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## What do we know about AMR from the agriculture sector and what can we do to contain it?



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# AMR and agriculture: Presentation outline

- AMR in terrestrial animal-based food production systems
- AMR in terrestrial plant-based food production systems
- AMR in aquaculture
- Concluding thoughts

# Animal-based production systems

- -large amounts of antibiotics used for prevention, therapy, in some jurisdictions growth promotion.
- AMR transmitted through the food chain
- Waste streams transmit AMR to the environment
- People in proximity to animals directly exposed to AMR.
- Mitigation consists of reducing antimicrobial use

# Plant-based food production systems

- Control of fungal or bacterial plant pathogens
- Fungicides, antibiotics, copper salts
- Fungicide resistance, antibiotic resistance
- Is there a link between these practices and AMR in human fungal or bacterial pathogens?

# AMR in aquaculture

- Direct addition of antibiotics into production areas to control bacterial diseases of aquaculture products.
- Mitigation can consist of vaccines for fish, ensuring good hygiene, etc.

# Concluding thoughts

- AMU causes AMR in food production systems.
- Reducing AMU where possible is called for
  - Stewardship: alternatives to antibiotics, diagnostics, restrict use of critically important antibiotics
- Good hygiene in production and processing environments is key
- Source attribution from food to the clinic is a challenge
- Genomics tools will yield insights into the flow of ARG-MGEs and key drivers in food production systems.



Thank you

