

Antimicrobial use in aquaculture

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ANIMUSE workshop for the Middle East – 10-12th May, 2023





- **Subcategorization of aquatic animals in the ANIMUSE questionnaire**
- **Highlights of the global survey on AMU/AMR in aquaculture – Middle East**

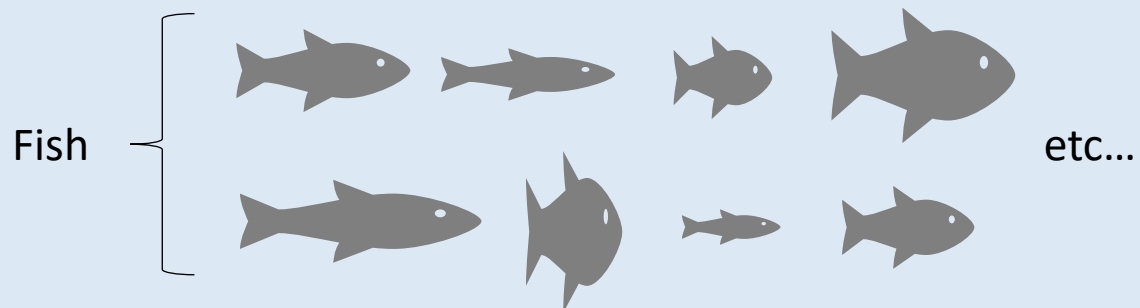
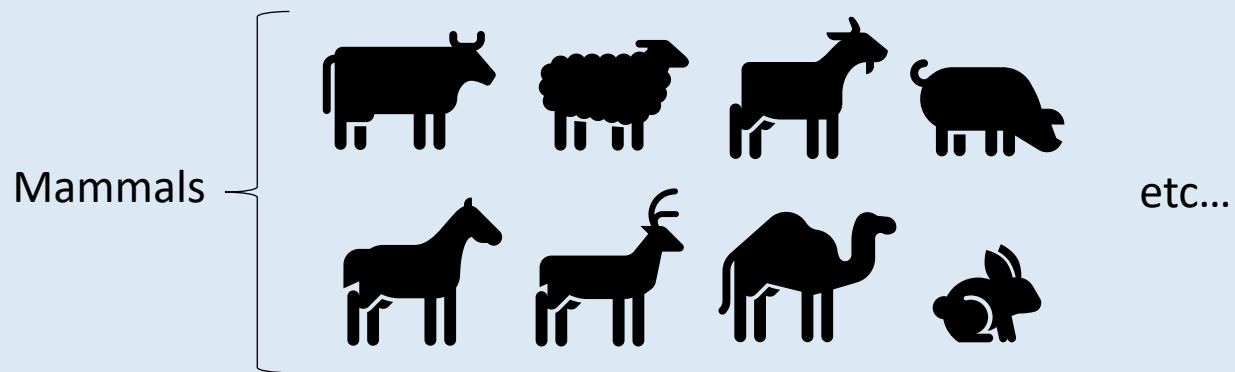
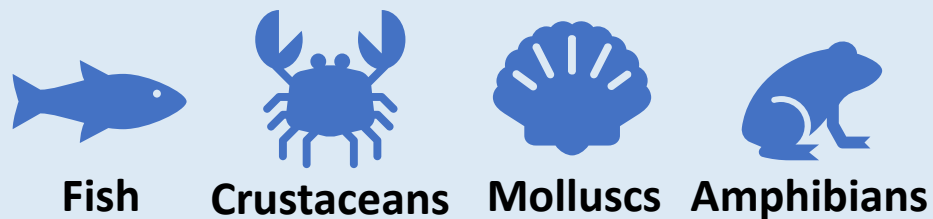




- **Subcategorization of aquatic animals in the ANIMUSE questionnaire**
- Highlights of the global survey on AMU/AMR in aquaculture – Middle East



Previous categorization of Aquatic Animals



Aquaculture diversity

- **24 main fish species** (out of 313 cultured species)
- **8 main crustacean species** (out of 49 cultured species)





FISH

Cichlids	Cyprinids	Salmonids	Siluriformes	Marine	Other
Nile tilapia: 4.5	Grass carp: 5.8	Atlantic salmon*: 2.7	Striped catfish: 2.5	Mulletts nei: 0.3	Milkfish*: 1.2
Tilapias nei: 1.1	Silver carp: 4.9	Rainbow trout: 1.0	Clarias catfishes: 1.2	Gilthead seabream: 0.3	Largemouth black bass: 0.6
	Common carp: 4.2	Coho salmon: 0.2		Large yellow croaker: 2.5	Barramundi*: 0.1
	Catla: 3.5			European seabass: 2.4	
	Bighead carp: 3.2			Groupers nei: 0.2	
	<i>Carassius</i> spp.: 2.7			Japanese seabass: 0.2	
	Roho labeo: 2.5			Pompano: 0.2	
	Wuchang bream: 0.8			Japanese amberjack: 0.1	
	Black carp: 0.7				
5.6	28.3	3.9	3.7	6.2	1.9

CRUSTACEANS

Penaeids	Other
Whiteleg shrimp: 5.8	Red swamp crawfish: 2.5
Giant tiger prawn: 0.7	Chinese mitten crab: 0.8
	Giant river prawn: 0.3
	Indo-Pacific swamp crab: 0.2
	Oriental river prawn: 0.2
	Green mud crab: 0.2
6.5	4.2



Template (since Sep 2021: 7th round)




















<p>25 <u>Food-producing animal species covered by the information on antimicrobial quantities</u></p>	<p>Terrestrial food-producing animals</p> <ul style="list-style-type: none"> <input type="checkbox"/> Cattle <input type="checkbox"/> Pigs - commercial <input type="checkbox"/> Pigs - backyard <input type="checkbox"/> Sheep <input type="checkbox"/> Goats <input type="checkbox"/> Sheep and goats (mixed flocks) <input type="checkbox"/> Layers - commercial production for eggs <input type="checkbox"/> Broilers - commercial production for meat <input type="checkbox"/> Other commercial poultry <input type="checkbox"/> Poultry - backyard <input type="checkbox"/> Buffaloes (excluding Syncerus caffer) <input type="checkbox"/> Cervidae (farmed) <input type="checkbox"/> Camelidae <input type="checkbox"/> Equidae <input type="checkbox"/> Rabbits <input type="checkbox"/> Bees - honey <input type="checkbox"/> Reptiles (e.g. crocodiles) <p>Other terrestrial food-producing animals</p> <ul style="list-style-type: none"> <input type="checkbox"/> Other <p>All terrestrial food-producing animals</p> <ul style="list-style-type: none"> <input type="checkbox"/> All - terrestrial food-producing animals <hr/> <p>Aquatic food-producing animals (aquaculture)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Fish - Cyprinidae <input type="checkbox"/> Fish - Salmonidae <input type="checkbox"/> Fish - Cichlidae <input type="checkbox"/> Fish - Siluriformes <input type="checkbox"/> Fish - Marine <input type="checkbox"/> Fish - Undefined <input type="checkbox"/> Crustaceans - Penaeidae <input type="checkbox"/> Molluscs <input type="checkbox"/> Amphibians <p>Other aquatic food-producing animals (aquaculture)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Other <p>All aquatic food-producing animals (aquaculture)</p> <ul style="list-style-type: none"> <input type="checkbox"/> All - aquatic food-producing animals (aquaculture) 	<p>Please indicate which food-producing animals are covered by the data. Multiple selections are possible.</p> <p>For the purpose of this database, the following terms are defined:</p> <p>1. Terrestrial food-producing animals Pigs – commercial: pigs including piglets, fattening pigs and breeding pigs. Sheep/goats (mixed flocks): use this option only if there are mixed flocks and you cannot differentiate between sheep and goats in your country. Other commercial poultry: it includes turkey, duck, geese, quail, guinea fowl, pheasant, pigeon, ostrich, etc. in commercial production. Poultry – backyard: poultry including chickens and hens in backyard or village flocks. Equidae: horses, donkeys and their crosses. All – terrestrial food-producing animals: use this option only if all terrestrial food-producing animals listed in question 25 (e.g. cattle, pig-commercial, pigs - backyard, etc.) were included in the information on antimicrobial quantities.</p> <p>2. Aquatic food-producing animals (aquaculture) Fish – Cyprinidae: carp, etc. Fish – Salmonidae: salmon, trout, etc. Fish – Cichlidae: tilapia, etc. Fish – Siluriformes: catfish, etc. Crustaceans – Penaeidae: marine shrimp/prawn. All – aquatic food-producing animals (aquaculture): use this option only if all aquatic food-producing animals listed in question 25 (e.g. Fish - Cyprinidae, Fish - Salmonidae, Crustaceans - Penaeidae, Molluscs, etc.) were included in the information on antimicrobial quantities.</p>
<p>27 <u>Non food-producing animal species covered by antimicrobial quantities, if any</u></p>	<ul style="list-style-type: none"> <input type="checkbox"/> Canines <input type="checkbox"/> Felines <input type="checkbox"/> Equidae <input type="checkbox"/> Ornamental Fish <input type="checkbox"/> Other 	<p>Please indicate which non food-producing animals are covered by the data. Multiple selections are possible.</p>
<p>28 <i>Clarification of other species considered to be non food-producing animals, if your response to Question 27 is 'Other'</i></p>	<p><free text field></p>	












ANIMUSE (since Sep 2022: 8th round)

11 Animal species covered by the information on antimicrobial quantities. 





Terrestrial food-producing animals

-  Cattle
-  Pigs - commercial
-  Pigs - backyard
-  Sheep
-  Goats
-  Sheep and goats (mixed flocks)
-  Layers - commercial production for eggs
-  Broilers - commercial production for meat
-  Poultry - backyard
-  Other commercial poultry
-  Buffaloes (excluding *Syncerus caffer*)
-  Cervidae (farmed)
-  Camelidae
-  Equidae
-  Rabbit/Hares
-  Bees
-  Reptiles (e.g. crocodiles)
- Other
- All

Aquatic food-producing animals

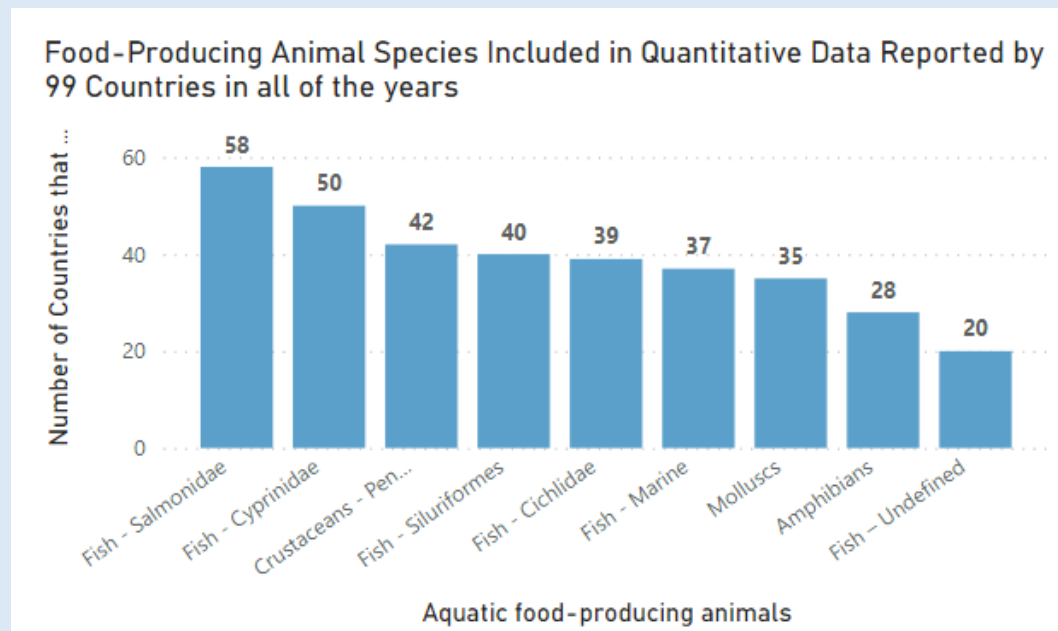
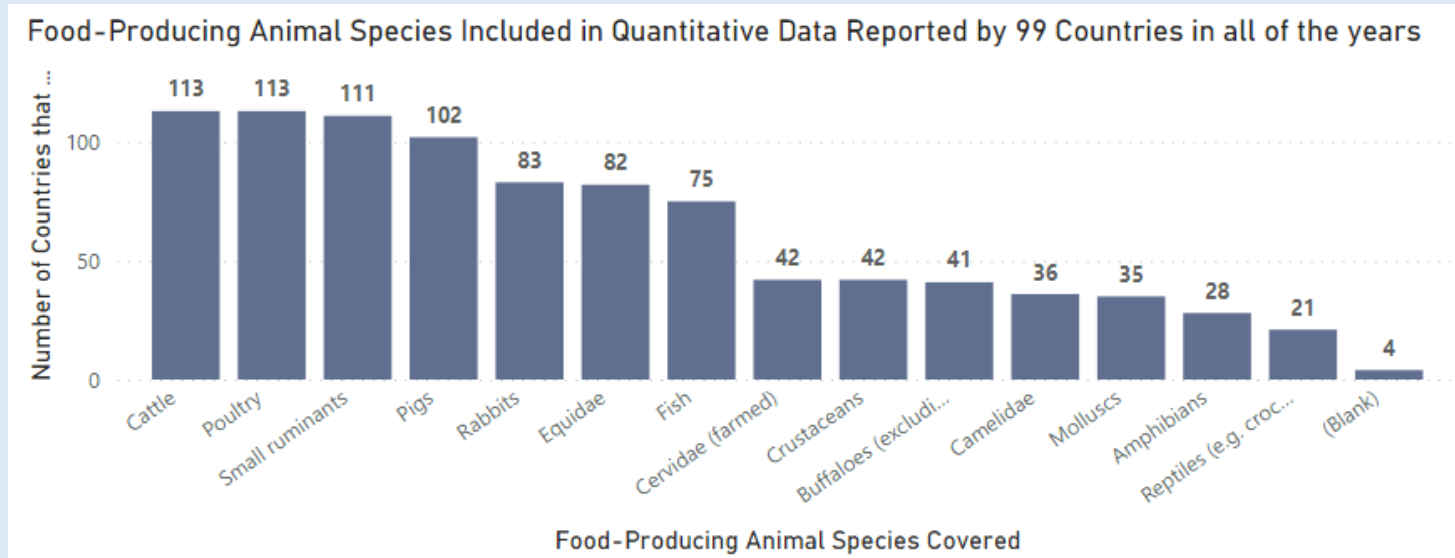
-  Fish - Cyprinidae
-  Fish - Salmonidae
-  Fish - Cichlidae
-  Fish - Siluriformes
-  Fish - Marine
-  Fish - Undefined
-  Crustaceans - Penaeidae
-  Molluscs
-  Amphibians
- Other
- All

Non-food-producing animals

-  Canines
-  Felines
-  Equidae
-  Ornamental Fish
- Other



Results - 7th round
(AMU data in ANIMUSE: Sep 2021 – May 2022)





- Subcategorization of aquatic animals in the ANIMUSE questionnaire
- **Highlights of the global survey on AMU/AMR in aquaculture – Middle East**





Focal Points for

- Aquatic Animals
- Veterinary Products

Support development of Formation Plan for FP on AMR in Aquaculture (needs/gaps and strengths in each Region)



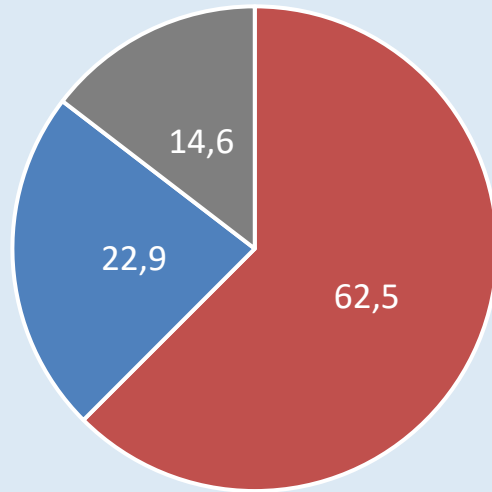
- A) General aquaculture profile
- B) Antimicrobial use and antimicrobial resistance in aquaculture profile
- C) Awareness and compliance to WOAHA standards and tools related to AMU/AMR in aquatic animals
- D) Training needs on AMU/AMR in aquatic animals

Region	FP-AA	FP-VP	Total FP	Total countries
Africa	25	17	42	31
Americas	22	14	36	24
Asia	15	7	22	19
Europe	30	15	45	33
Middle East	8	4	12	10
			157	117



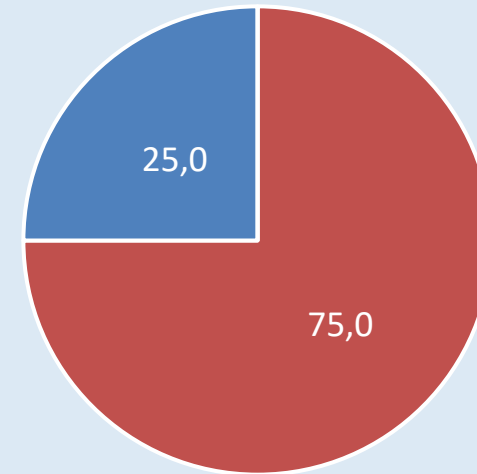


Antibiotic use in aquaculture - Global



■ Yes, we use them ■ No, we don't use them ■ I do not know

Antibiotic use in aquaculture - Middle East



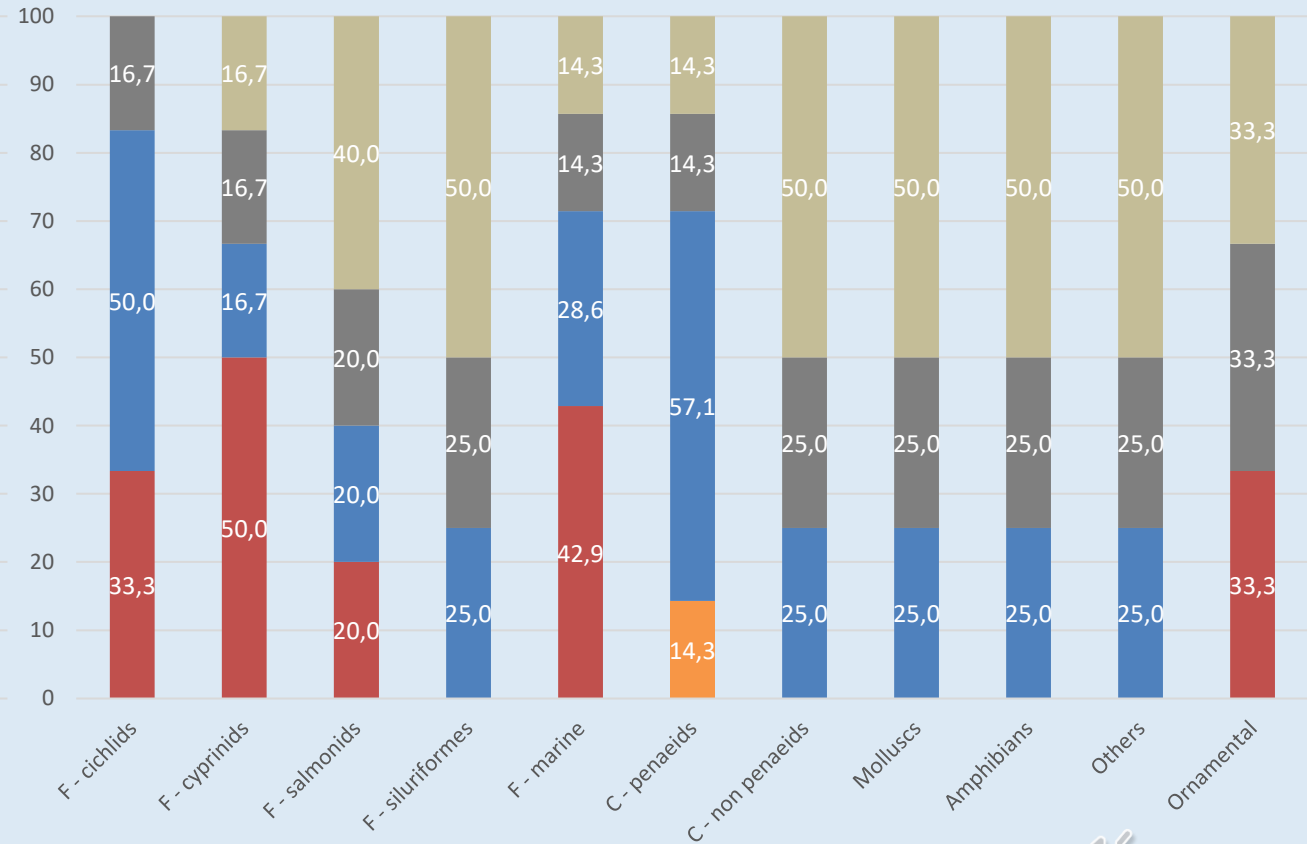
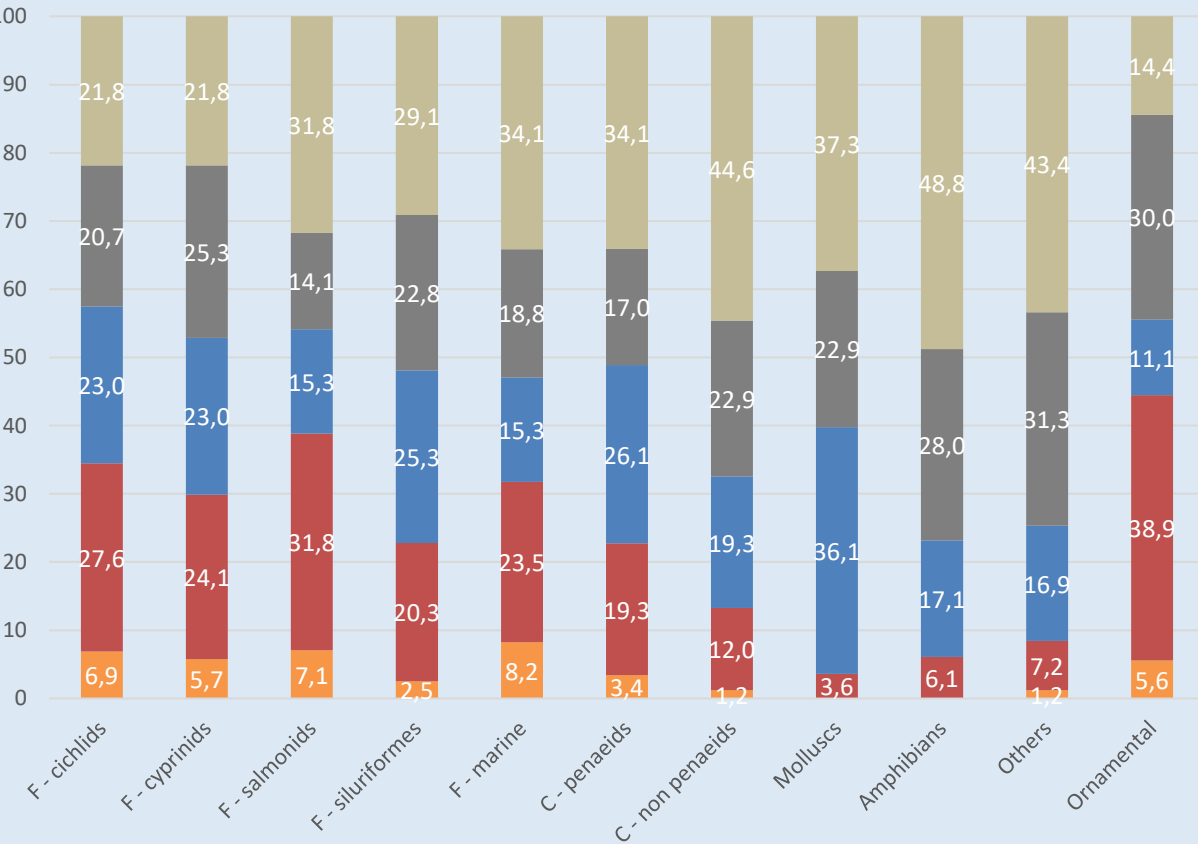
■ Yes, we use them ■ No, we don't use them ■ I do not know





Antibiotic use in aquaculture sub-sectors - Global

Antibiotic use in aquaculture sub-sectors - Middle East



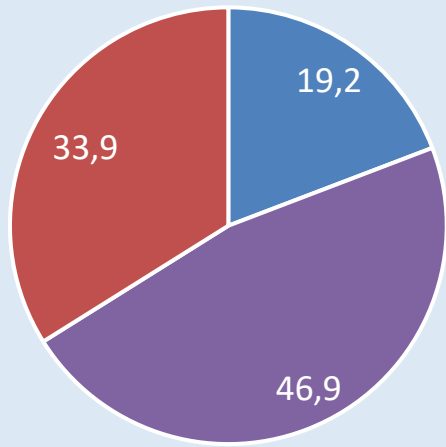
■ Antibiotics are used, determined differentially
 ■ Antibiotics are used
 ■ Antibiotics are not used
 ■ I do not know
 ■ Not applicable

■ Antibiotics used can be determined differentially
 ■ Antibiotics are used
 ■ Antibiotics are not used
 ■ I do not know
 ■ Not applicable



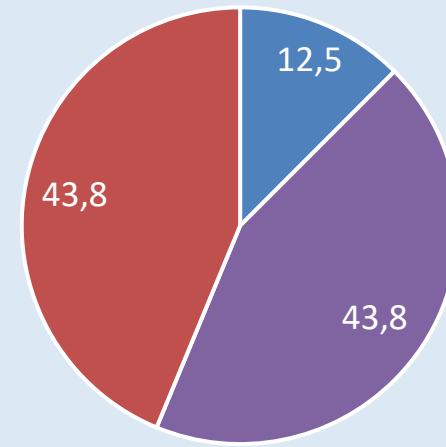


Report differentiated AMU quantities in aquatic animals to WOA- Global



■ Yes ■ Only undifferentiated ■ Not at all

Report differentiated AMU quantities in aquatic animals to WOA- Middle East

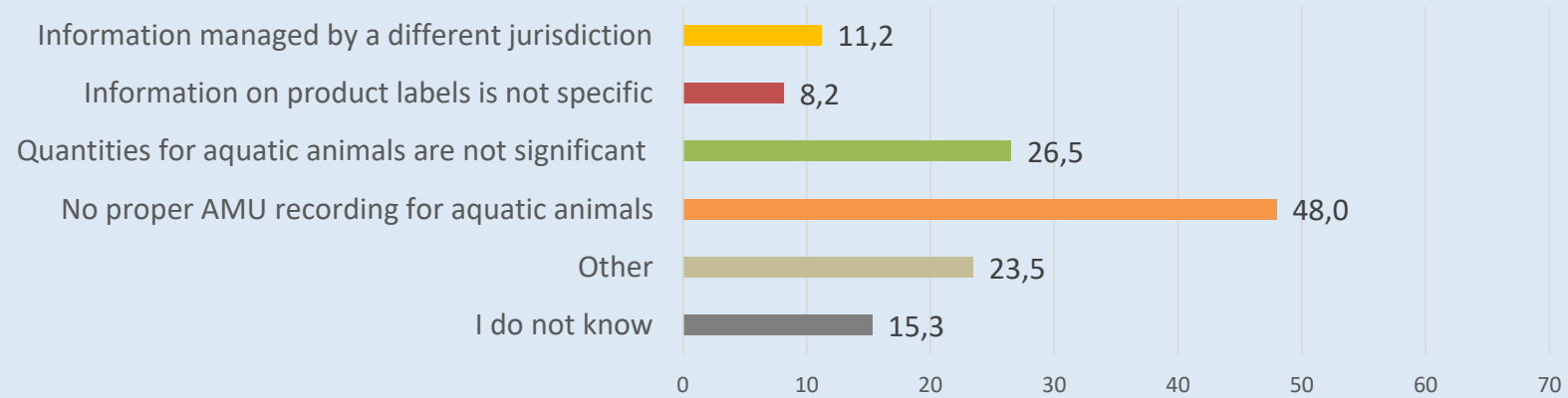


■ Yes ■ Only undifferentiated ■ Not at all

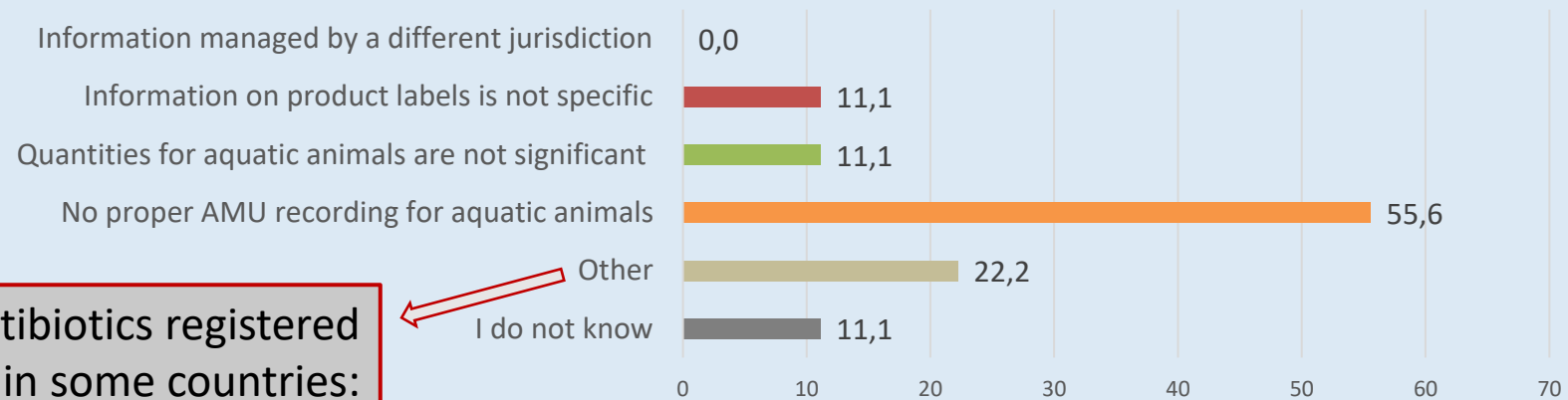




Main difficulties to report AMU quantities in aquatic animals - Global



Main difficulties to report AMU quantities in aquatic animals - Middle East



No specific antibiotics registered for aquaculture in some countries: **off-label use**





Thank you



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