these vital drugs remain effective for future generations.

You can play a role in curbing AMR by following these recommendations when antibiotics are prescribed to your animals:

Do

- Buy antibiotics only from authorised sources and retailers.
- Give the antibiotic to your animal as instructed by your vet, respecting:
 - Eg: Dose 1g/pt
 - Frequency Every 8 hours
 - Route of administration Oral
 - Duration of treatment 7 days
- Store the medication as described.
- Call your vet if you notice any side effects.
- Attend follow-up checks with your vet if required.
- Return unused or expired antibiotics to your veterinarian or local pharmacy.

Do not

- Give antibiotics to your animals without a veterinary prescription.
- Save or reuse expired or leftover antibiotics.
- Stop the treatment without checking first with your veterinarian, even if your pet appears better.
- Flush antibiotics down the toilet or sink, or throw them in the trash.

Prevention is better than cure!

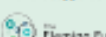
Vaccines help prevent diseases that might otherwise require antibiotic treatment. By reducing the occurrence of these diseases, we can decrease the need for antibiotics and combat the growing issue of AMR.



World Organisation for Animal Health
Founded as OIE

www.woah.org

With the support of




Fighting antimicrobial resistance

A guide for farmers



Imagine a world where infections and diseases in animals, humans and plants cannot be treated. This worst-case scenario could become a reality as some bacteria, viruses, fungi and parasites develop resistance to the drugs we use to fight them. Antimicrobial resistance, or AMR, has become one of the most pressing health issues of our time. Solutions exist and you have a role to play to address this global threat.



World Organisation for Animal Health
Founded as OIE

**WAHIS**

World Animal Health Information System

A global platform for monitoring and reporting animal health and disease events.

- Diseases present'
- Domestic & Wild Animals
- First Semester 2025 (Jan – Jun)



96

 different diseases

Disease	Grand Total
Influenza A viruses of high pathogenicity (Inf. with) (non-poultry including wild birds) (2017-)	73
African swine fever virus (Inf. with)	54
High pathogenicity avian influenza viruses (poultry) (Inf. with)	48
Foot and mouth disease virus (Inf. with)	32
Rabies virus (Inf. with)	28
Anthrax	21
Bluetongue virus (Inf. with)	19
Peste des petits ruminants virus (Inf. with)	17
Newcastle disease virus (Inf. with)	14
Brucella abortus (Inf. with)	13
Mycobacterium tuberculosis complex (Inf. with)(2019-)	12
Lumpy skin disease virus (Inf. with)	11
New world screwworm (Cochliomyia hominivorax)	11
Pathogenic rabbit lagoviruses (Rabbit haemorrhagic disease) (Inf. with)	11
Bovine anaplasmosis	9
Bovine babesiosis	9
Sheep pox and goat pox	9
Equine infectious anaemia	8
Varroa spp. (Inf. of honey bees with) (Varroosis)	8
Bovine pestiviruses (Bovine viral diarrhoea) (Inf. with)	7
Brucella melitensis (Inf. with)	7
Echinococcus granulosus (Inf. with) (2014-)	7
Fowl typhoid	7
Infectious bursal disease (Gumboro disease)	7
Avian infectious bronchitis	6
Avian infectious laryngotracheitis	6
Leishmania spp. (Inf. with) (Leishmaniosis)	6
Mycoplasma gallisepticum (Avian mycoplasmosis) (Inf. with)	6
Mycoplasma mycoides subsp. mycoides SC (Inf. with) (Contagious bovine pleuropneumonia)	6

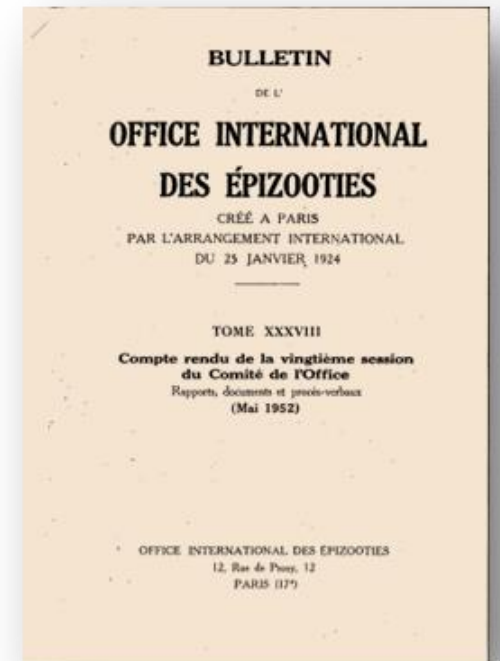
Africa	Americas	Asia	Europe	Oceania
2	15	9	47	
7		15	31	1
10	5	12	20	1
17		12	3	
8	2	14	4	
12	3	4	2	
5		1	13	
8		5	4	
6	1	3	4	
3	4	4	2	
3	1	3	5	
4		5	2	
	11			
6	2		3	
3	3	2	1	
3	3	2		1
3		3	3	
	2		6	
1	3		3	1
1	3	1	2	
3		2	2	
	2	4	1	
3	2	2		
3	2	2		
3	2	1		
2	3		1	
1	2	1	1	1
1	2	2	1	
6				

- AMR does not appear, as in the human list.
- Mortality & prevalence studies are rare and scattered
- How many of these require antimicrobials for veterinary care?
- What's the impact of drug-resistant bacteria in productivity?

In 1952, WOAHA Members already recognized the risk of AMR to the welfare of animals when they agreed:



'Use of antibiotics against insensitive germs or specifically resistant, utilization of too week doses or through a too short time frame, can reveal resistant germs...harming a method that, when judiciously and correctly applied, has saved numerous human and animal lives'



Since then, WOAHA and its partners have provided **tools**, including **guidelines**, **standards** and data to help nations optimise use in animals and manage antimicrobial resistance.

1999

WOAH creates an *ad-hoc* group to develop the first global AMR guidelines for animals

1971-72

WOAH Regional Committee for Europe assesses AMU in animal production in formal sessions during their 5th and 6th conferences.

2009-10

Resolution #25 passed at the World Assembly of Delegates for the creation of national Focal Points for Veterinary Products. The 'Tripartite' formally agrees to work together.

The FAO-OIE-WHO Collaboration

Sharing responsibilities and coordinating global activities to address health risks at the animal-human-ecosystems interfaces

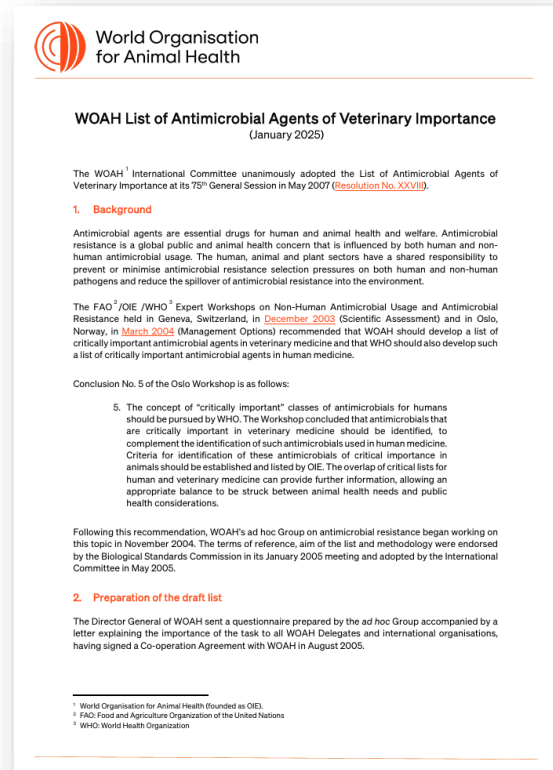
A Tripartite Concept Note



April 2010

2006

WOAH World Assembly adopts a preliminary List of Antimicrobial Agents of Veterinary Importance, fulfilling the FAO, WOA and WHO Expert Workshop of Non-Human AMU and AMR recommendations (Resolution #25).



2013

WOAH hosts 1st World Conference on AMR, which helps spur adoption of a revised list of antimicrobial agents of veterinary importance during the World Assembly of Delegates. WOA Members agreed to collect harmonised AMU data in animals with the view to submit the to the WOA and to establish a global database



Resolution 26 "Combating AMR and Promoting the Prudent Use of Antimicrobial Agents in Animals"

- The OIE develops a procedure and standards for data quality for collecting data annually from OIE Member Countries on the use of antimicrobial agents in food-producing animals with the aim of creating an OIE global database...

83SG 2015

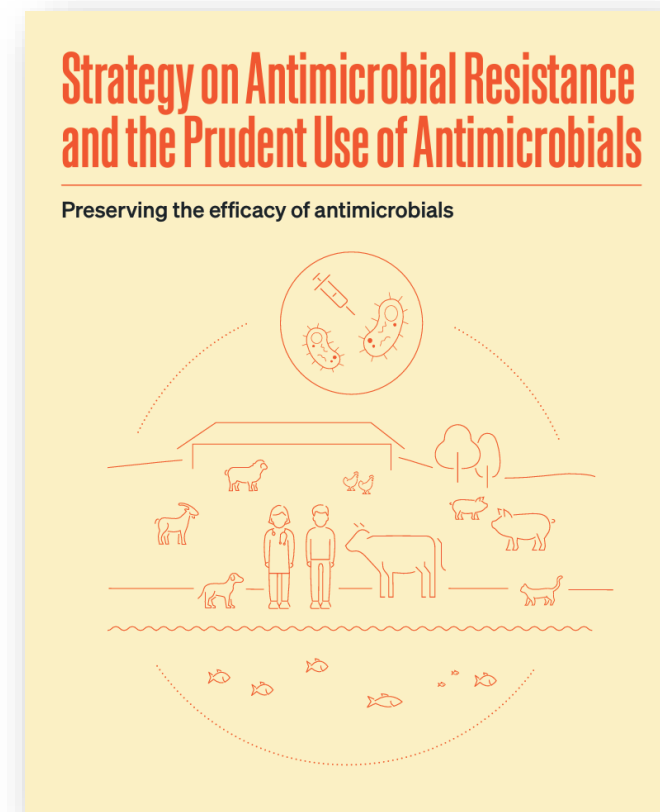
2015

Global Action Plan on AMR is published by WHO, in coordination with FAO and WOAHA, while the World Assembly of Delegates agrees in Resolution #26 to collect AMU data and submits to WOAHA (ANIMUSE) based on WOAHA Standards.



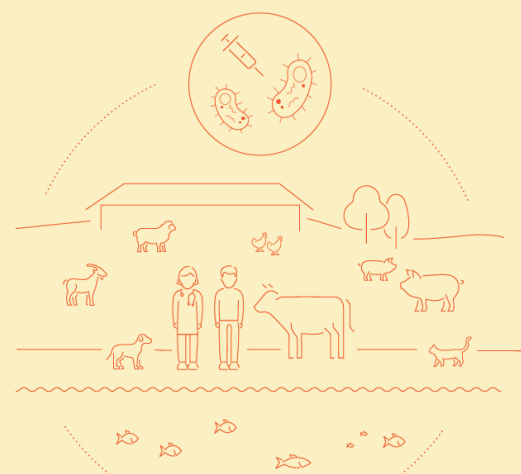
2016.a

WOAHA Delegates pledge to fulfill commitments under the Global Action Plan on AMR, while WOAHA launches its Global Strategy on AMR and Prudent Use of Antimicrobials.



Strategy on Antimicrobial Resistance and the Prudent Use of Antimicrobials

Preserving the efficacy of antimicrobials



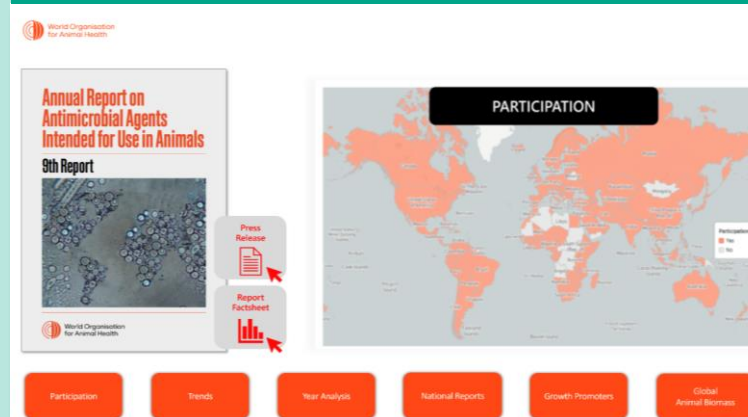
Improve awareness and understanding

- Public–Private Partnership (PPP) Workshop on AMR Communication
- Hybrid seminar on AMR awareness for the younger generation
- Workshop on mapping stakeholders and data sources for monitoring antimicrobials

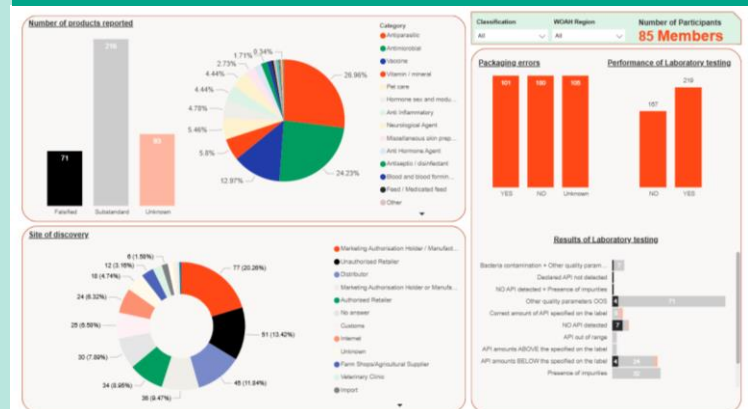


Strengthen surveillance and research

ANiMal antiMicrobial USE (ANIMUSE) Global Database



Track and Report Unsafe VETerinary Products (TRUVET)



The STAR-IDAZ Research Community

Support Governance and build capacity

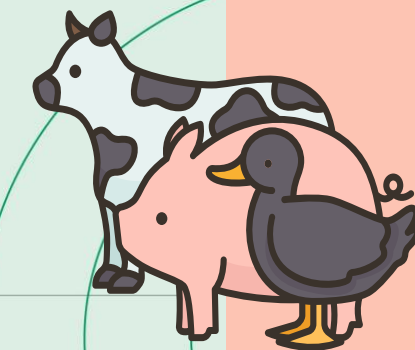


- Regional Seminar for WOA National Focal Points for Veterinary Products
- Regional hands-on training on AMR surveillance
- Workshop on Substandard and Falsified Veterinary Products (SFVP)

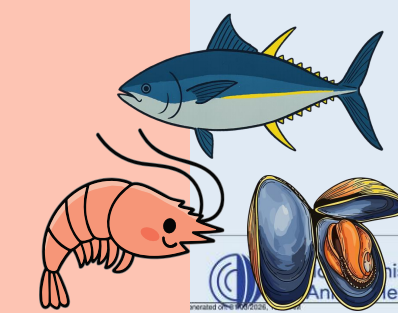


Encourage implementation of international Standards

Terrestrial Animal Health Code



Aquatic Animal Health Code



Codes and Manuals - WOA

2015

Global Action Plan on AMR is published by WHO, in coordination with FAO and WOAHA, while the World Assembly of Delegates agrees in Resolution #26 to collect AMU data and submits to WOAHA (ANIMUSE) based on WOAHA Standards.



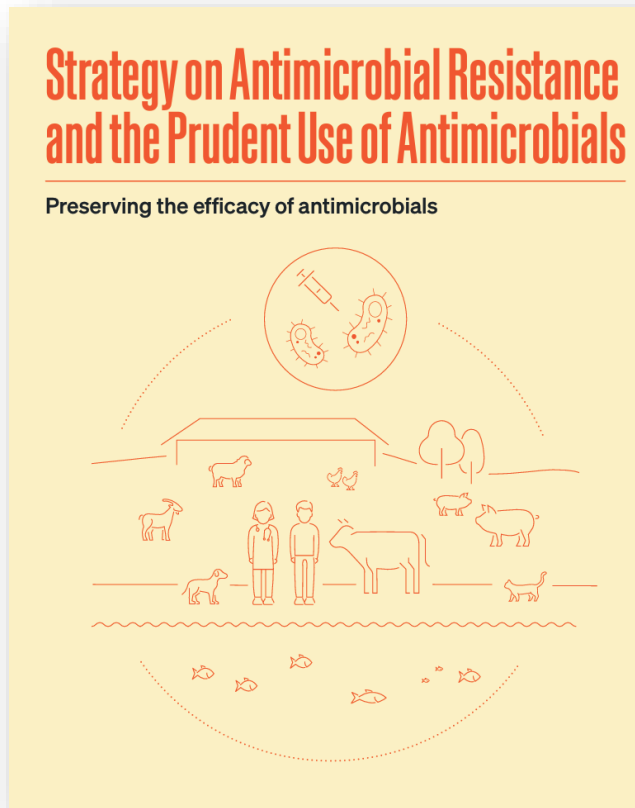
2016.b

1st UNGA Political Declaration on AMR. Countries agreed to

- Develop national action plans
- Mobilise sustainable financial resources
- Strengthen AMU monitoring
- Improve AMR awareness to encourage behavioral change
- Support a One Health approach

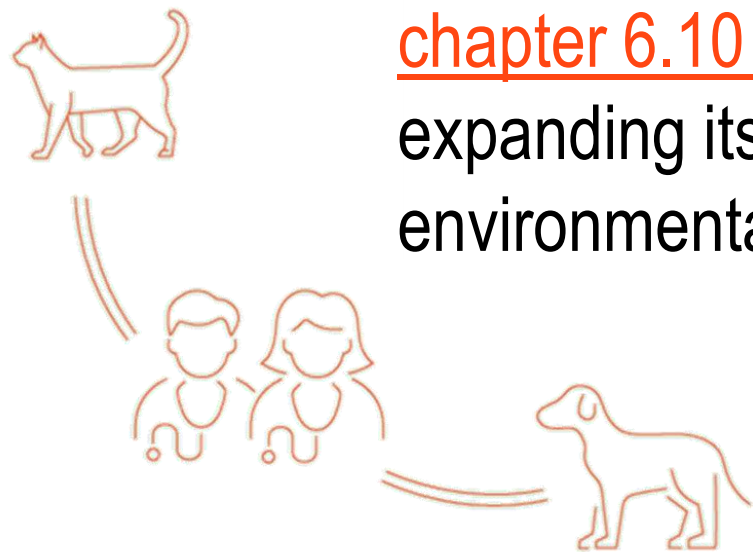
2016.a

WOAHA Delegates pledge to fulfill commitments under the Global Action Plan on AMR, while WOAHA launches its Global Strategy on AMR and Prudent Use of Antimicrobials.



2024.a

WOAH Delegates unanimously approve the revised chapter 6.10 of the Terrestrial Animal Health Code, expanding its scope to companion animals and environmental concerns



2016.b

- 1st UNGA Political Declaration on AMR. Countries agreed to
- Develop national action plans
 - Mobilise sustainable financial resources
 - Strengthen AMU monitoring and improve AMR awareness to encourage behavioral change; -Support a One Health approach

2024.b

WOAH launches a series of four reports, co-published with the World Bank (Sep.2024). Data from more than 200 countries estimating full toll of AMR (humans, livestock and our overall economies



Statistical analysis suggests that countries using antimicrobials for growth promotion in livestock have an estimated average of 45% higher antimicrobial use per kilogram of animal biomass than countries that do not use growth promoters. This estimate accounts for all classes of antimicrobials except ionophores. As previously reported by WOH, the use of antimicrobials as growth promoters is still a practice among 20% of its Members, with 75% of those being in the regions of the Americas, and in Asia and the Pacific.



2024.c

The second UN General Assembly High-Level Meeting on antimicrobial resistance

Surveillance and Monitoring (all sectors)

Commitment 98

Encourage all countries to report quality surveillance data on antimicrobial resistance and antimicrobial use by 2030.

Quadrilateral GISSA

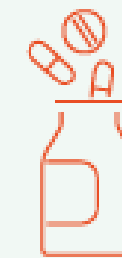
Four commitments for the animal health sector by 2030

As a member of the national Veterinary Services, your work plays a central role in ensuring their achievement.



Reduced quantities of antimicrobials used in animals

'Strive to meaningfully reduce [...] the quantity of antimicrobials used globally in the agri-food system [...] taking into account the [...] standards, guidance and recommendations of the World Organisation for Animal Health.' (69)



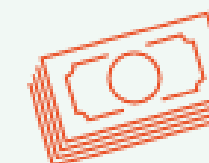
Prudent and responsible use of antimicrobials in animals

'Commit to ensure that the use of antimicrobials in animals and agriculture is done in a prudent and responsible manner in line with [...] the standards, guidance and recommendations of the World Organisation for Animal Health.' (70)



Prioritisation of prevention with a focus on animal vaccination strategies

'Ensure [...] that animal vaccination strategies are defined with an implementation plan [...] taking into account WOAH's list of priority diseases for which vaccines could reduce antimicrobial use [...].' (72)



Investment to ensure access to essential veterinary services

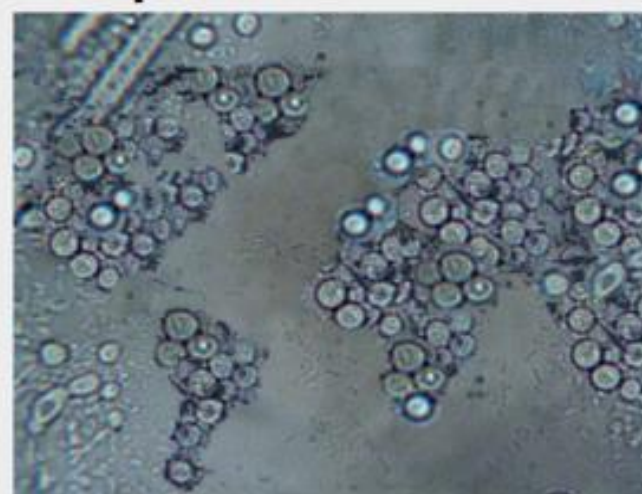
'Invest in animal health systems to support equitable access to essential veterinary services, improve animal health and appropriate management practices to prevent infections [...].' (73)

Since 2015, WOAHA launched the data call to all its Members to provide AMU data in annual basis, based on WOAHA Standards



Annual Report on Antimicrobial Agents Intended for Use in Animals

9th Report



Press
Release



Report
Factsheet



PARTICIPATION



Participation

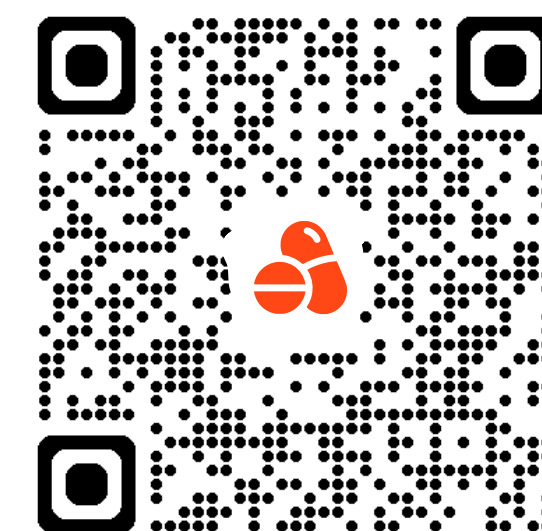
Trends

Year Analysis

National Reports

Growth Promoters

Global
Animal Biomass

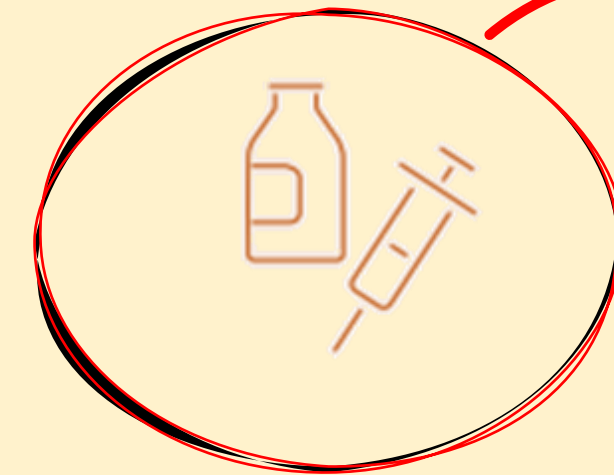


Antimicrobial use is expressed in mg/kg of animal biomass. It is determined by adjusting the quantity of antimicrobial agents reported (mg) by the live domestic animal biomass (kg) each year. This indicator can be compared between regions and over time.

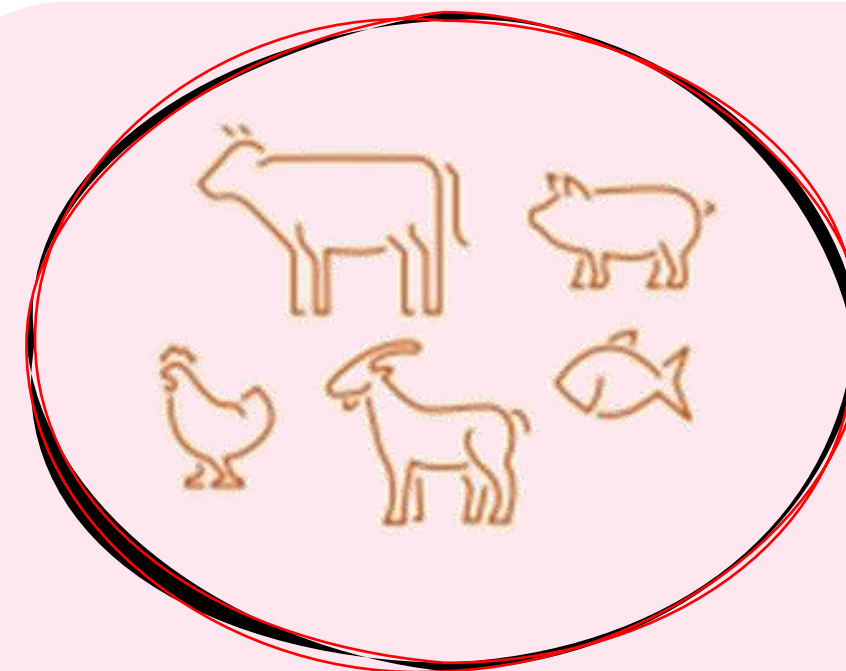
Antimicrobial agents (**mg**)

Animal biomass (**kg**)

=



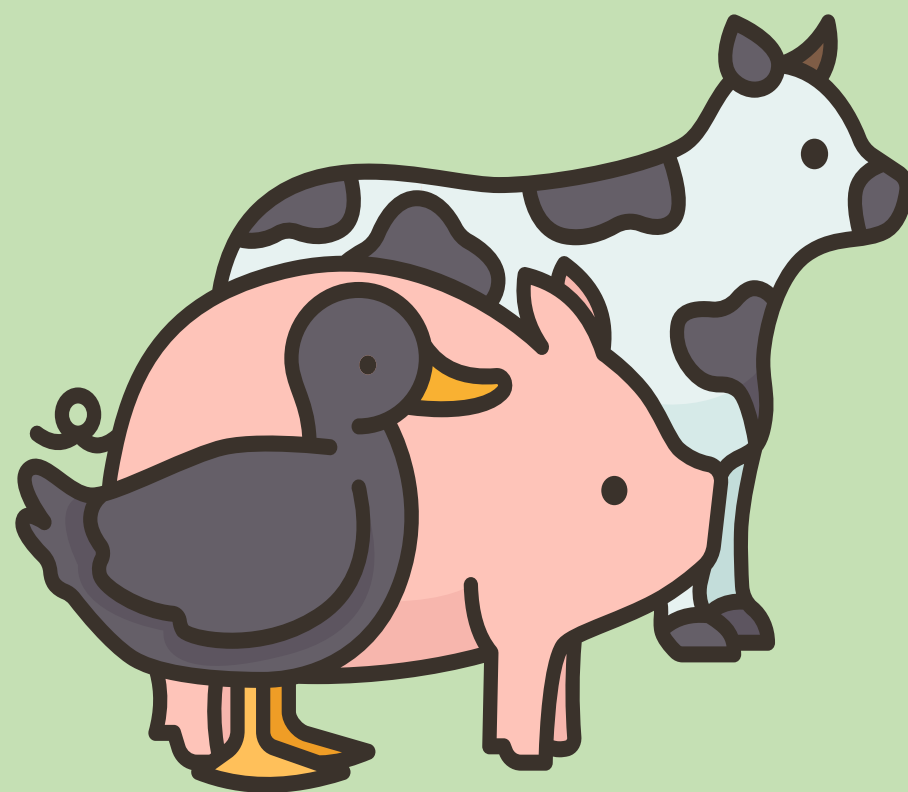
As **reported** by Members to the WOAAH data collection



Total weight of food-producing animals

Terrestrial food-producing animals

47% covered by AMU data

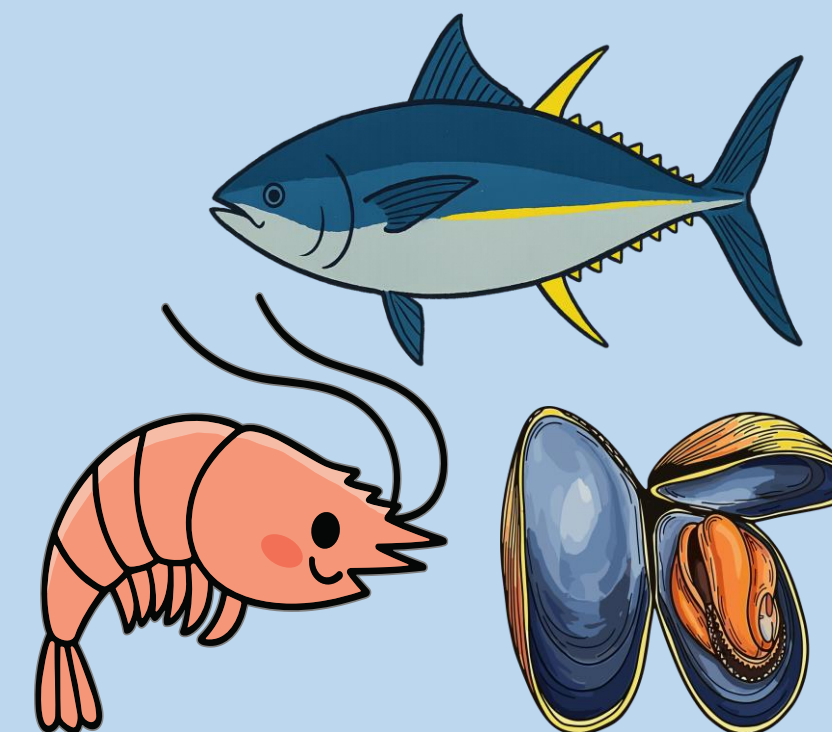


98
milligrams

of antimicrobials
adjusted by kilograms
of animal biomass

Aquatic food-producing animals

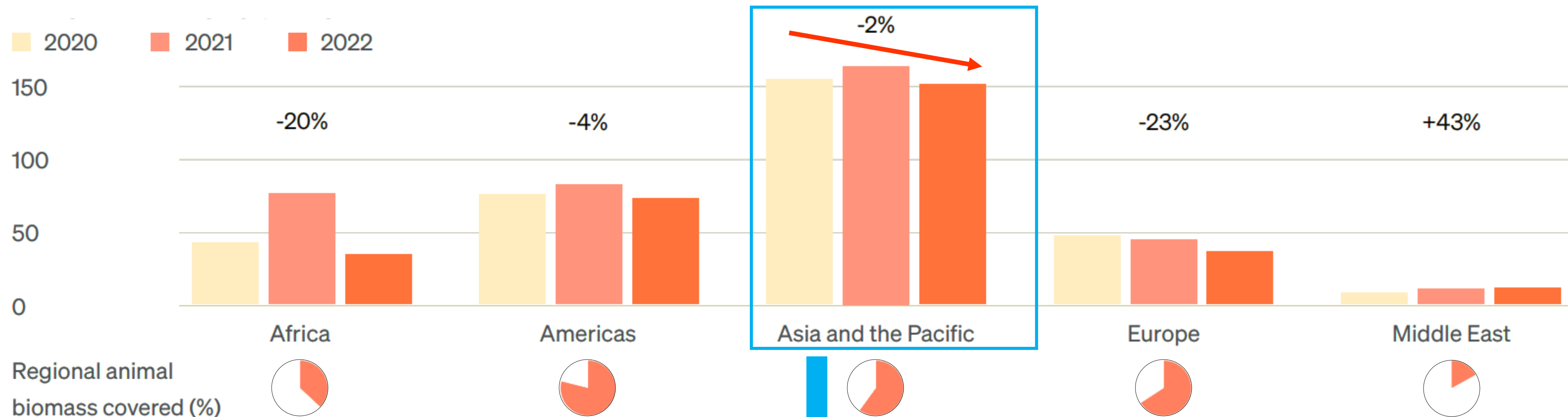
64% covered by AMU data



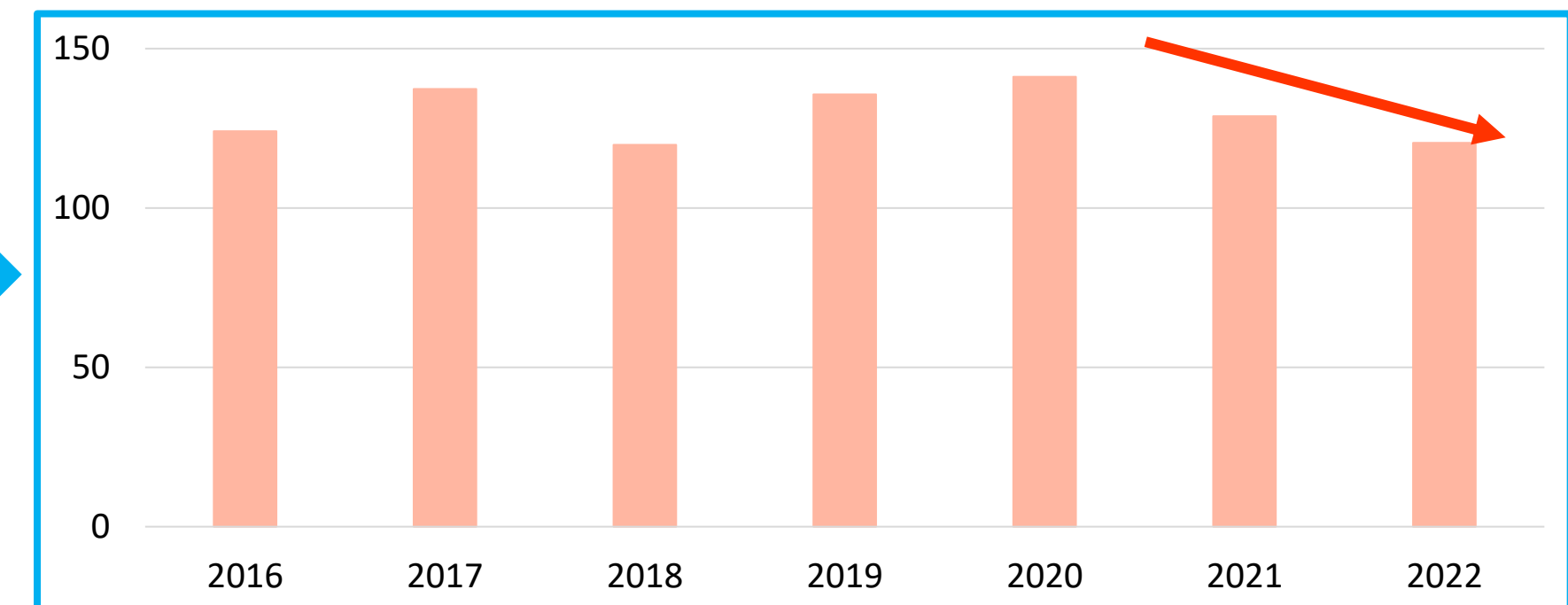
21
milligrams

of antimicrobials
adjusted by kilograms
of animal biomass

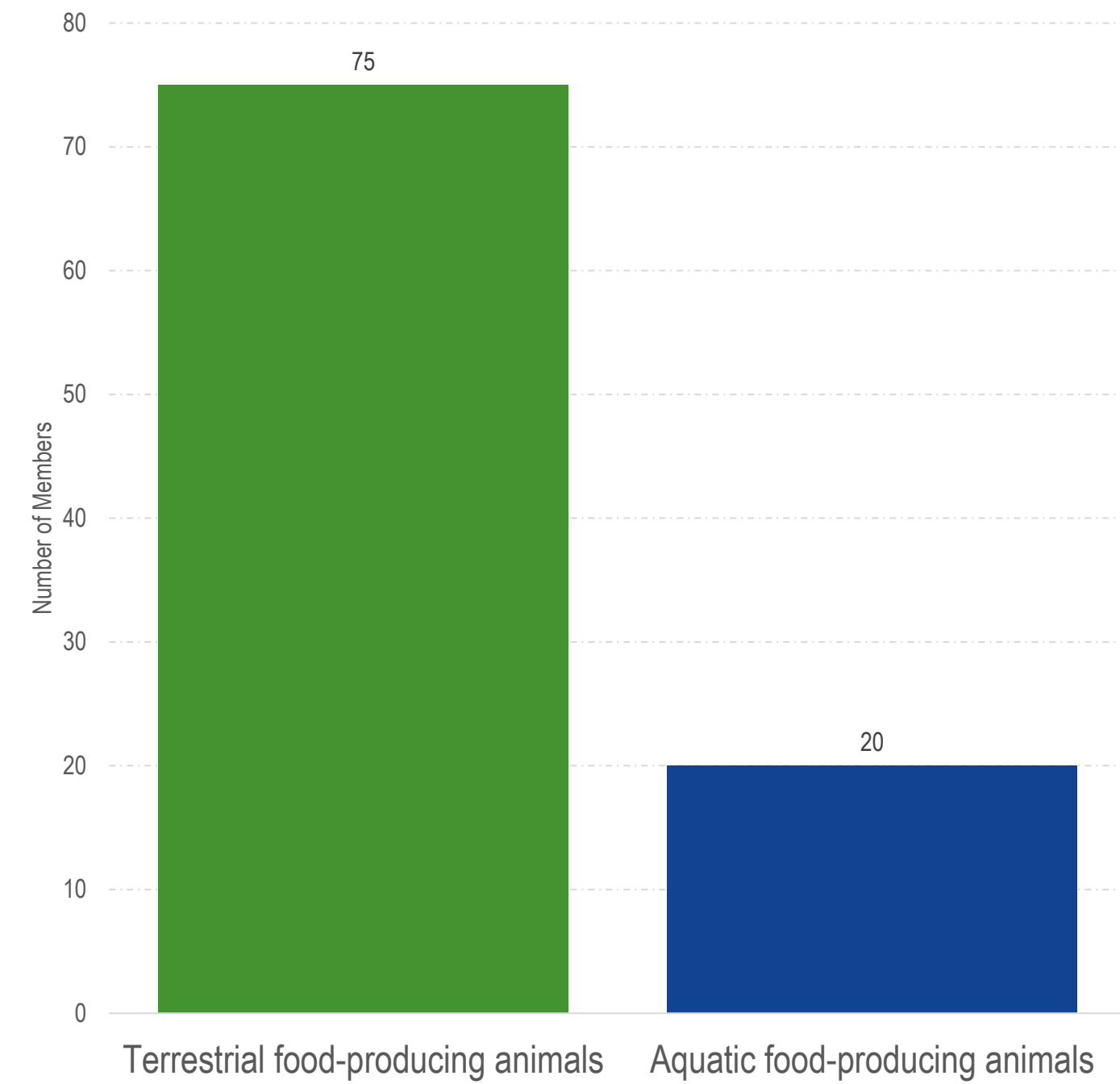
Change in AMU (antimicrobial agents reported (mg) by the live domestic animal biomass (kg))



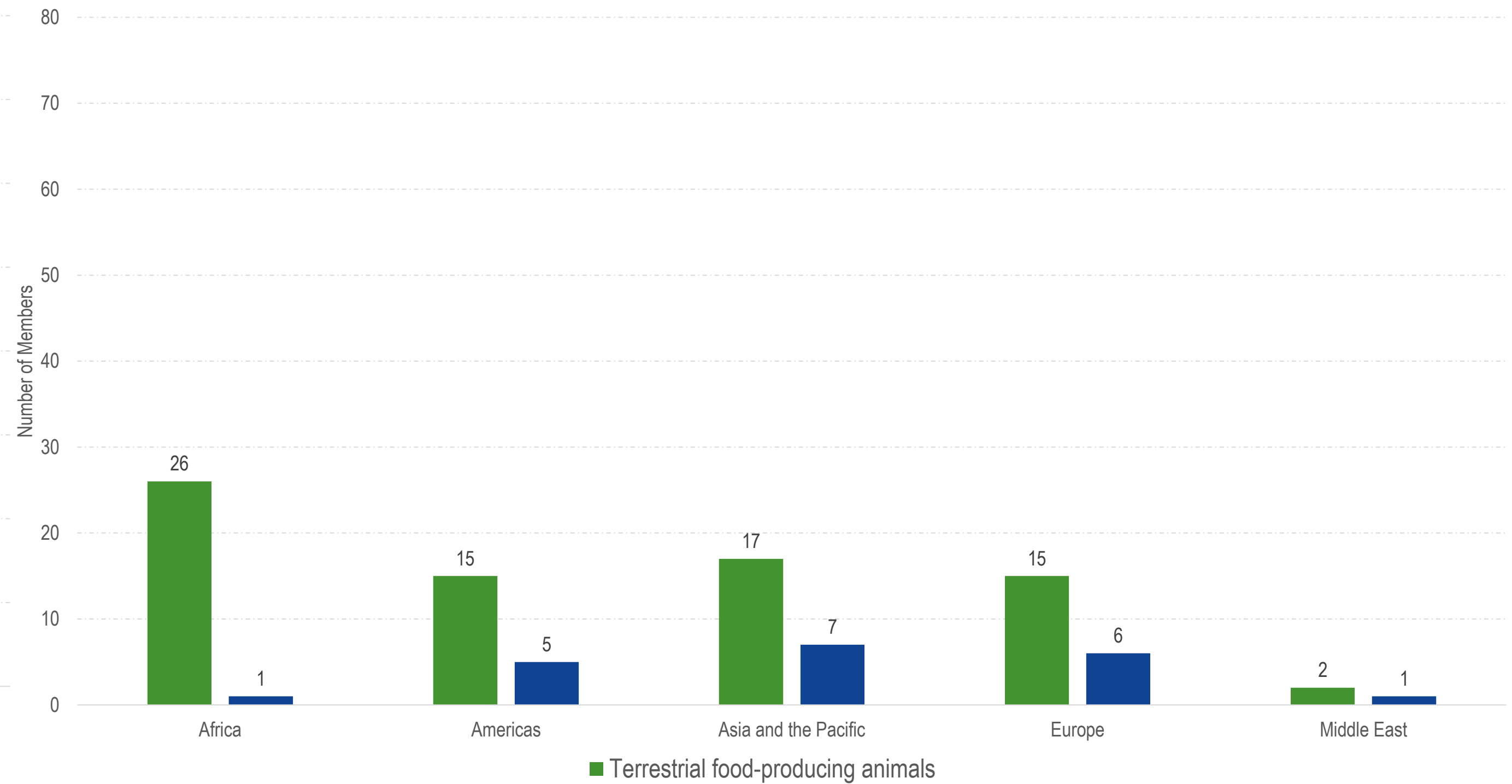
- AMU in Asia Pacific has decreased 2% from 2020 to 2022.
- Looking at the long-term trend since 2014, it is still unclear whether the downward trend has become established.
- The level of AMU per biomass in Asia-Pacific is twice to three times higher than in other regions.
- **Coverage of animals in Asia Pacific is still about 60%.**



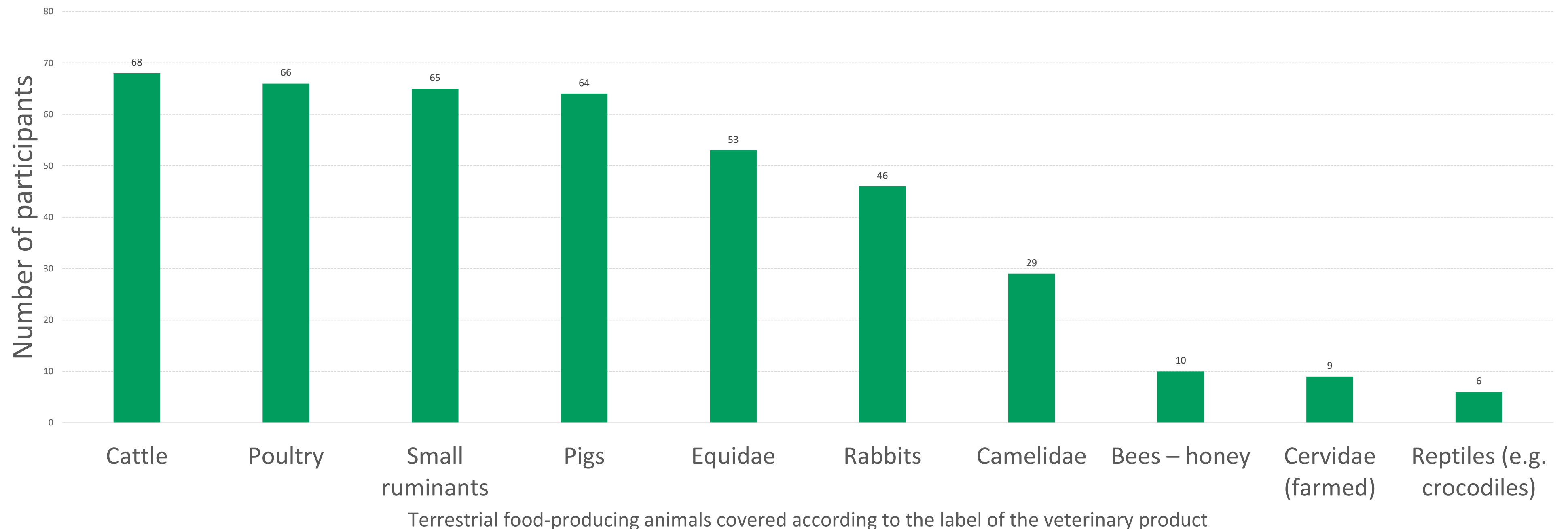
Global

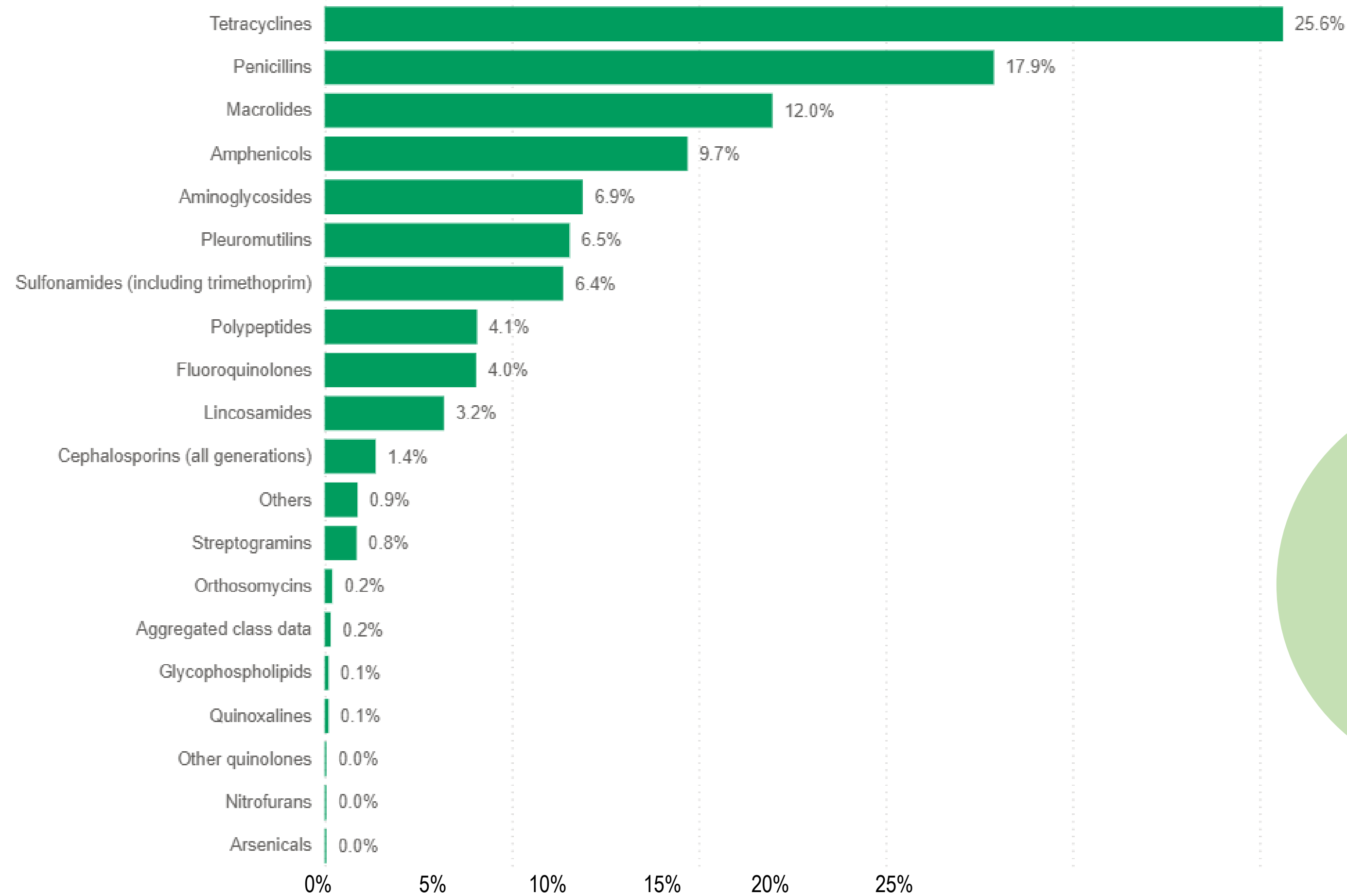


WOAH Regions

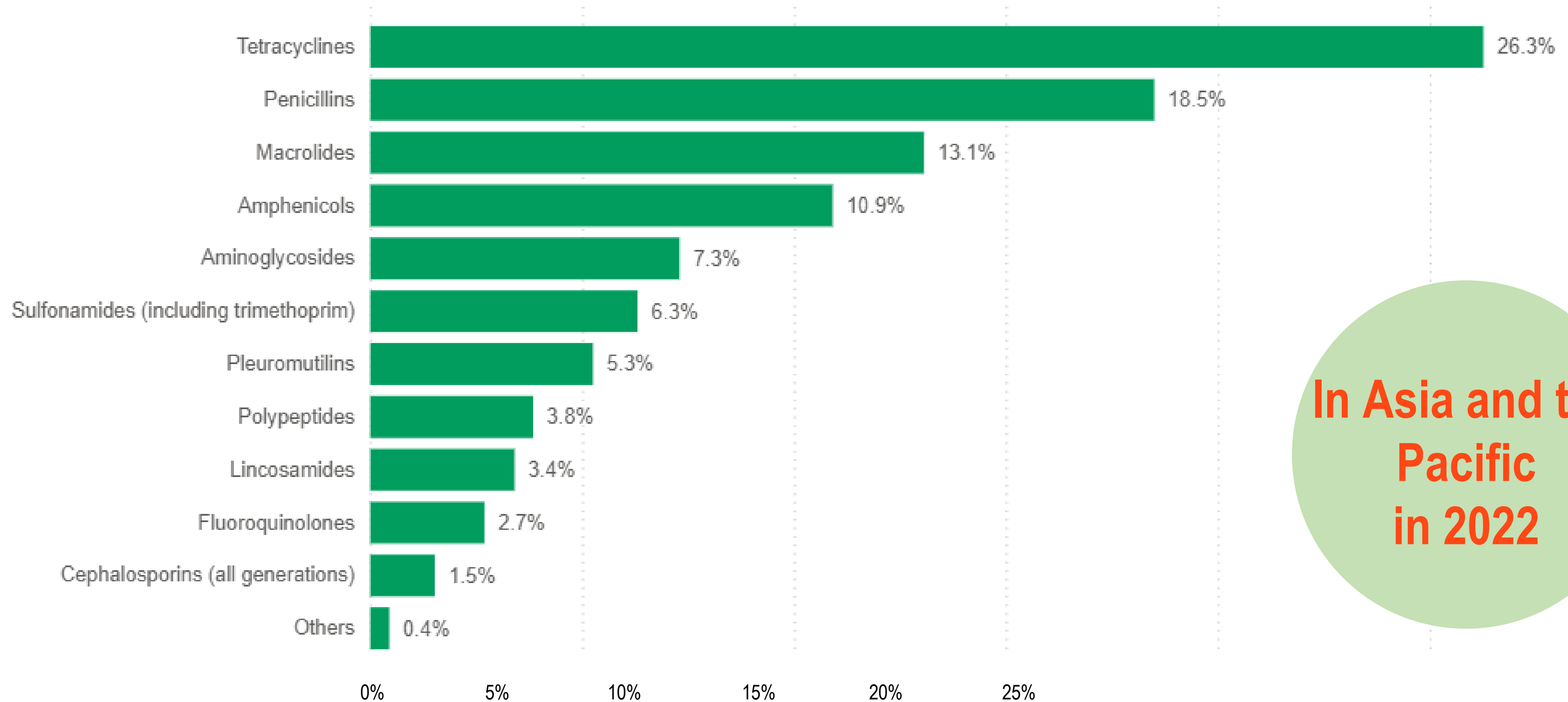


85% of participants were able to provide antimicrobial quantities by animal group and were asked to provide a list of animals covered by those quantities, based on the veterinary product labels or known extra-label use.





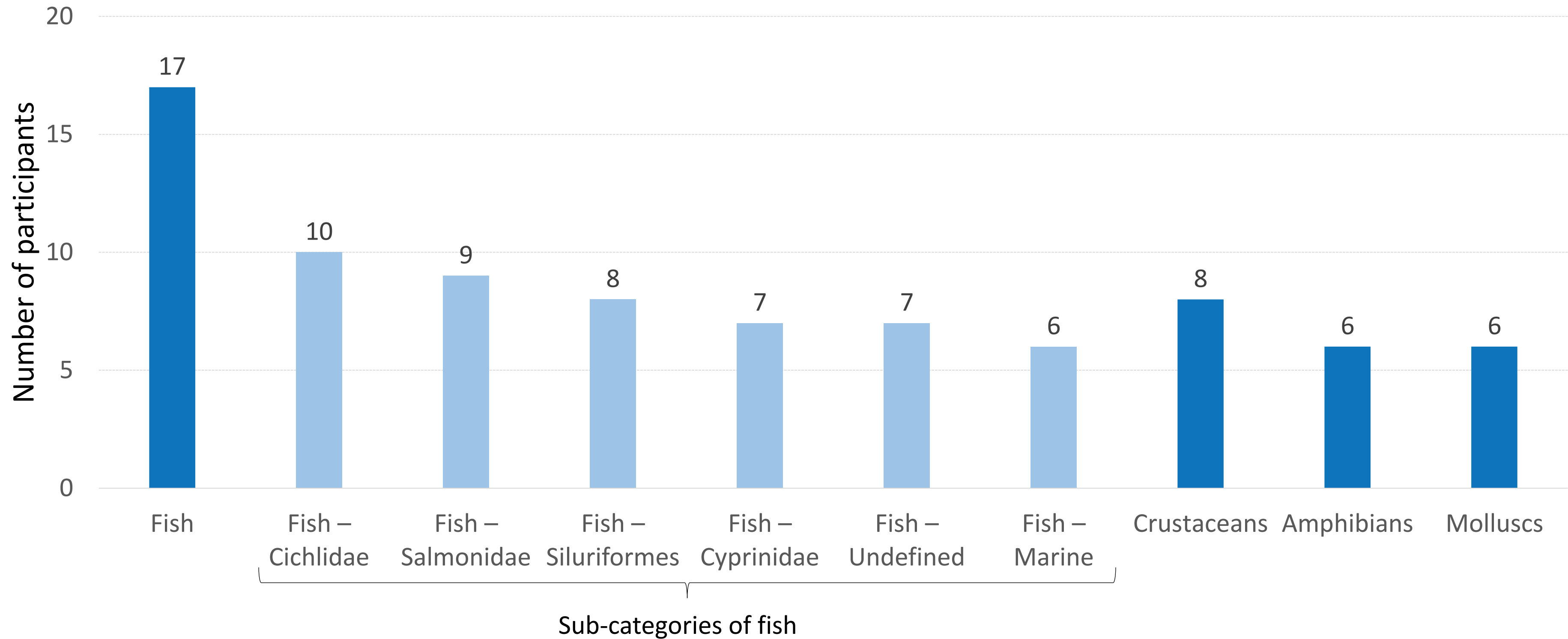
**Globally
in 2022**



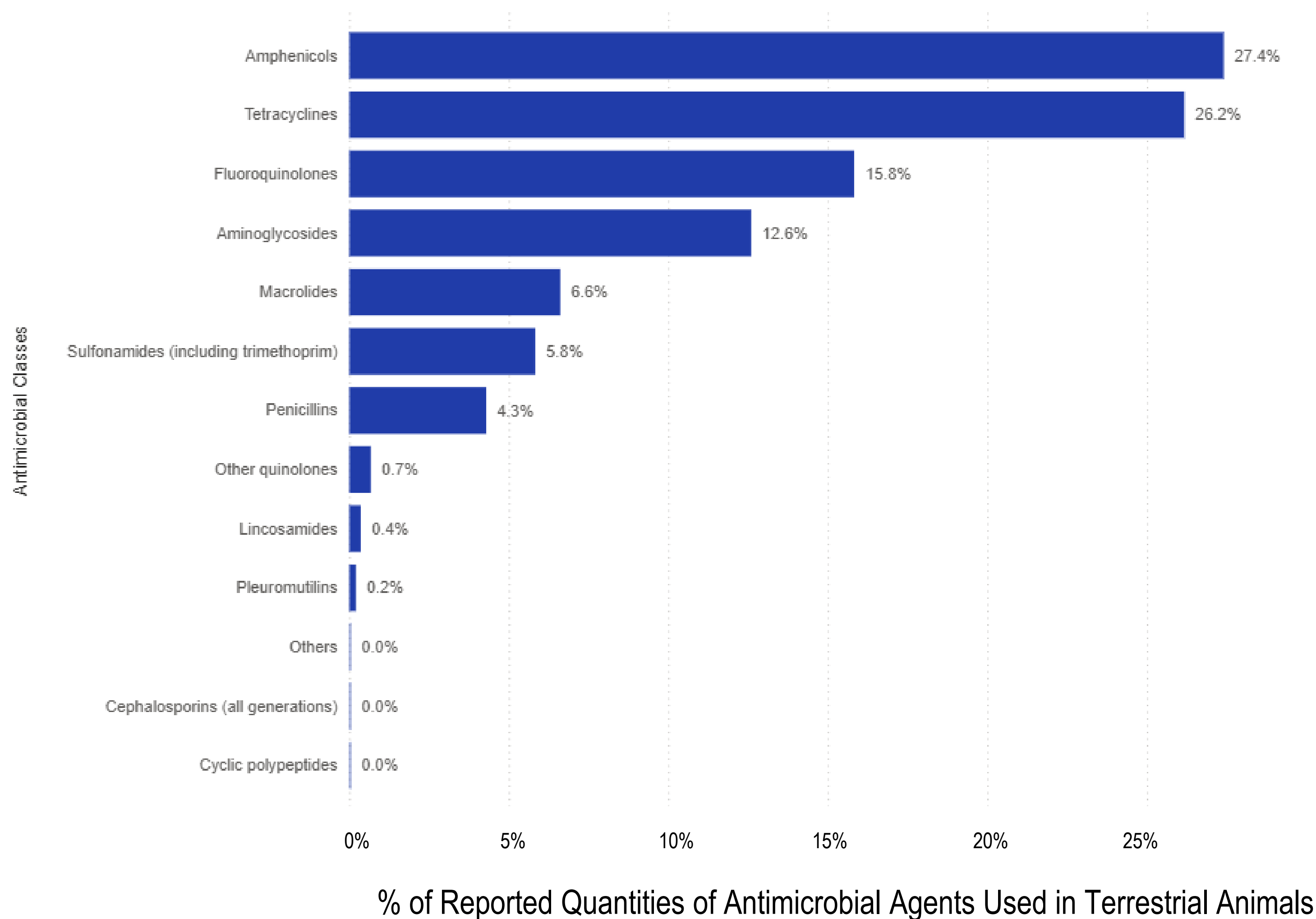
% of Reported Quantities of Antimicrobial Agents Used in Terrestrial Animals

Aquatic food-producing animals covered

84% of participants who provided quantitative data by animal group in 2022, provided specific quantities for aquatic food-producing animals. These participants also listed animals covered by the antimicrobial quantities based on the veterinary product labels or known extra-label use.



Aquatic food-producing animals covered according to the label of the veterinary product

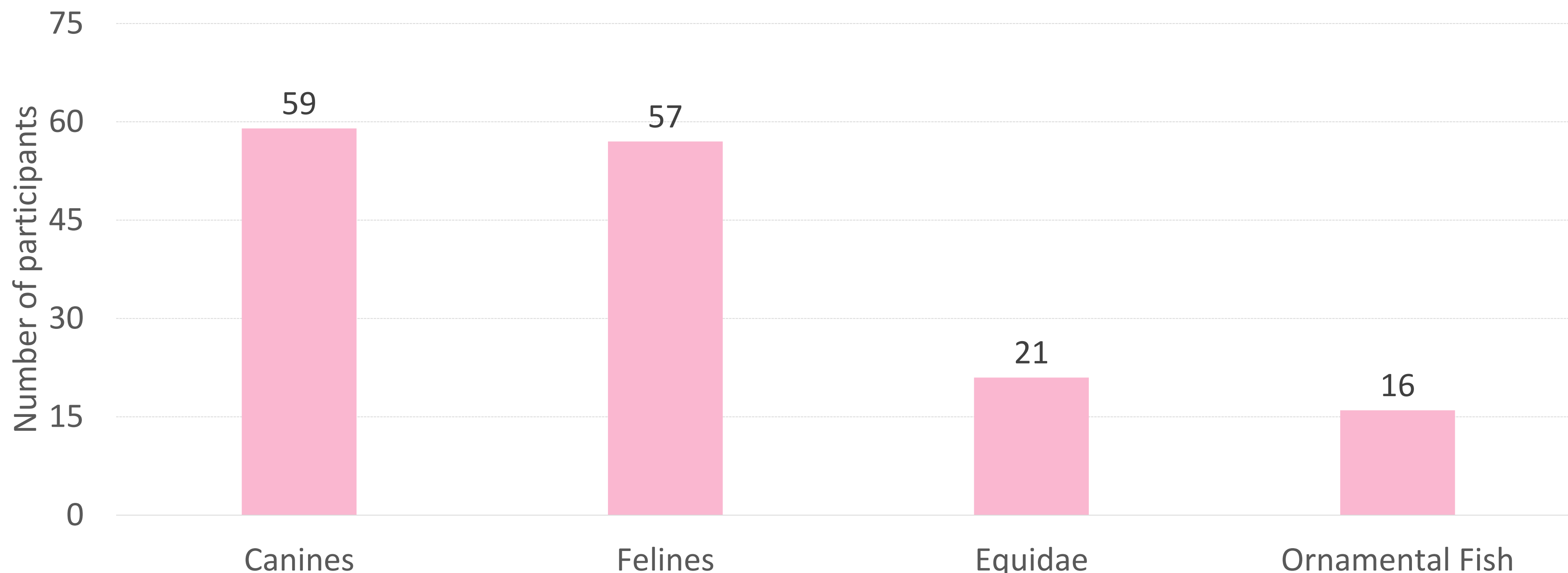


In Asia and the Pacific in 2022

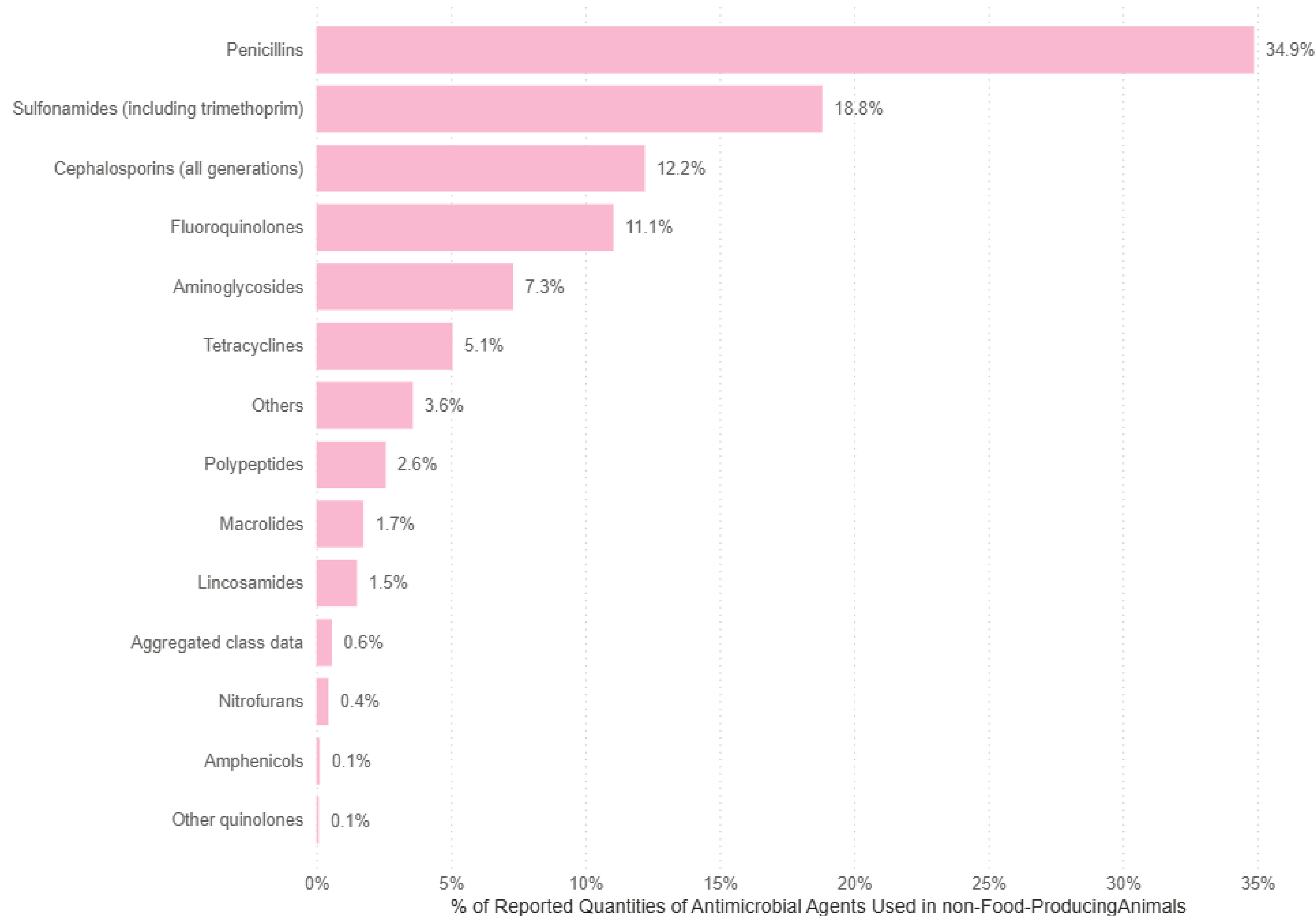


Non-food-producing animals covered

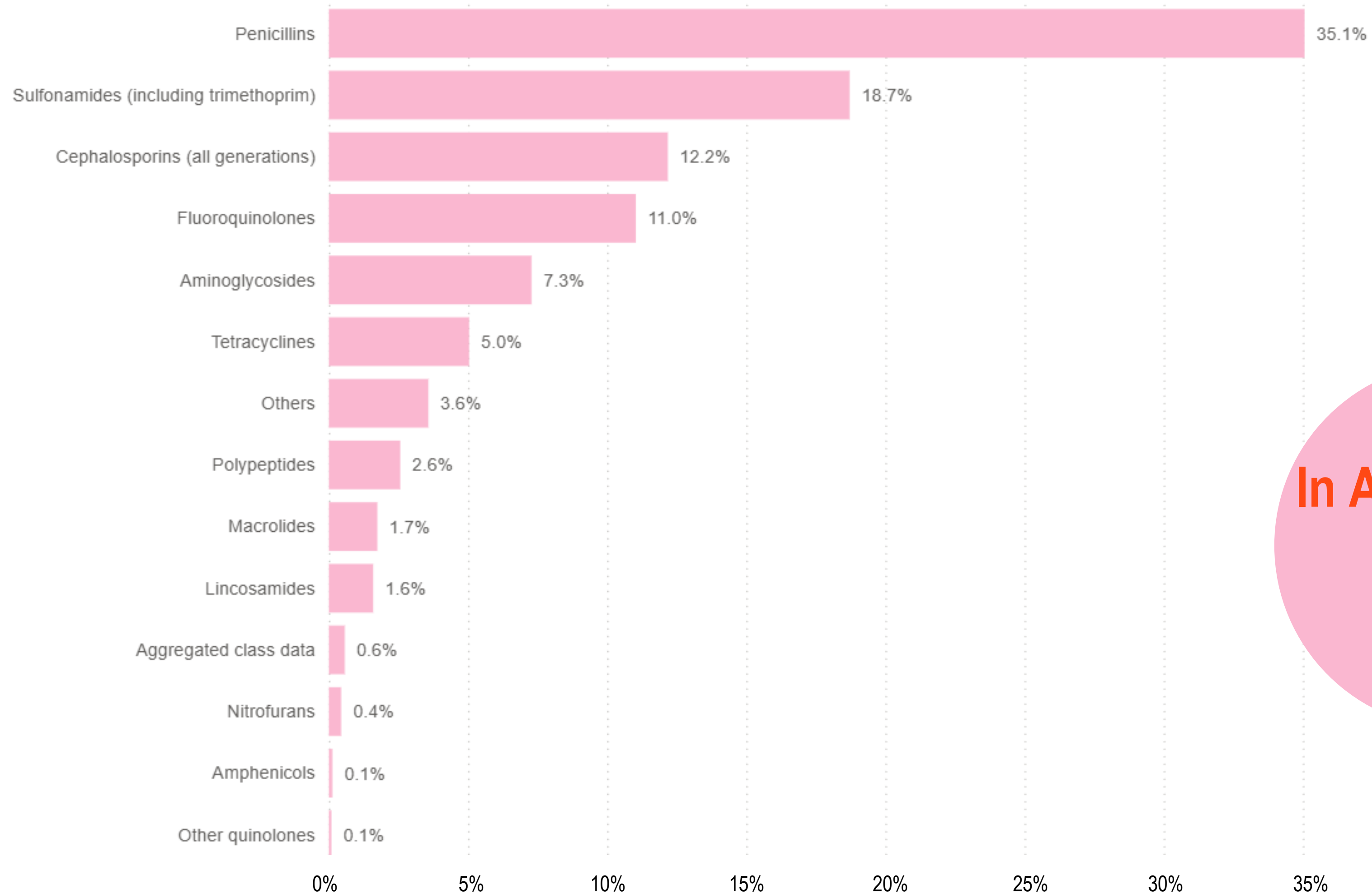
Of the 84 participants able to provide antimicrobial quantities by animal group, 61 (n = 84; 73%) provided specific quantities for non-food-producing animals. All 61 participants were asked to provide a list of animals covered by those quantities, based on the veterinary product labels or known extra-label use.



Non-food-producing animals covered according to the label of the veterinary product



**Globally
in 2022**



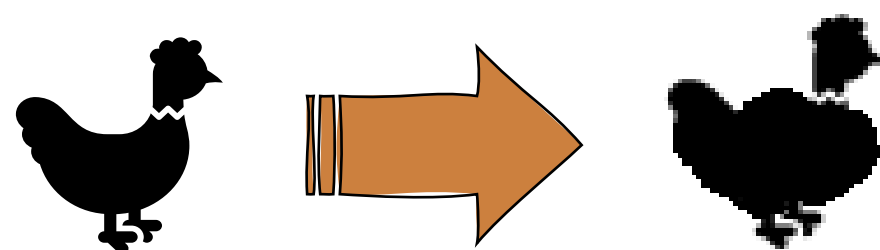
**In Asia and the Pacific
in 2022**

% of Reported Quantities of Antimicrobial Agents Used in Terrestrial Animals



What is growth promotion?

Growth Promotion means the **administration of antimicrobial agents to animals only to increase the rate of weight gain or the efficiency of feed utilisation.**

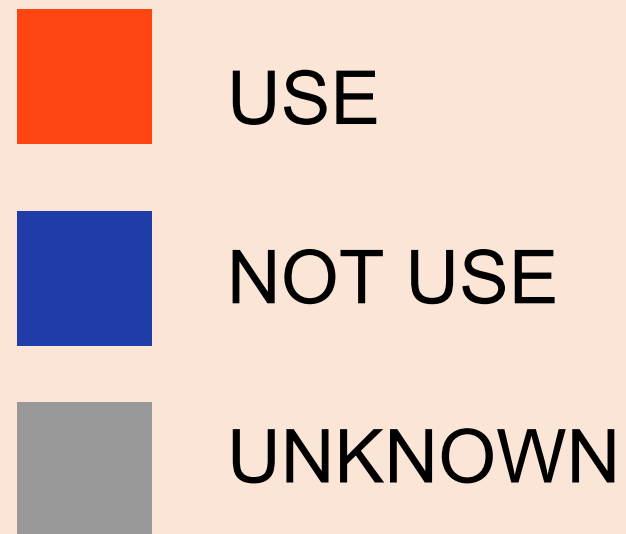


Healthy farm animals do not need antimicrobials

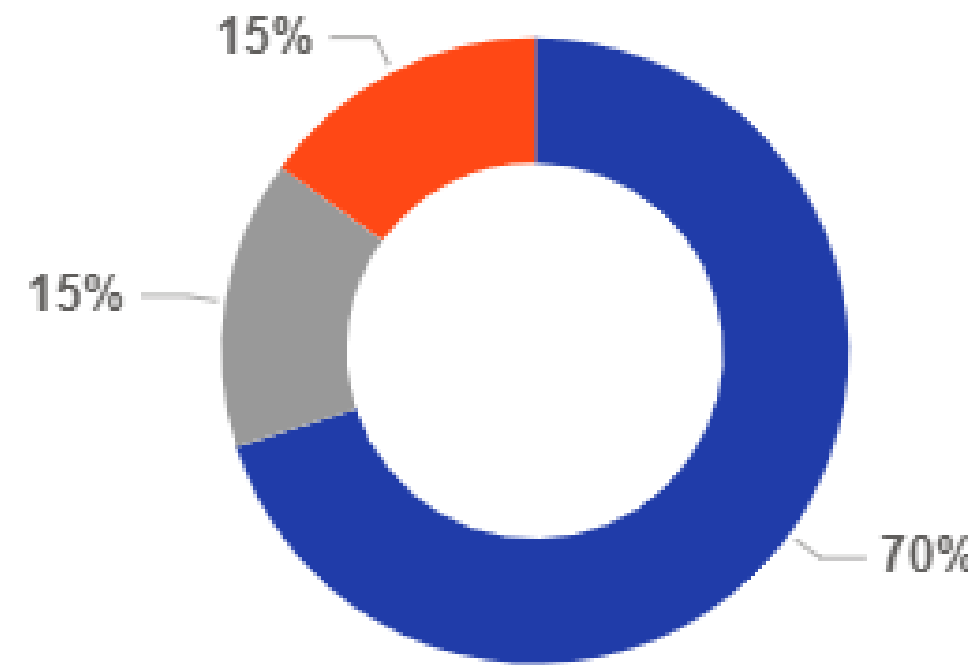


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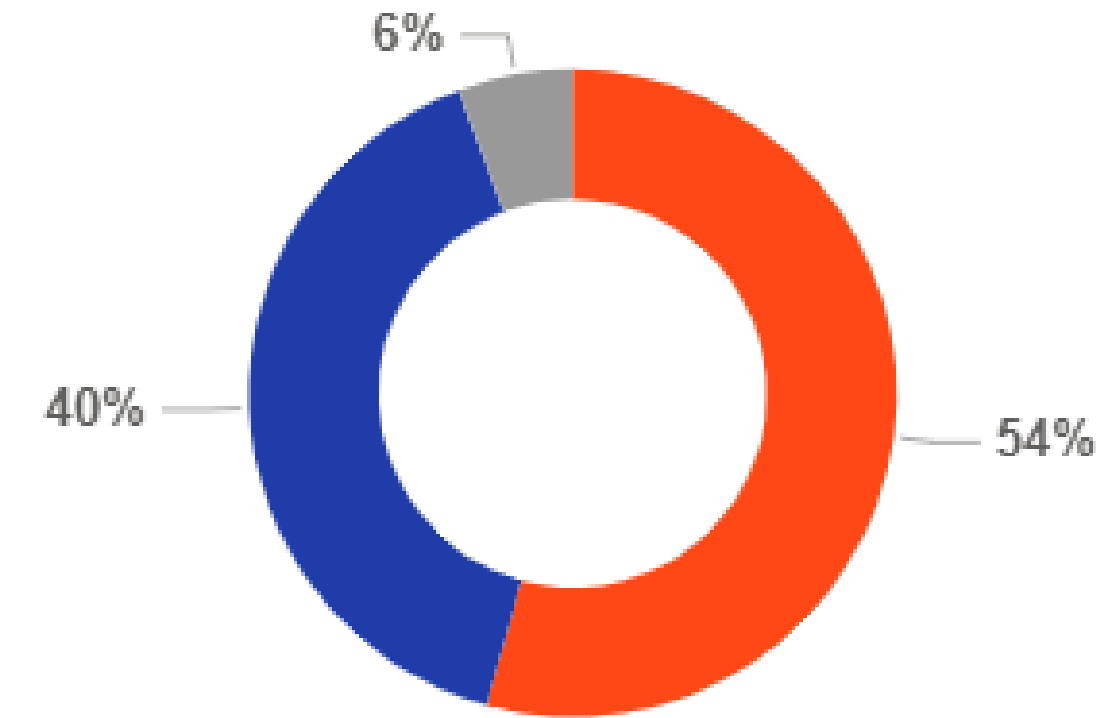
Members still using AGPs



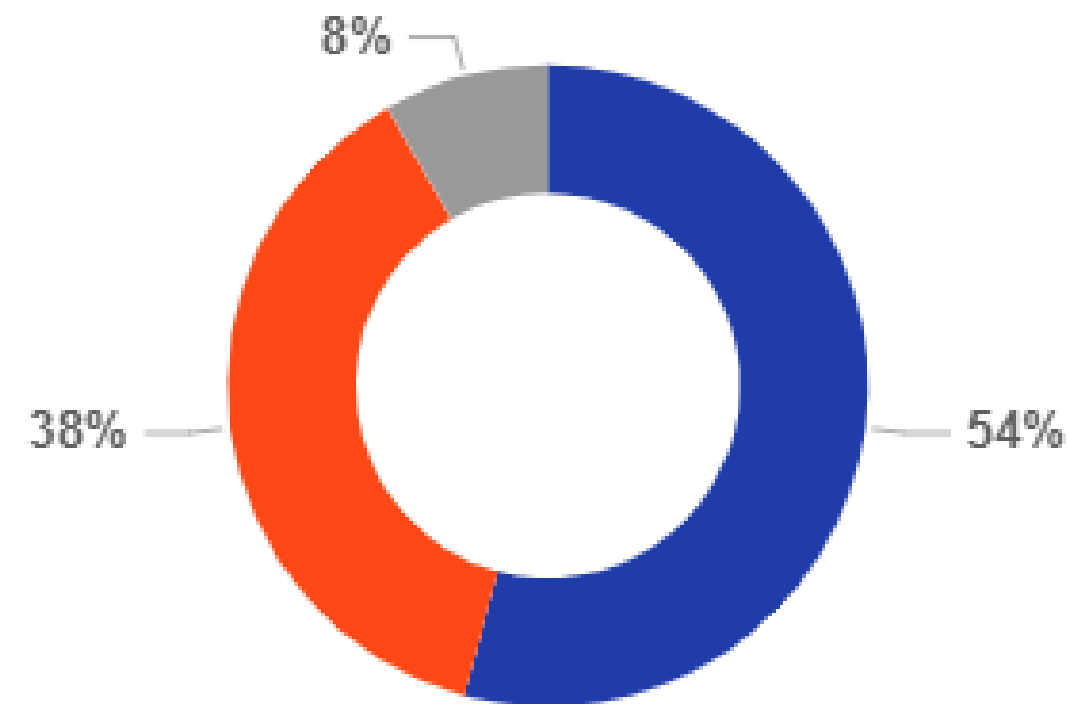
Africa (n= 40)



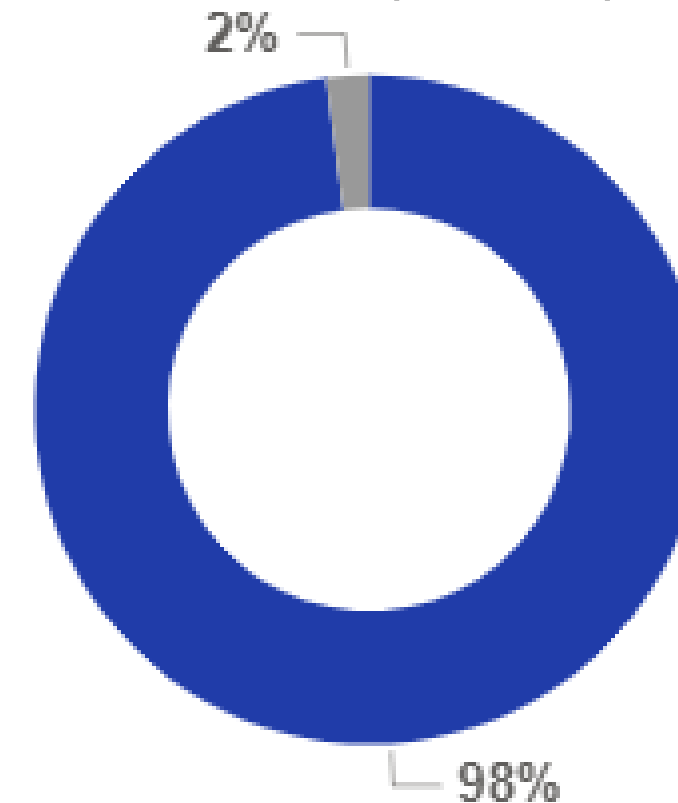
Americas (n= 32)



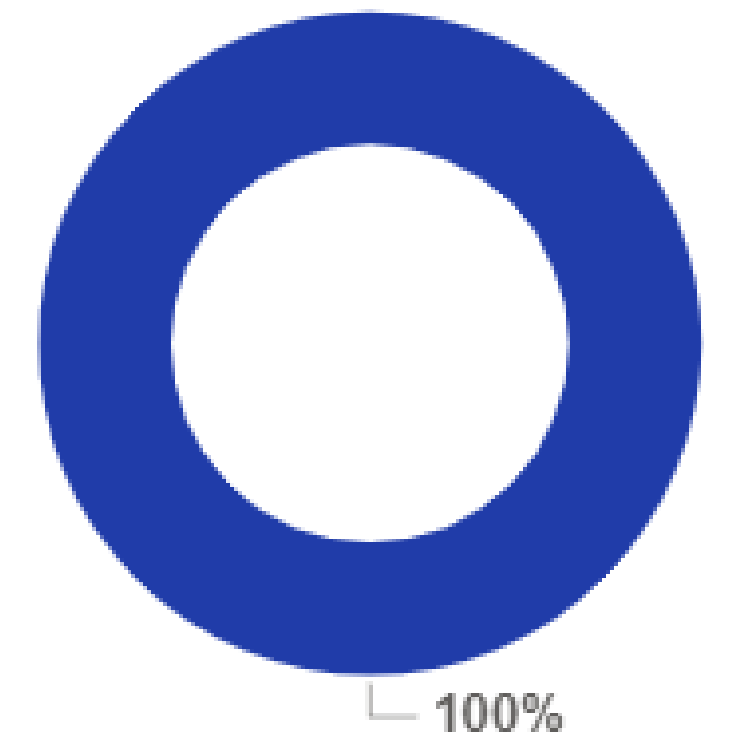
Asia (n= 24)



Europe (n= 49)

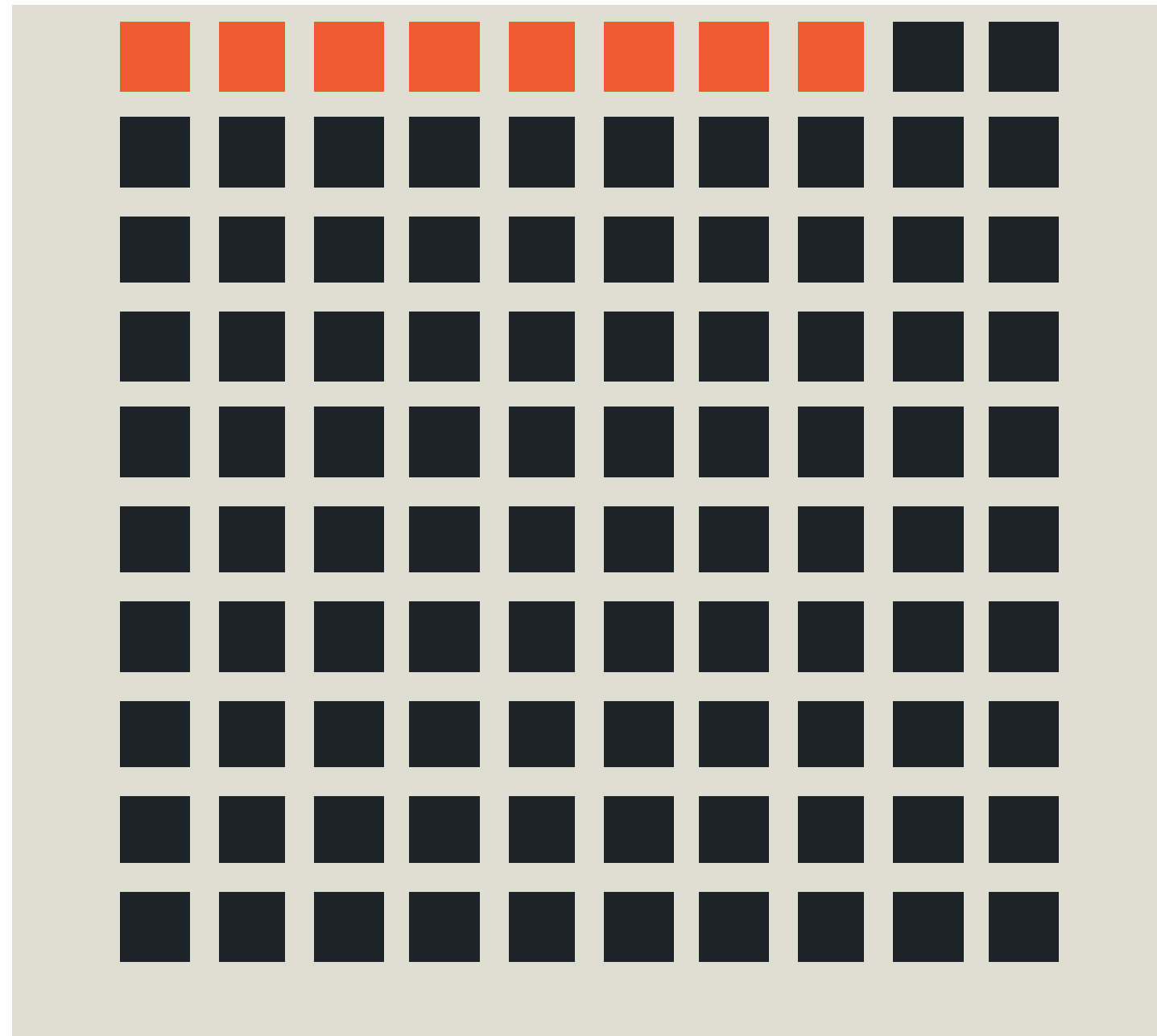


Middle East (n= 9)



Use of antimicrobials critical to human health

Only **8%** of antimicrobials used in animals in 2022 are considered as **highest priority critically important (HPCIA)** for human health. We must preserve their efficacy by using them in a responsible way.



Importance of antimicrobials to human health

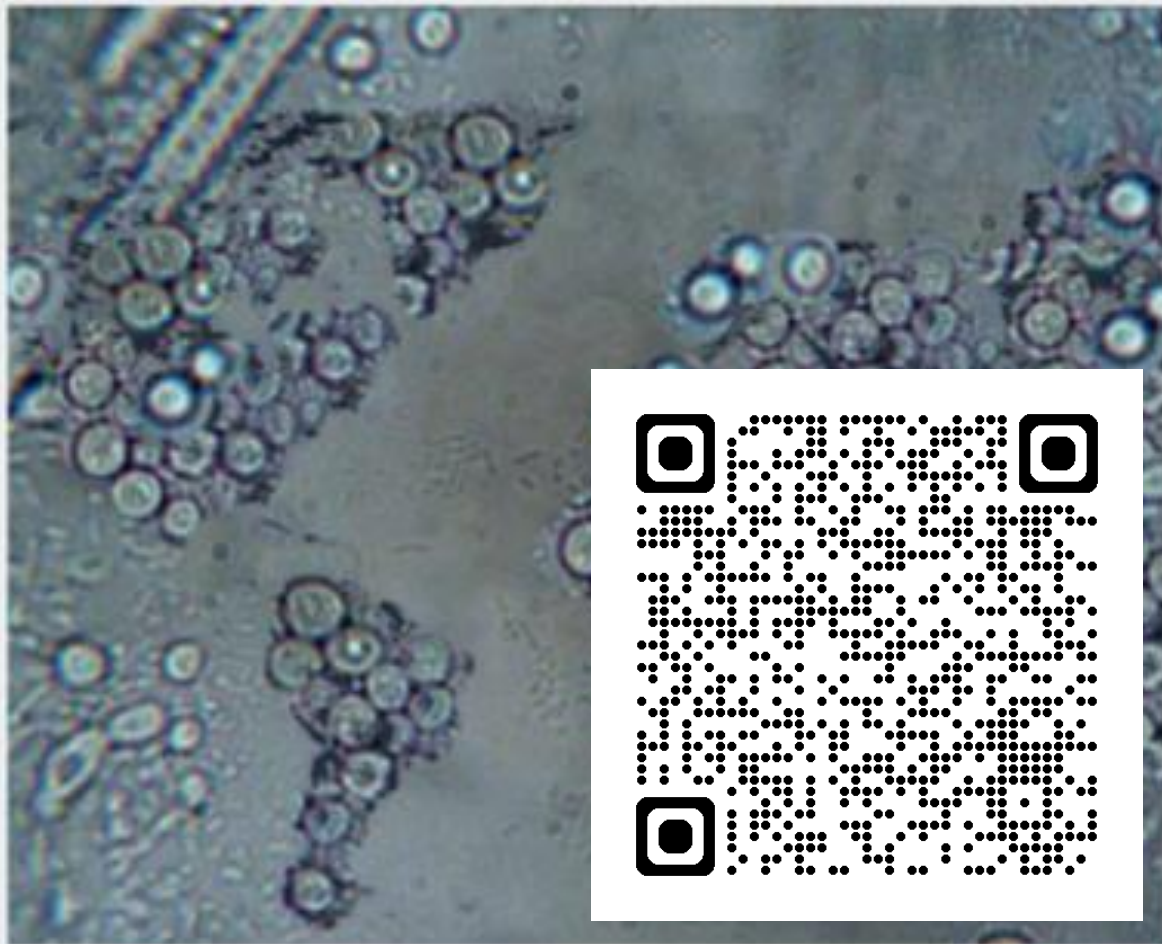
- **HPCIA**
- **Others**



[WHO Medically Important Antimicrobials List for Human Medicine](#)

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9th Report



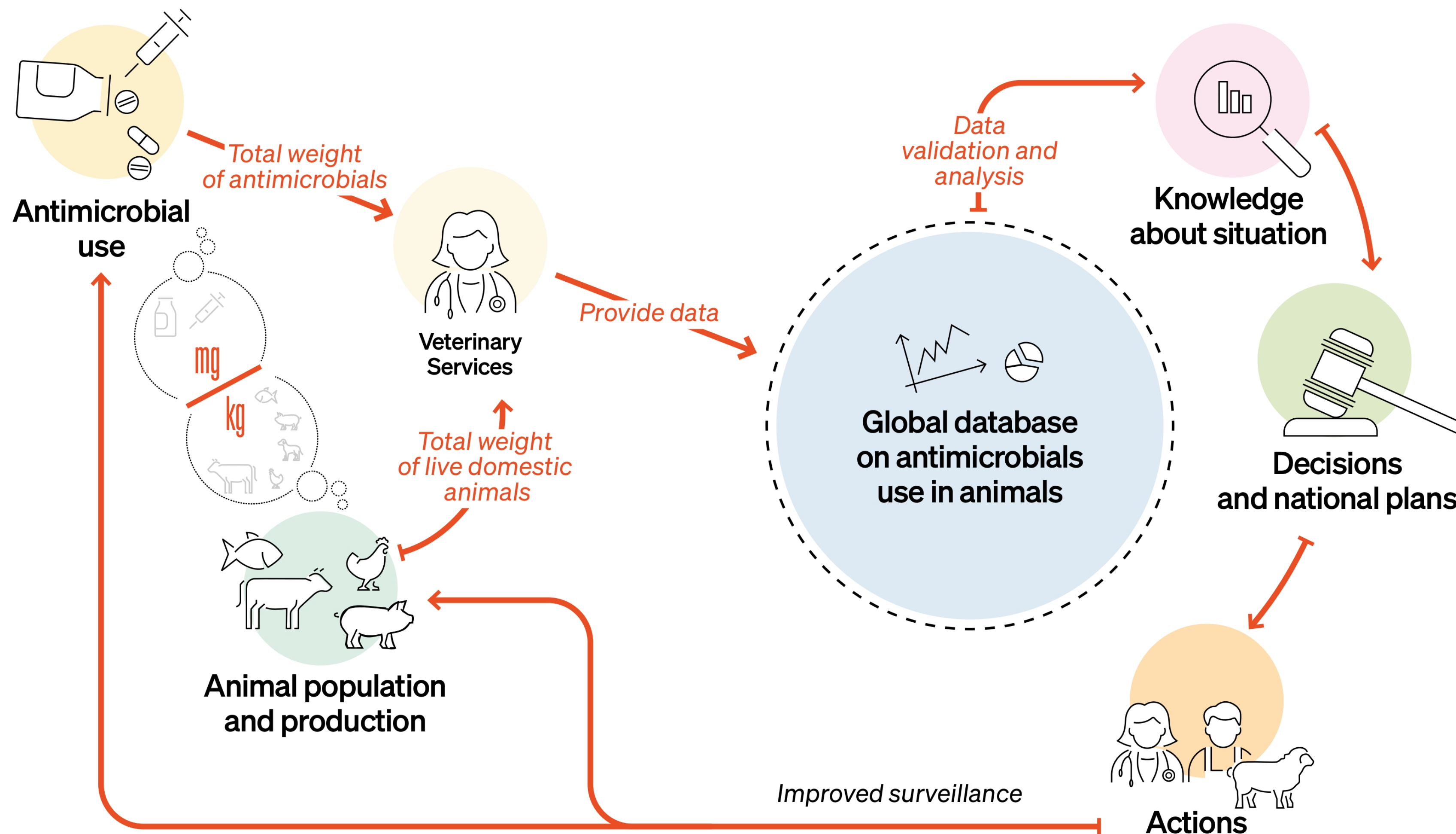
Global antimicrobial use is decreasing.



Non-responsible practices remain.



Transparency on AMU is improving.



Quadripartite Global Systems

1

Human System

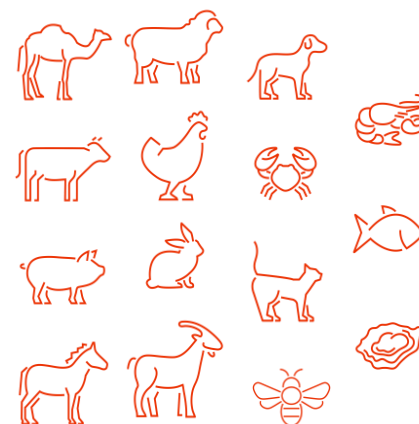


AMR/AMU
in human



2

Animal and Agricultural System

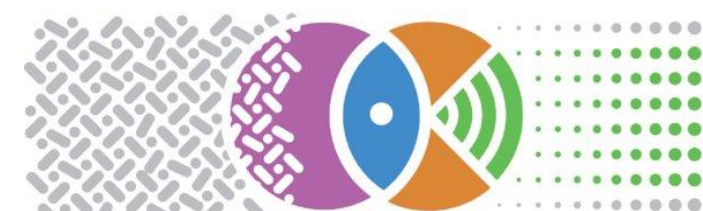
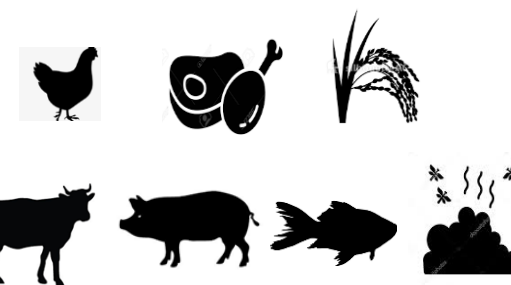


ANIMUSE Global
Database

AMU in all animals and
AMR in non-food-
producing animals



Food and Agriculture
Organization of the
United Nations



InFARM The International FAO Antimicrobial
Resistance Monitoring System

AMR
in animals and
food



AMU
in plant production
and protection



AMR
in environment and
residues



Global Integrated Surveillance for AMR and AMU (GISSA)



The World Organisation for Animal Health has launched a roadmap on AMR in companion animals (2024–2026).

- Priority 1:** Improve awareness among veterinarians and pet owners, with partners like the World Small Animal Veterinary Association.

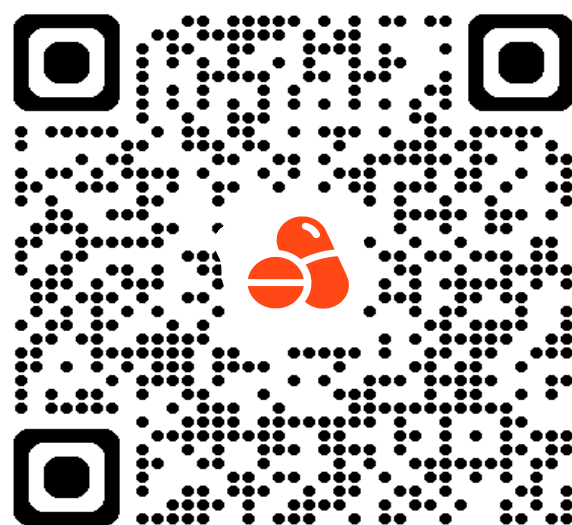
- Priority 2:** Strengthen surveillance, positioning ANIMUSE as a global reference database for AMR and antimicrobial use.



AMR affects our pets too



Thank you



<https://amu.woah.org/>



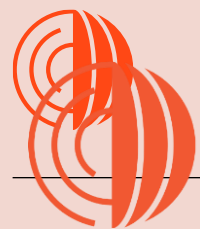
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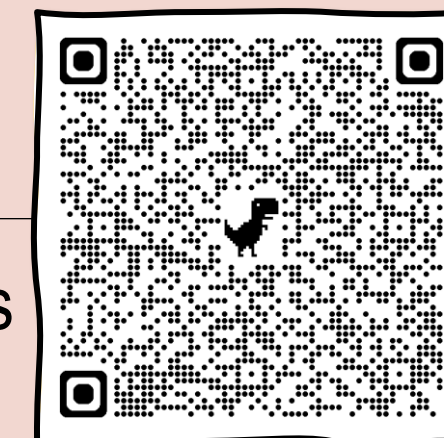
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EcoAMR Series – Economic Impacts of AMR

Forecasting the Fallout from AMR: Economic Impacts of Antimicrobial Resistance in Food-Producing Animals

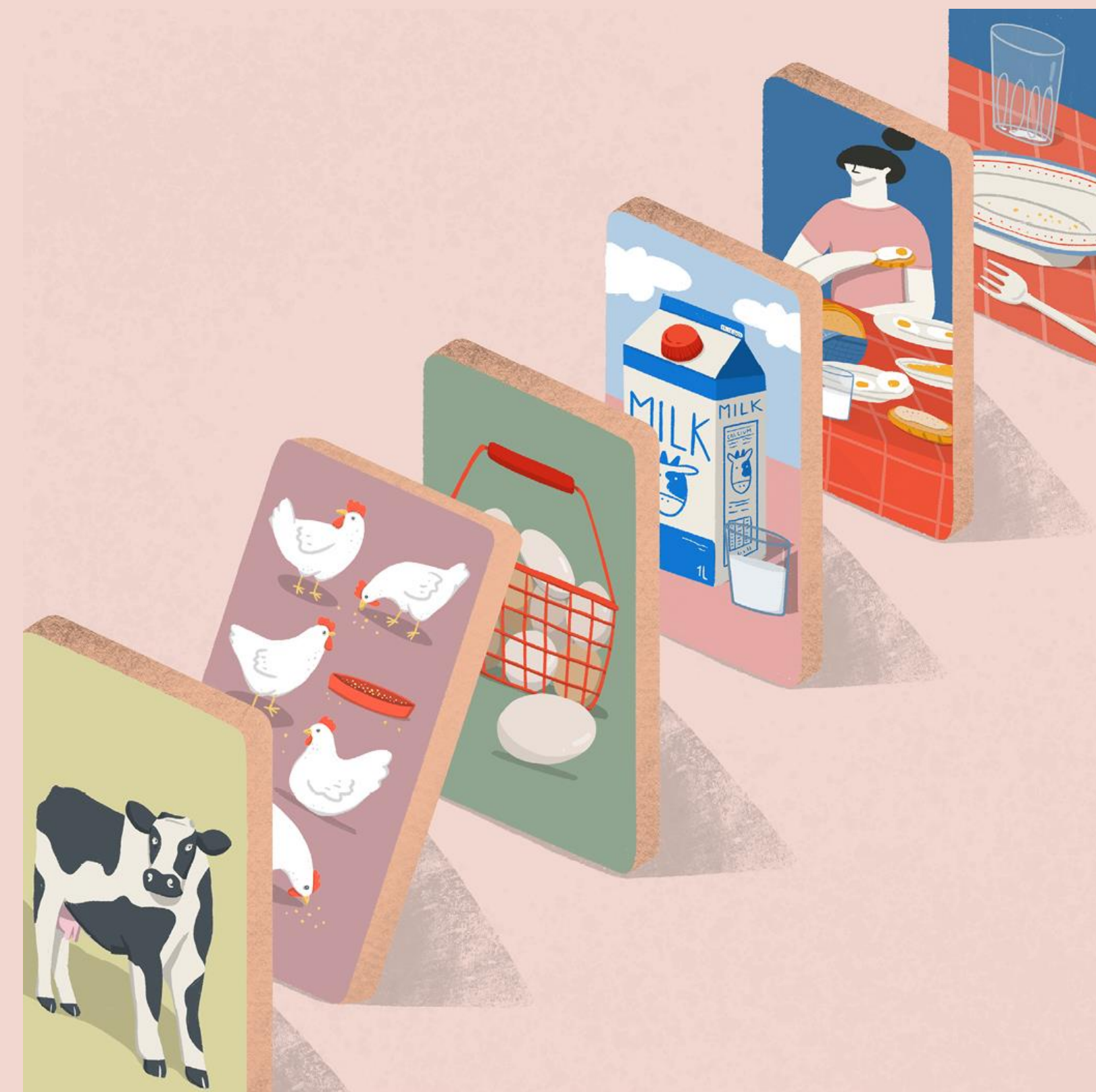


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Without further action to curb AMR, its negative impacts on livestock production loss will deepen over time

By 2050, in comparison to the reference scenario (resistance rate for 2025):

- annual livestock production losses due to AMR are estimated to equal the consumption needs of 746 million people, relative to an assumed low resistance rate of 5% (scenario 1);
- yearly global production losses are predicted to equal the consumption needs of approx. 2 billion people (that is approximately 1 in 5 of the world's projected population) under a more pessimistic assumption of the future increased use of antimicrobials and associated doubled AMR-disease burden (scenario 2);
- livestock production losses are heaviest in cattle and poultry meat production compared to the other livestock output types assessed in both scenarios 1 and 2.



AMR is putting food security at risk

Artwork by Zuzu Galova, part of the campaign Sketching Antimicrobial Resistance led by EU-JAMRAI 2.