



Data collection on antimicrobial consumption in livestock production

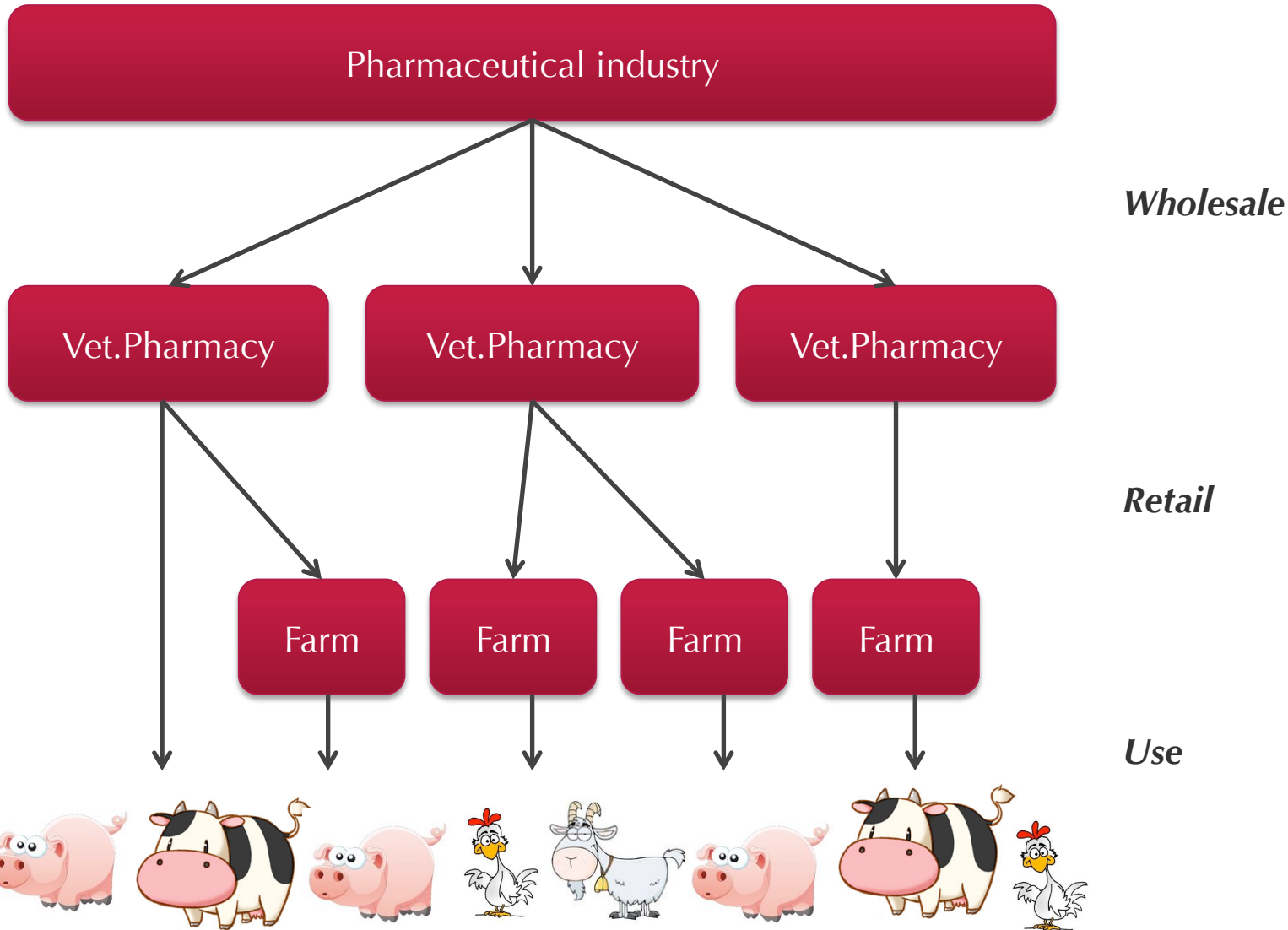
Martine Trauffer

Institute for Veterinary Public Health
University of Veterinary Medicine Vienna

International conference:
„Farmers and veterinarians together to tackle antimicrobial resistances“
Borschette Center, Brussels, 23rd October 2015

- Antimicrobial data collection system in Austria
- Data collection system as a support tool to use fewer antimicrobials in a better way
 - Example of a research project
- Conclusion

„Veterinary-Antimicrobial-Flow-Regulation“

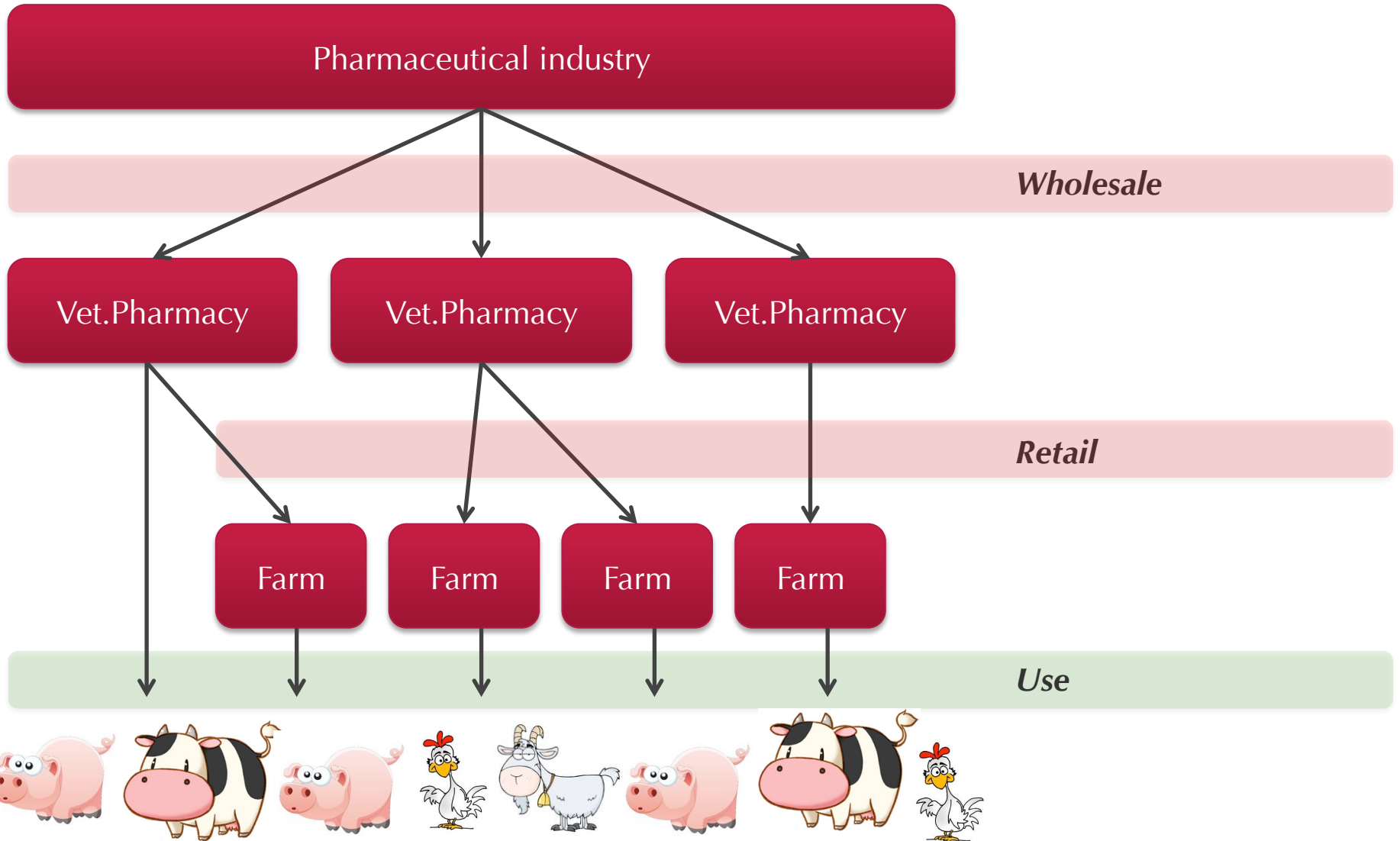


Wholesale

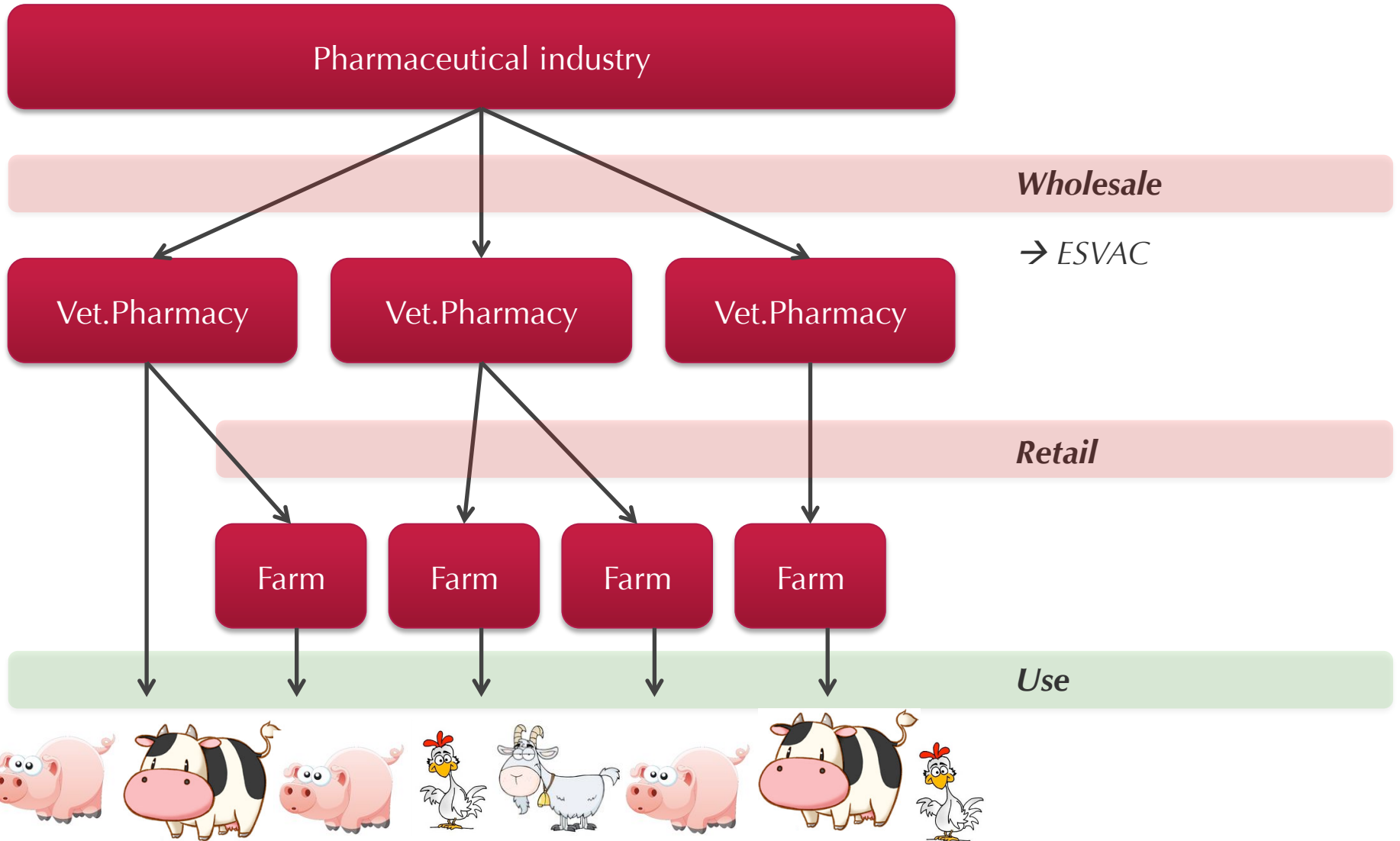
Retail

Use

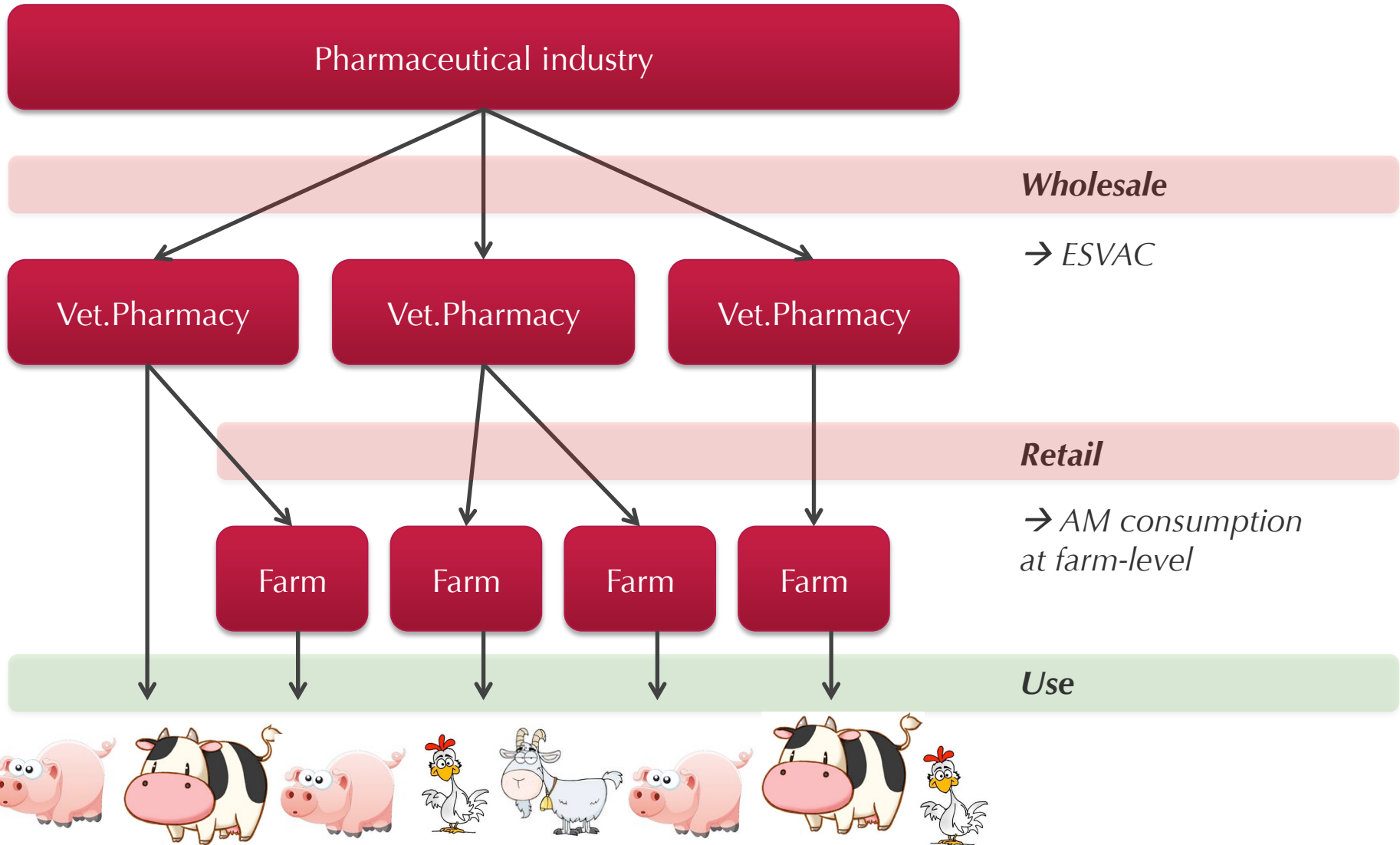
„Veterinary-Antimicrobial-Flow-Regulation“



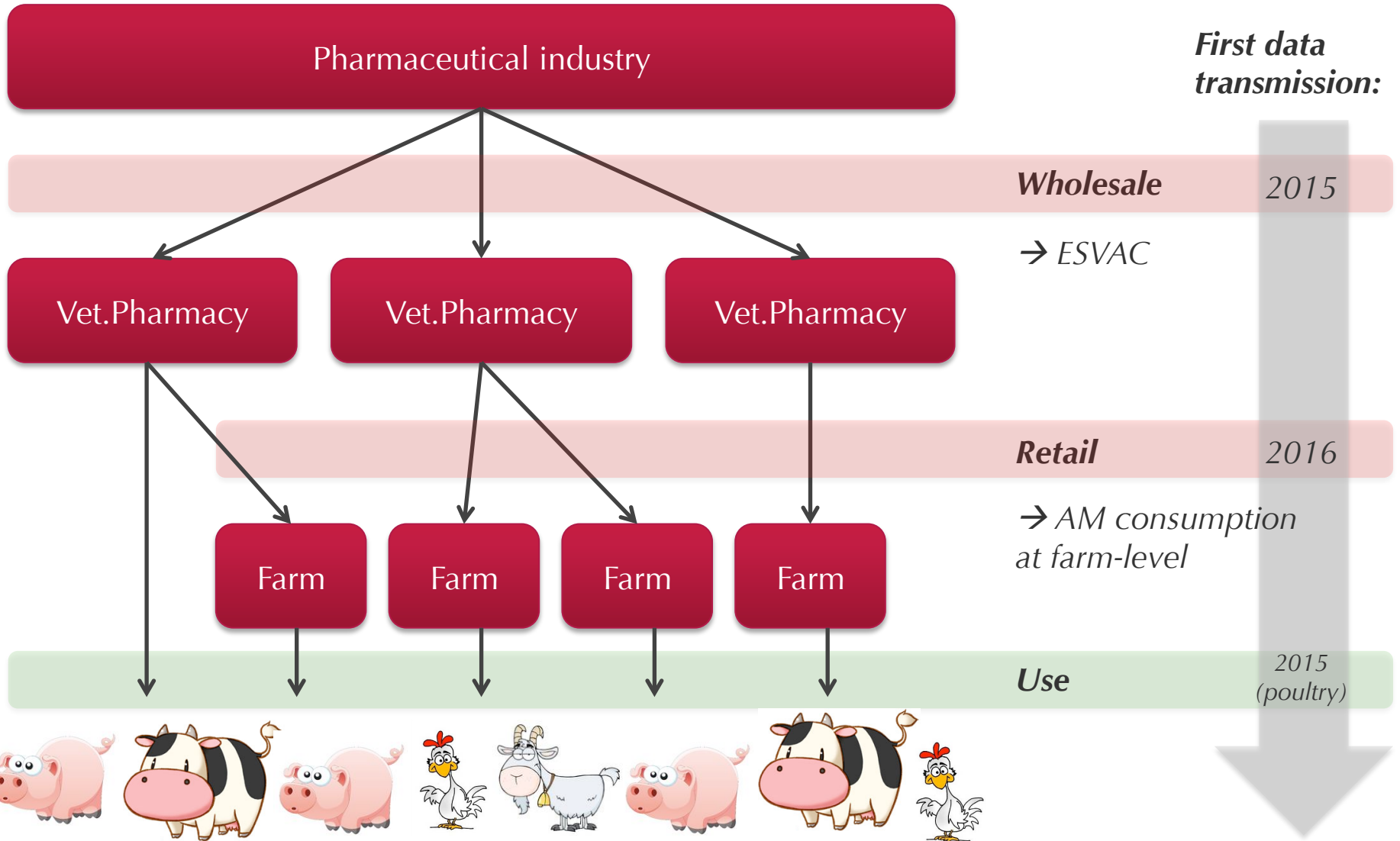
„Veterinary-Antimicrobial-Flow-Regulation“



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First data transmission:

Wholesale 2015

→ *ESVAC*

Retail 2016

→ *AM consumption at farm-level*

Use 2015 (poultry)

...support?



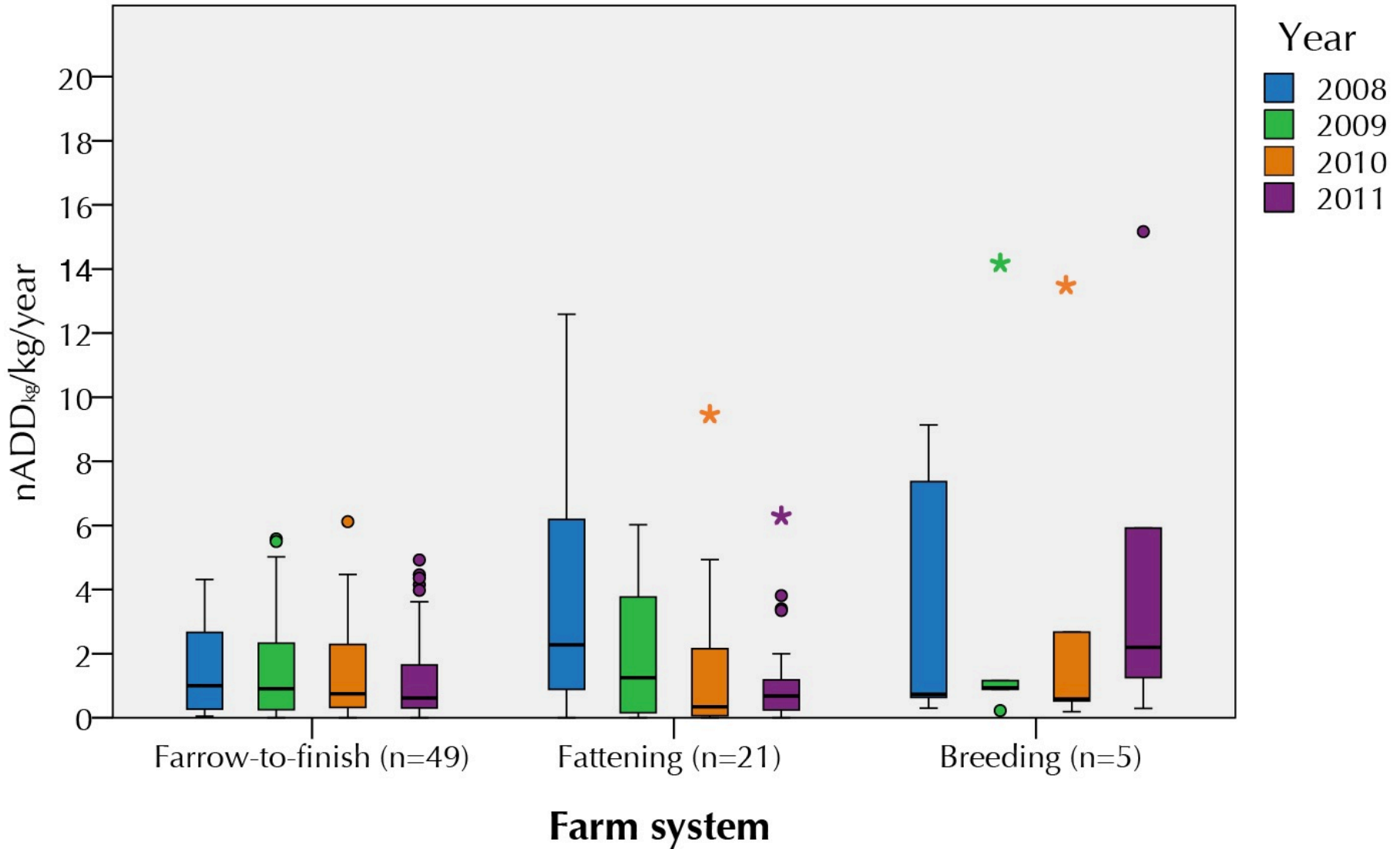
OPEN ACCESS

Paper

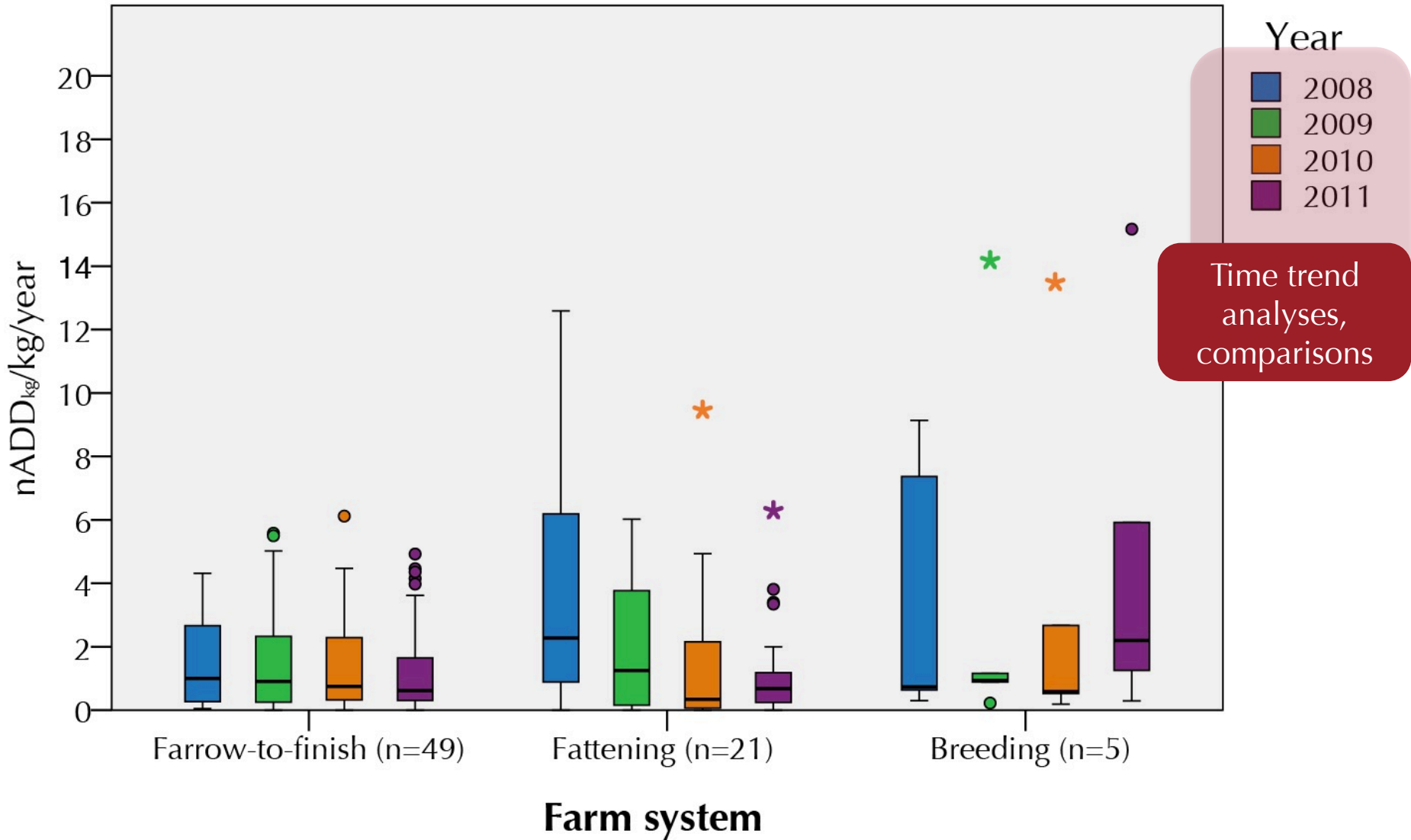
Antimicrobial drug use in Austrian pig farms: plausibility check of electronic on-farm records and estimation of consumption

M. Trauffler, A. Griesbacher, K. Fuchs, J. Köfer

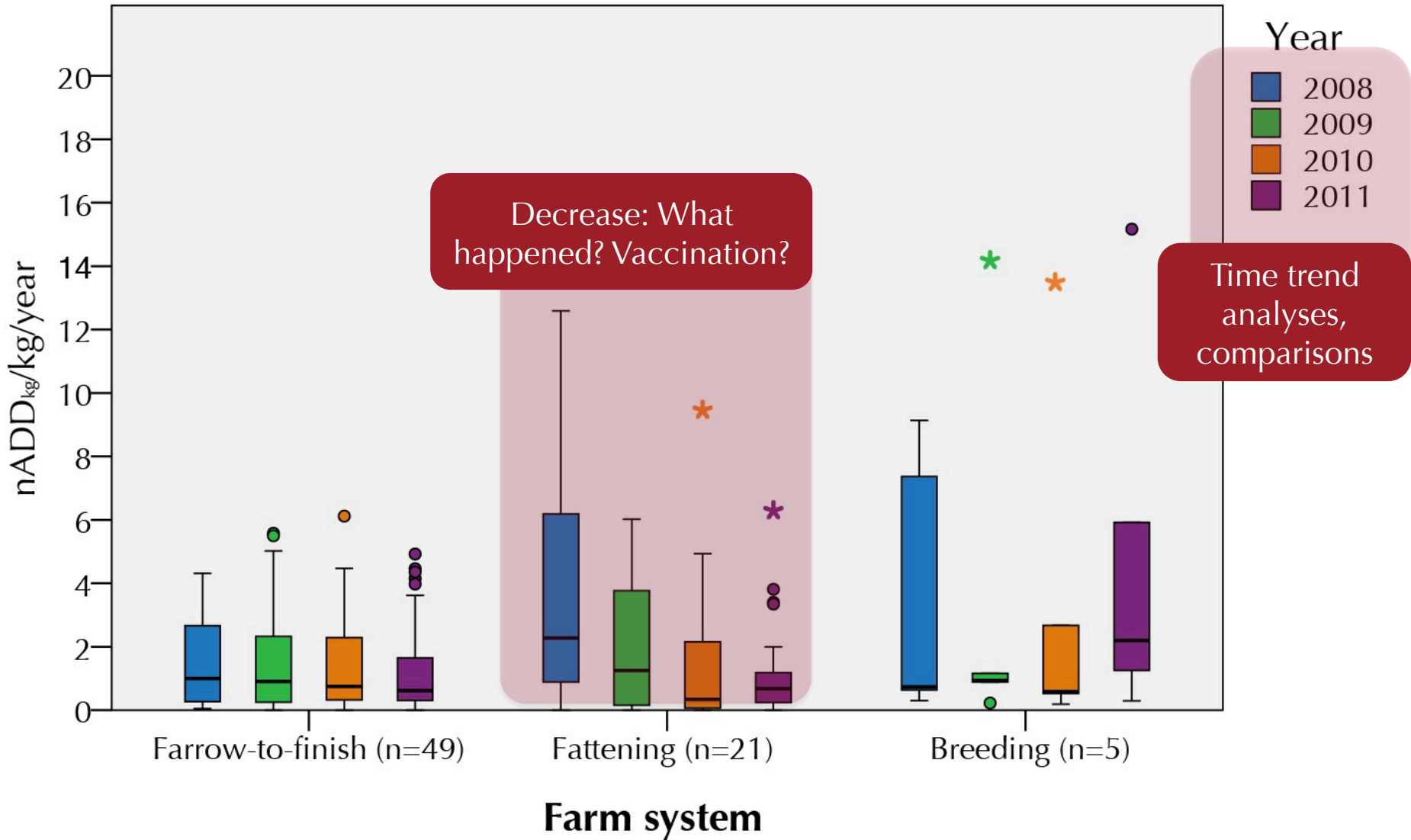
- Retrospective data analysis, 2008-2011
- Records on antimicrobial use, recorded by farmers (or vets)
- 75 conventional pig farms (49 farrow-to-finish, 21 fattening, 5 breeding farms)
- Categorization: active substance, administration form (ATCvet Code), indication
- Units: mg/kg; no. of “daily doses” ($nADD_{kg}/kg$, $nPrDD_{kg}/kg$, $nUDD_{kg}/kg$)



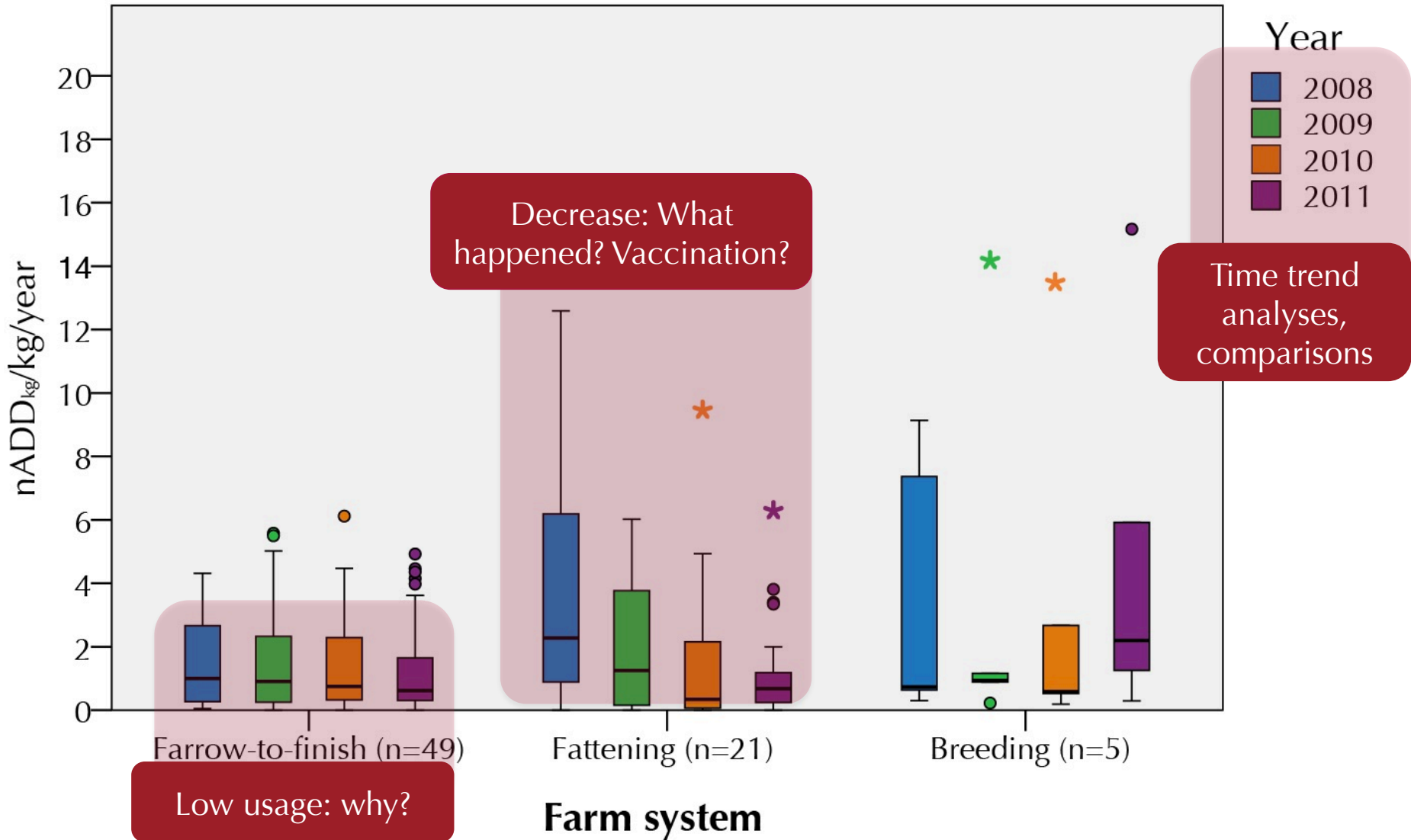
Antimicrobial use at farm-level



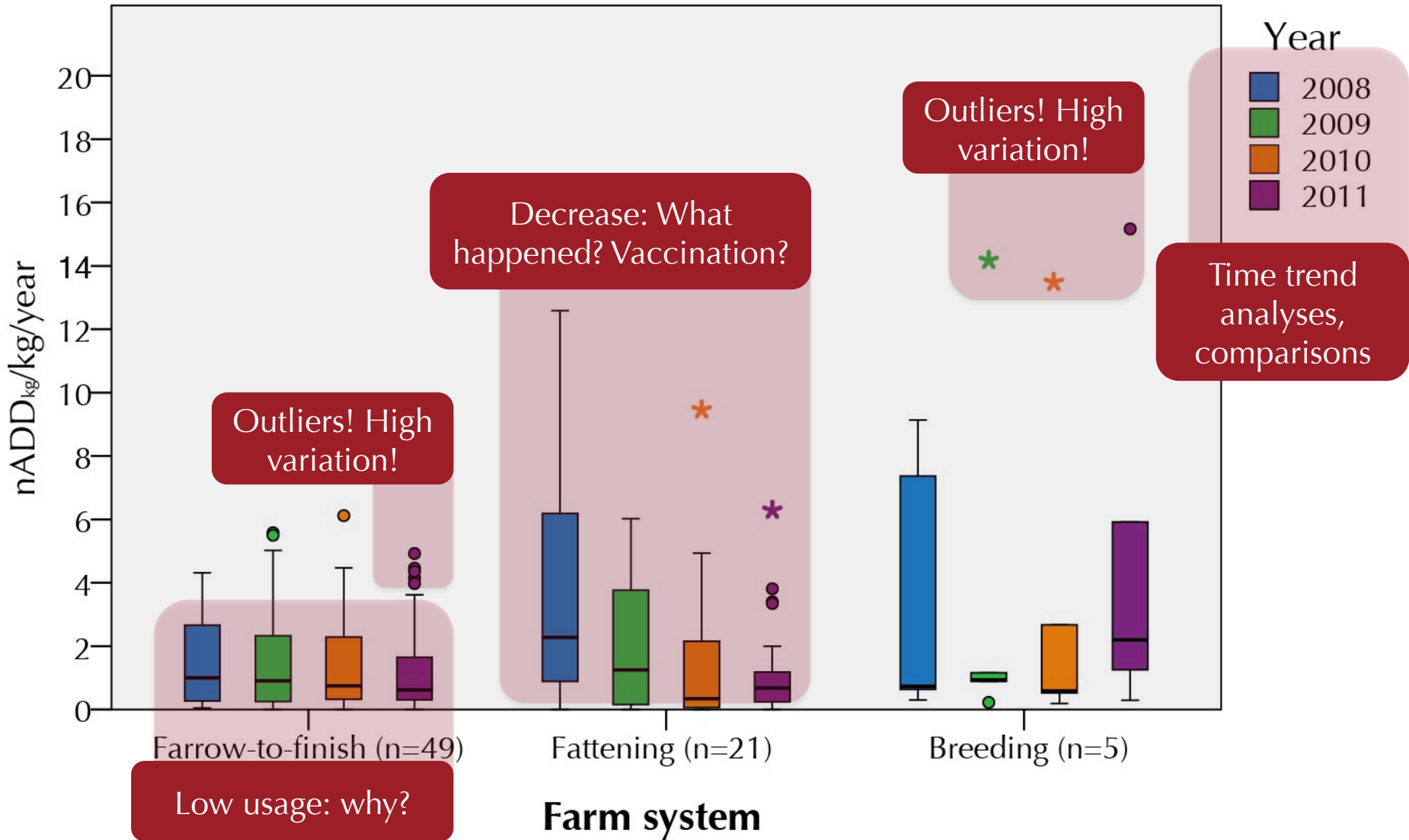
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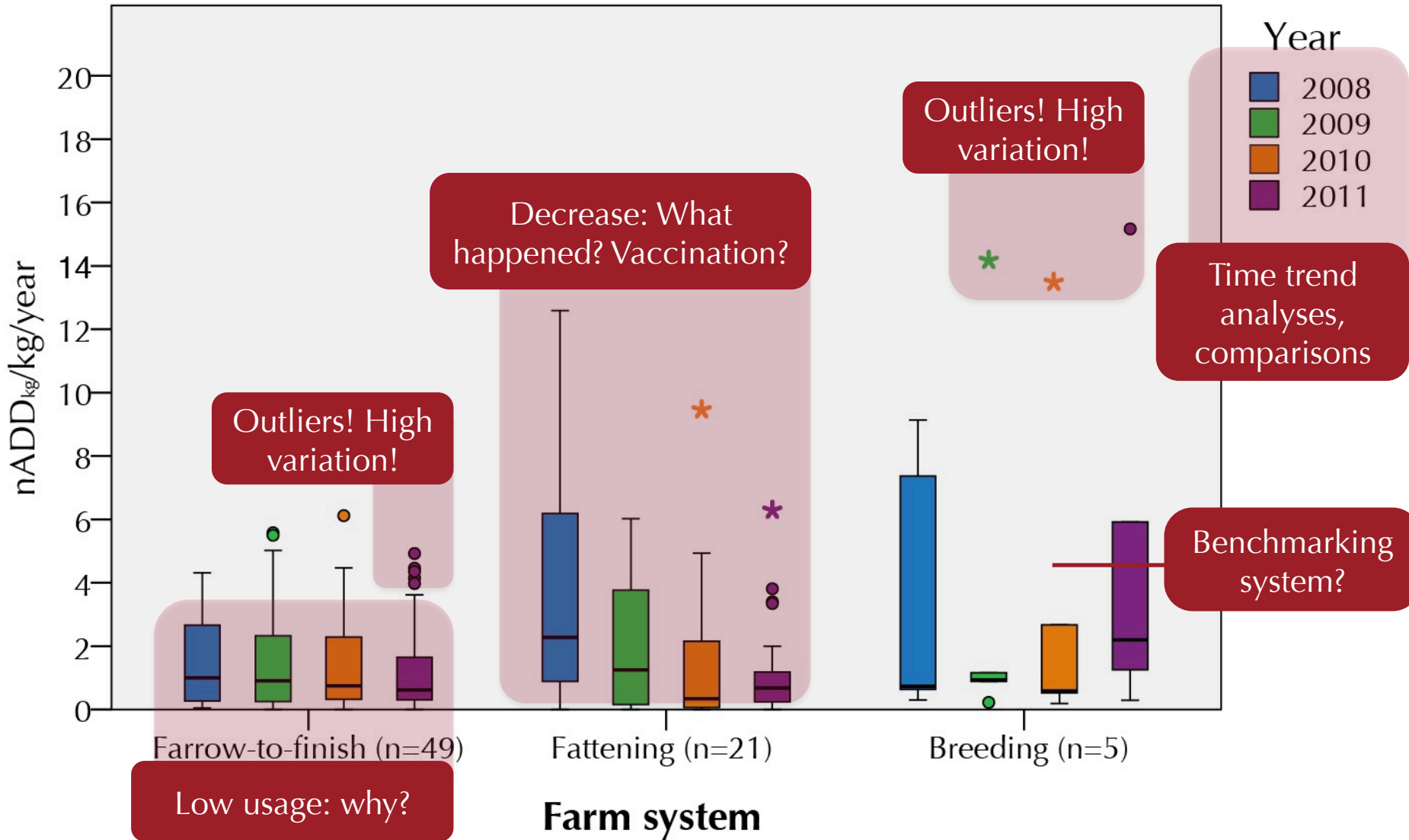
Antimicrobial use at farm-level

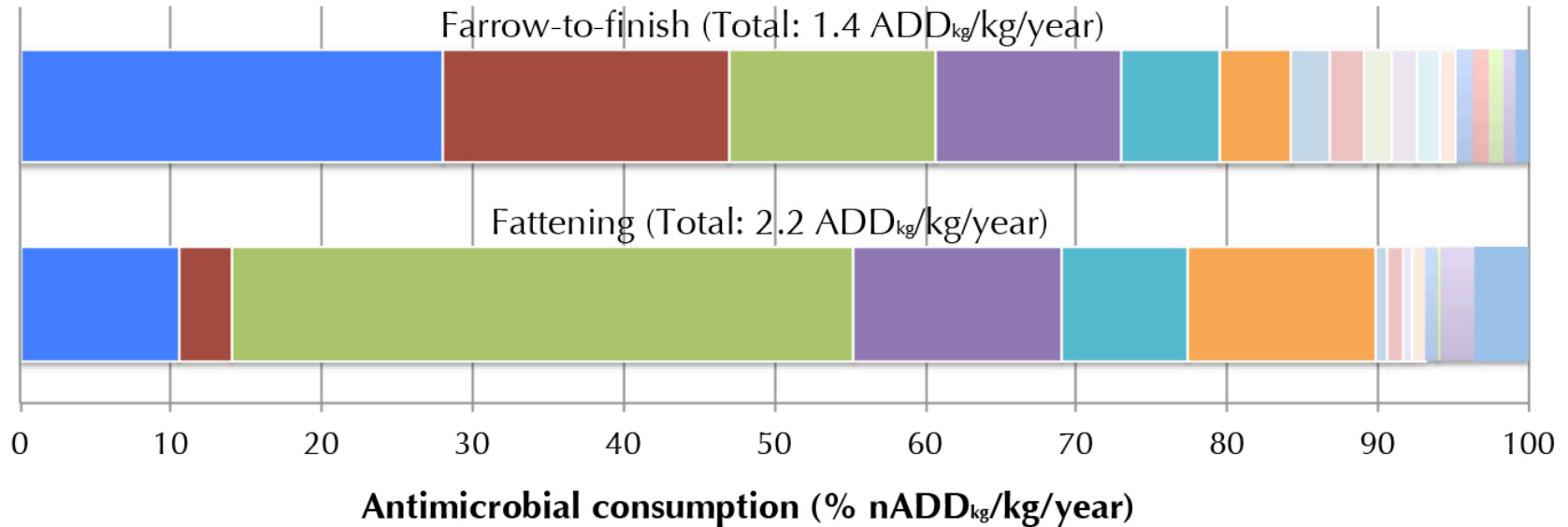


Antimicrobial use at farm-level

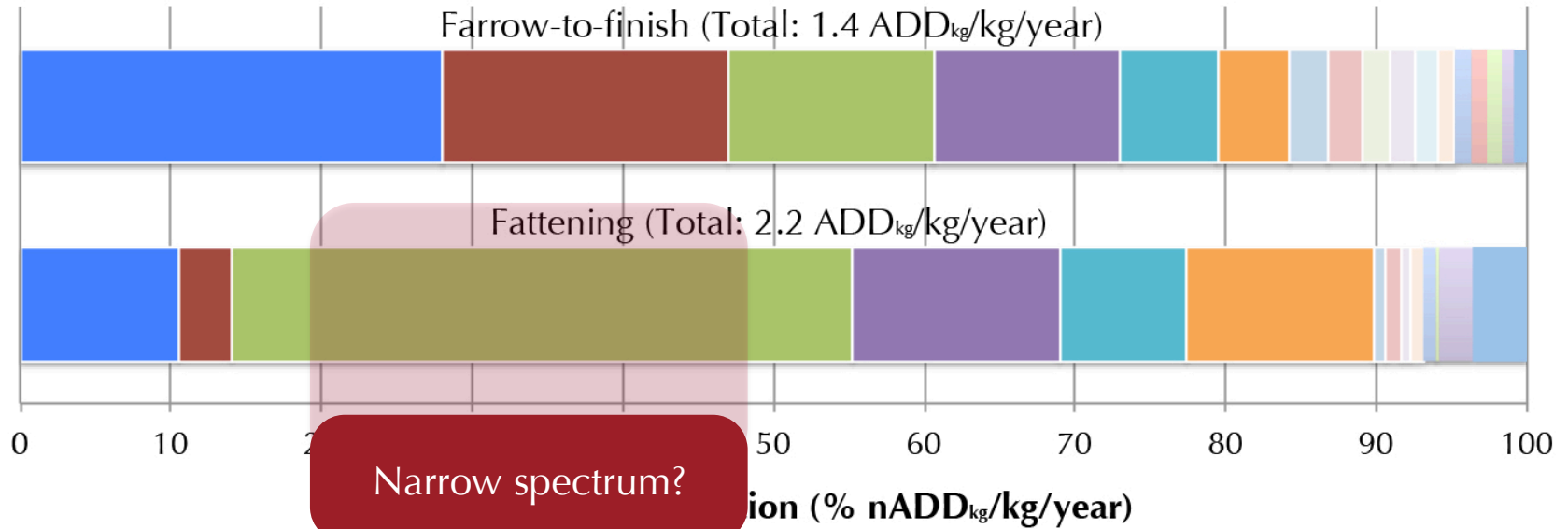


Antimicrobial use at farm-level

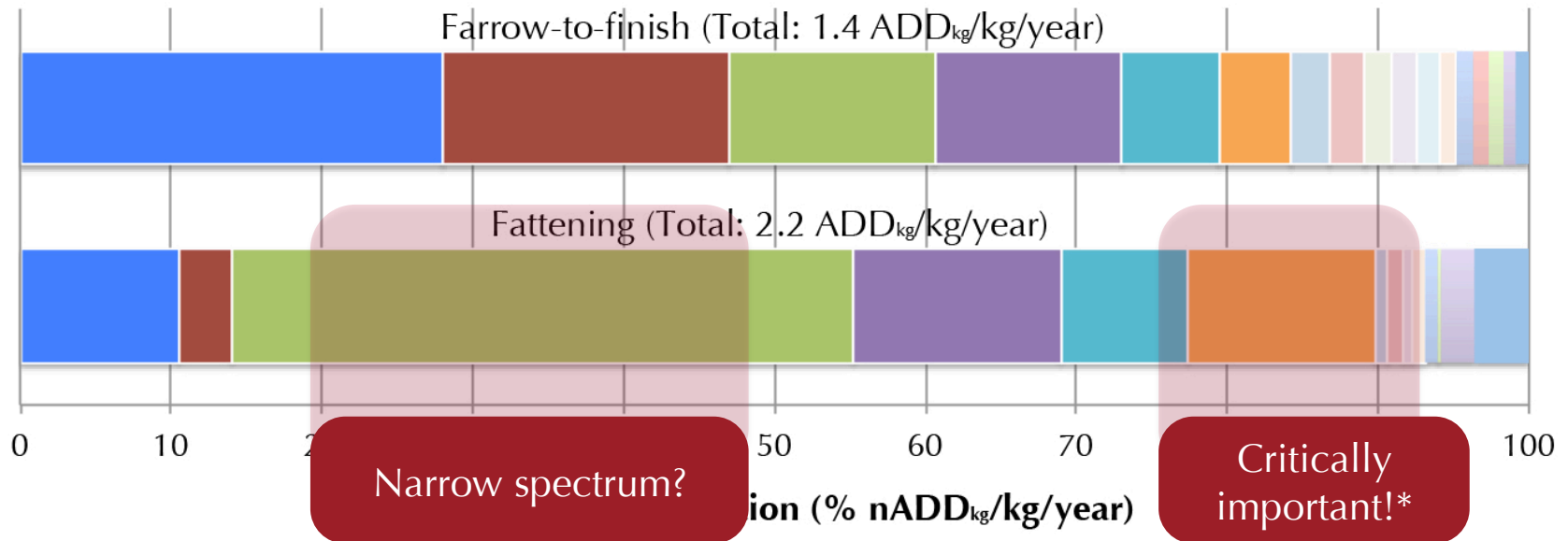




- Oxytetracycline
- Colistin
- Lincosamides, combinations
- Amoxicillin
- Doxycycline
- Tylosin
- Penicillins, combinations
- Danofloxacin
- Chlortetracycline
- Ceftiofur
- Tulathromycin
- Sulfamethoxazole and Trimethoprim
- Cefquinome
- Neomycin
- Marbofloxacin
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- Sulfadiazine and Trimethoprim



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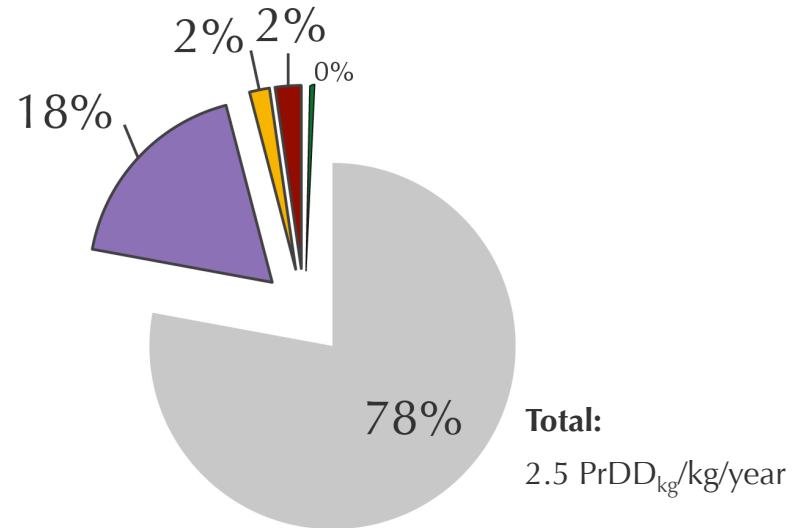
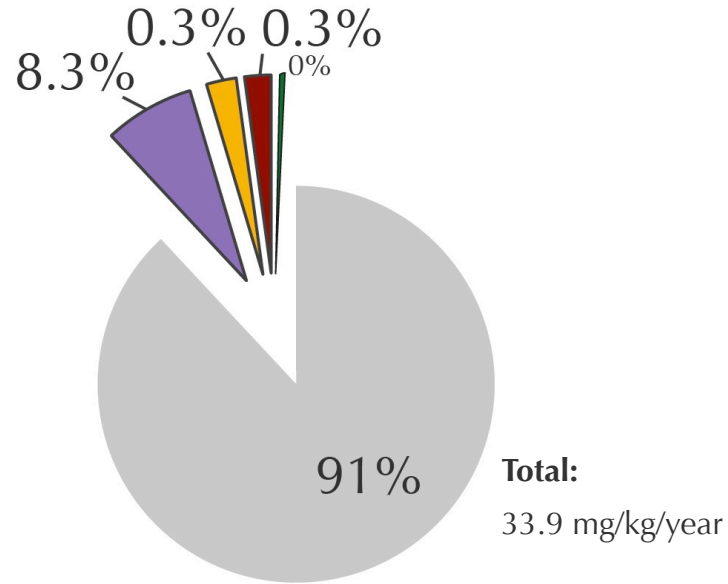
* Highest Priority Critically Important Antimicrobials, according to the WHO

- ◆ Macrolides
- ◆ Fluoroquinolones
- ◆ 3rd and 4th gen. Cephalosporins
- ◆ Glycopeptides
- ◆ Other antimicrobial substances

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Critically Important Antimicrobials*

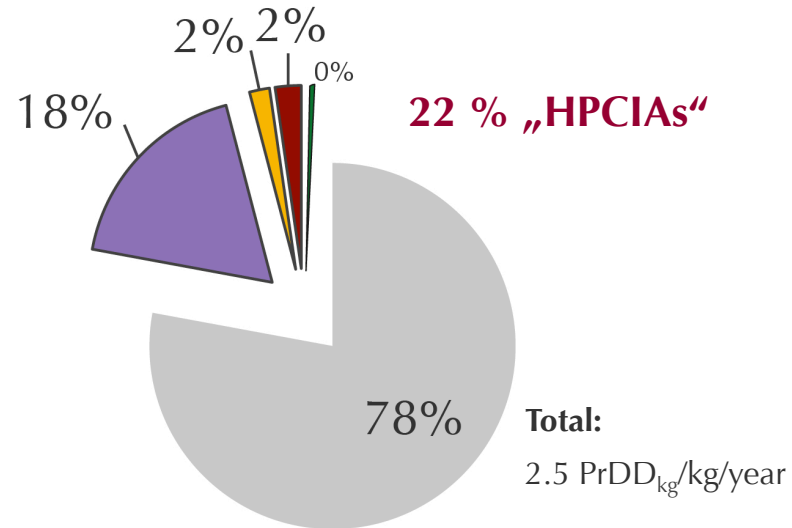
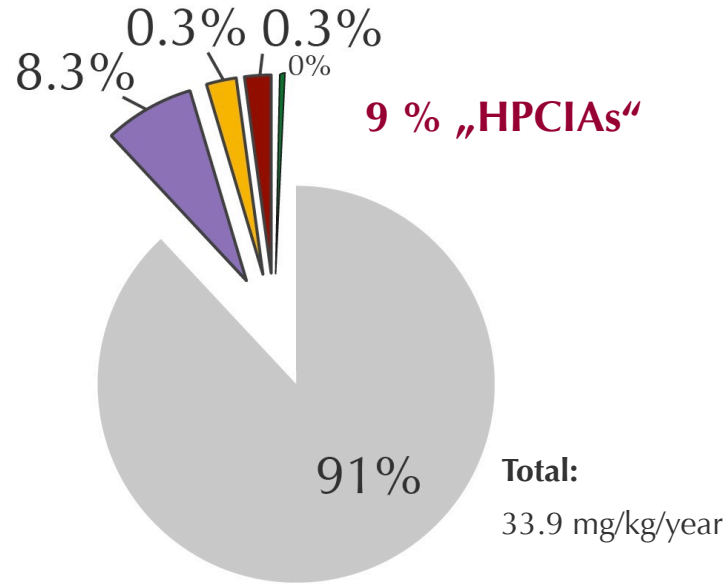
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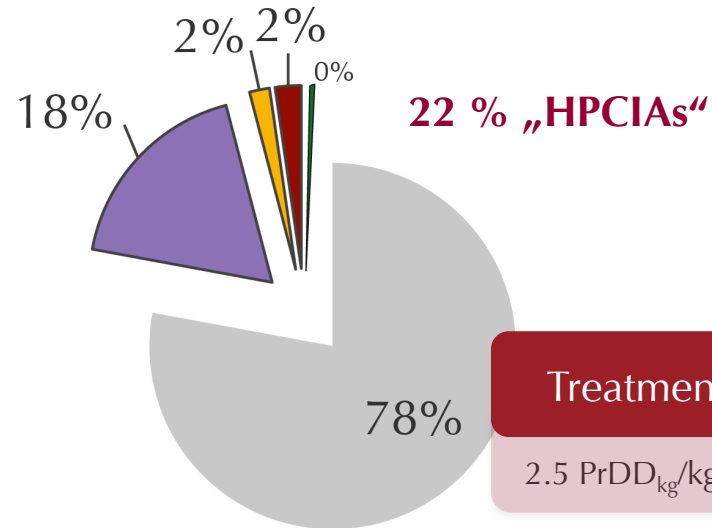
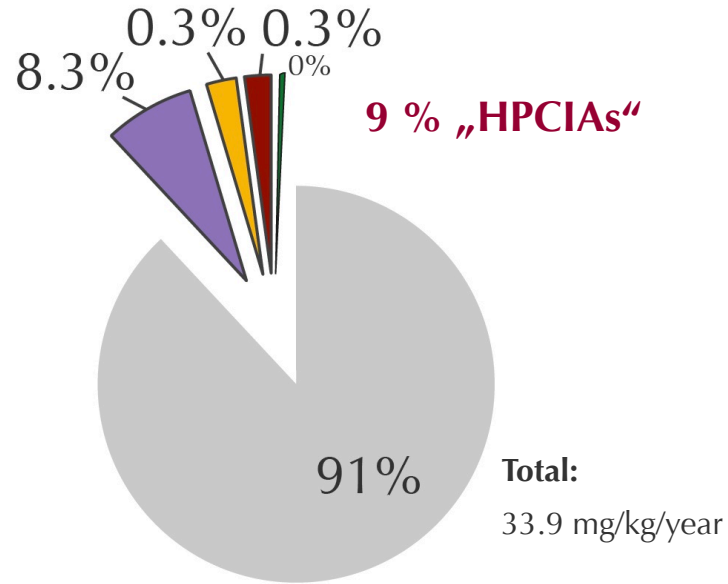
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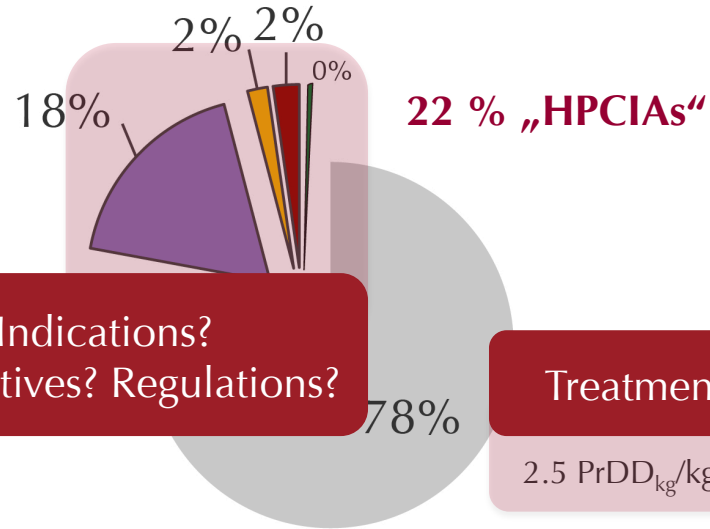
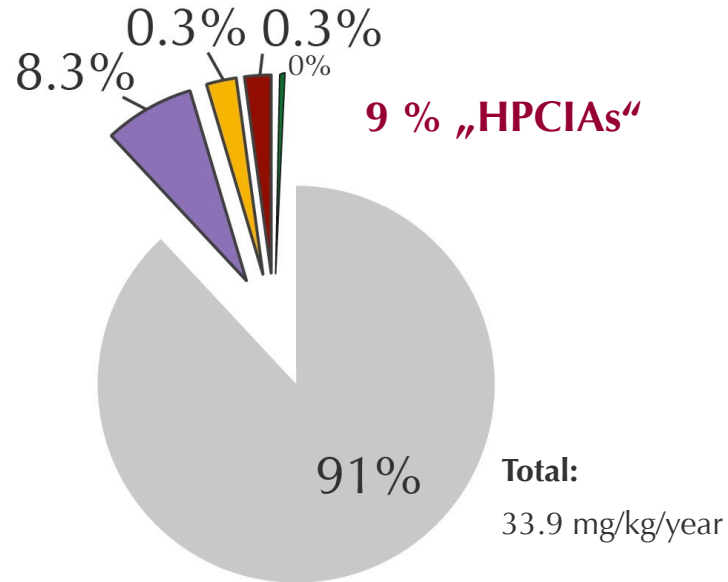
Treatment frequency!

2.5 PrDD_{kg}/kg/year

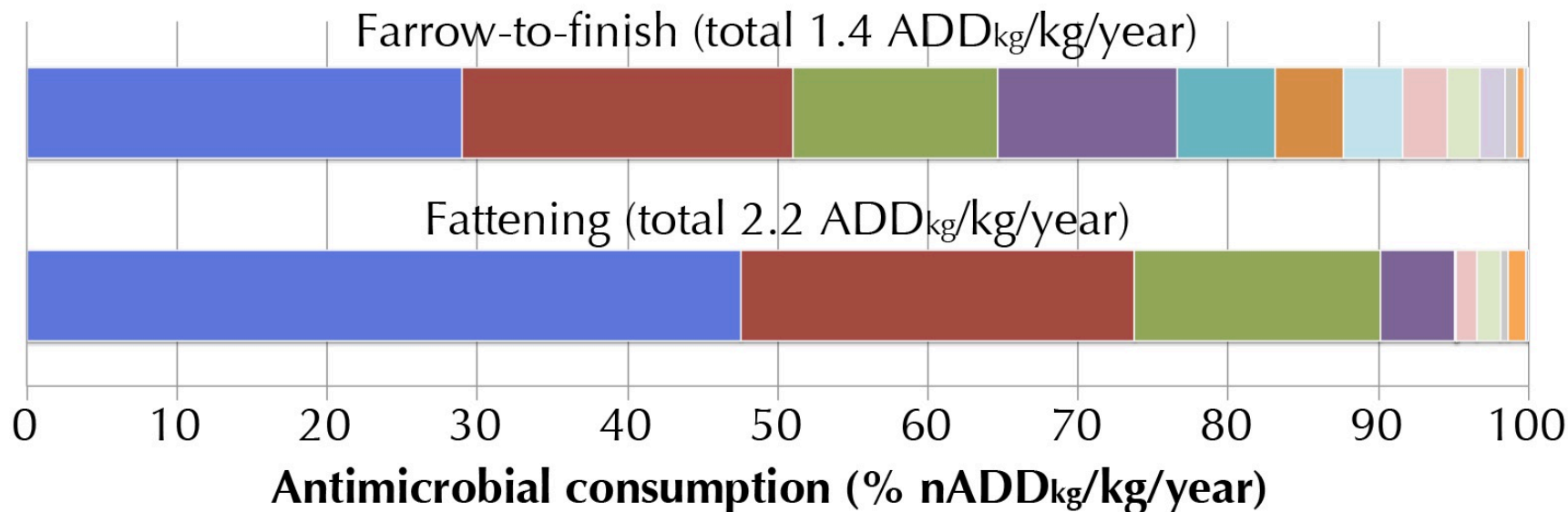
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■ Prophylaxis

■ Respiration

■ Digestion

■ Systemic infection

■ Multiple organ disease

■ Infection

■ Mastitis metritisagalactia

■ Orthopaedic diseases

■ Gynaecological diseases

■ Other diseases

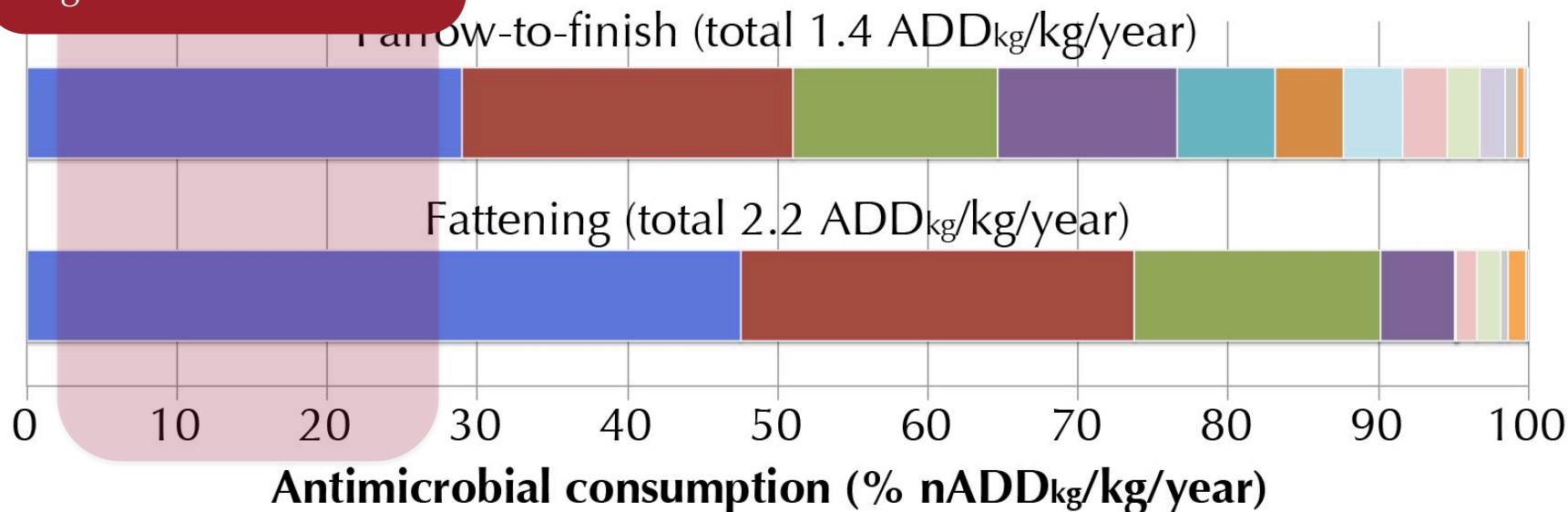
■ Cannibalism

■ Chirurgical interventions

■ Injuries

Indications for antimicrobial use

≠ Prudent use!
Regulations? Guidelines?



■ Prophylaxis

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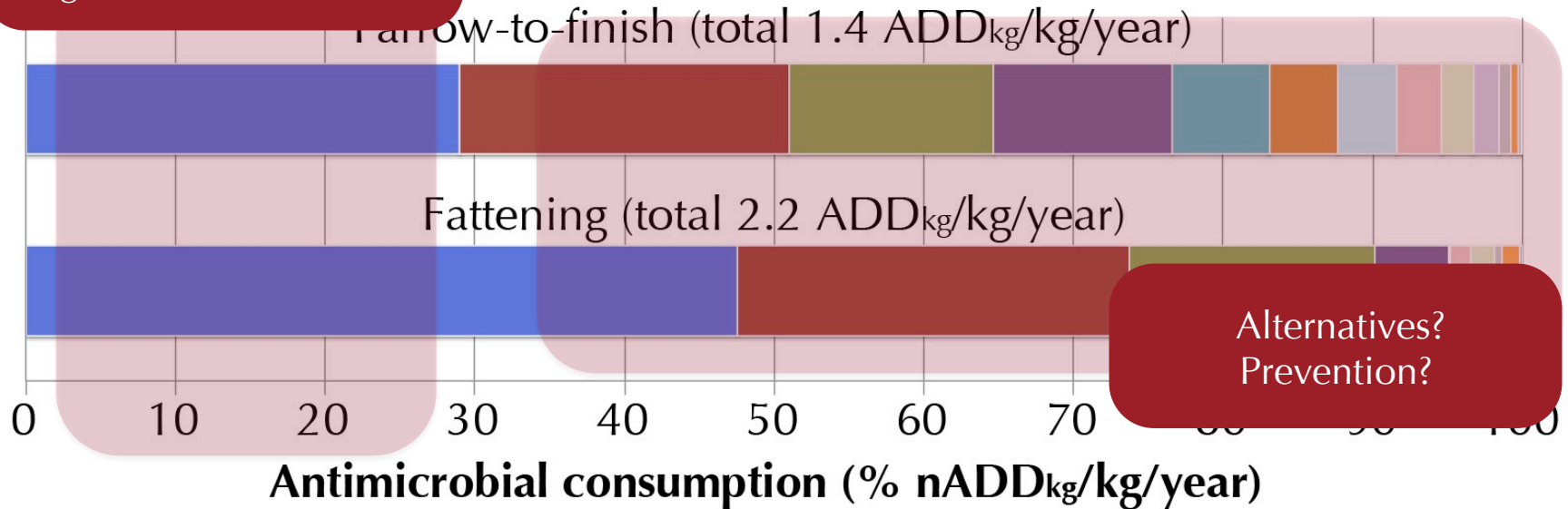
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Indications for antimicrobial use




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Regulations? Guidelines?






Alternatives?
Prevention?

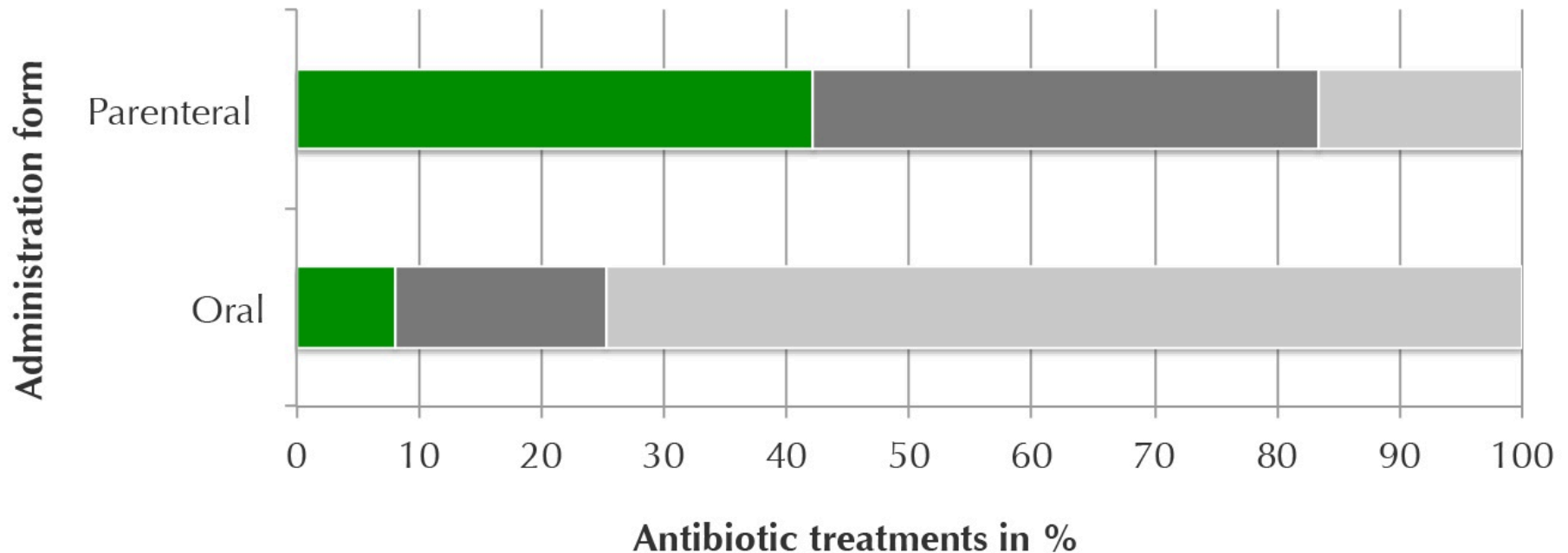
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Dosage	UDD:ADD ratio	Legend colour
Correct Dosage	0.75 – 1.25	
Overdosage	> 1.25	
Underdosage	< 0.75	




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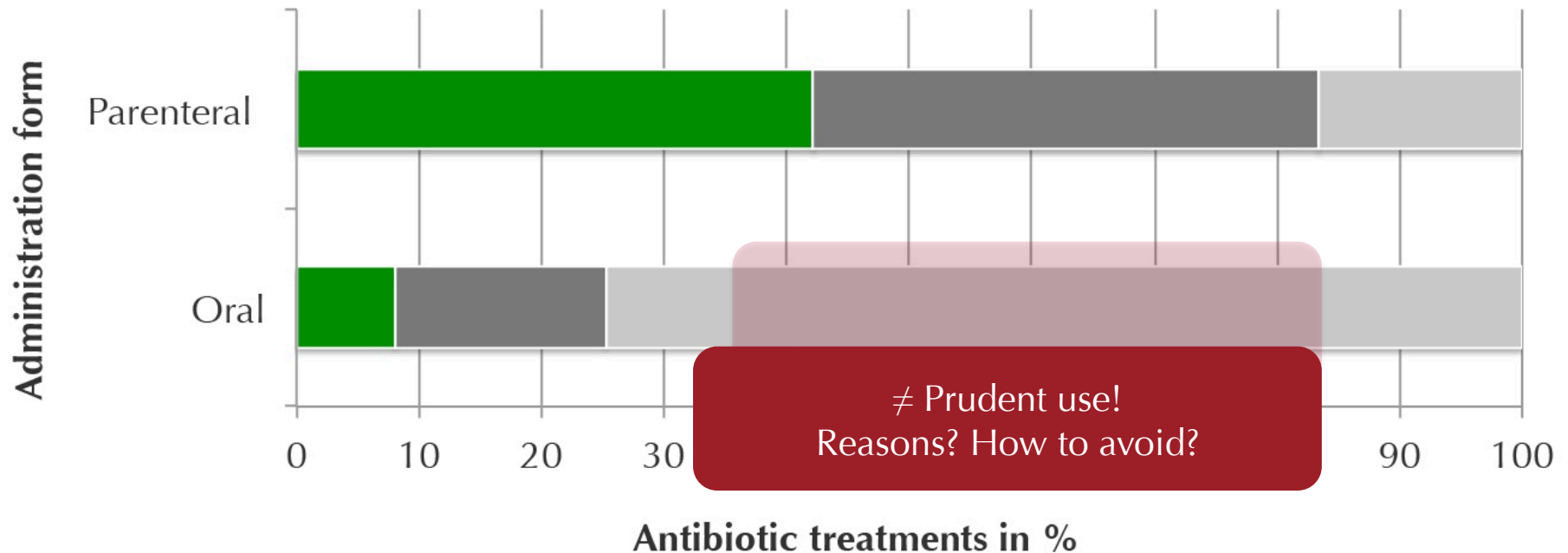
Dosage accuracy?

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Dosage	UDD:ADD ratio	Legend colour
Correct Dosage	0.75 – 1.25	
Overdosage	> 1.25	
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Conclusion: Support for SCIENTIFICS

- Species level → Indicator: no. of daily doses / „Treatment frequency“:
 - % of days an animal is treated during its live span?**
 - % of animals treated per day?**
- Farm level → Farm-associated factors influencing AM consumption?
system, vaccination, farm size, animal density, ...
- Which substances are used? Critically important antimicrobials?
Alternatives?

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Alternatives?
- Treatment indication? Where can we potentially reduce antimicrobial use?
- Dosage accuracy?
-

- Species level → Indicators of antimicrobial use “frequency”:
 - % of days an animal is treated
 - % of animals treated
- Farm level → Indicators of antimicrobial use:
 - Farm size, housing system, vaccination
 - Which substances are used? Alternatives?
- Treatment indications: Where can we potentially reduce antimicrobial use?
- Dosage accuracy?
-

**Link to
antimicrobial resistance**

Conclusion: Support for POLITICIANS

- *knowing facts instead of making assumptions*
- We cannot improve the situation without assessing it
- Set key priorities
- Comparison with other countries
- Time trend analyses
- Benchmarking system (farms, veterinarians?)
- Dispensing rights for veterinarians
- Introduction of obligatory herd health programmes
- Implementation of new topics for advanced training (farmers, vets)
- Set guidelines, strategies
- ...





Thank you!

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FÜR GESUNDHEIT**

Vet-Austria

**vetmeduni
vienna**



AGES



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