ANTIBIOTIC AND ZINC OXIDE USAGE IN DIFFERENT DANISH PIG PRODUCTION SYSTEMS

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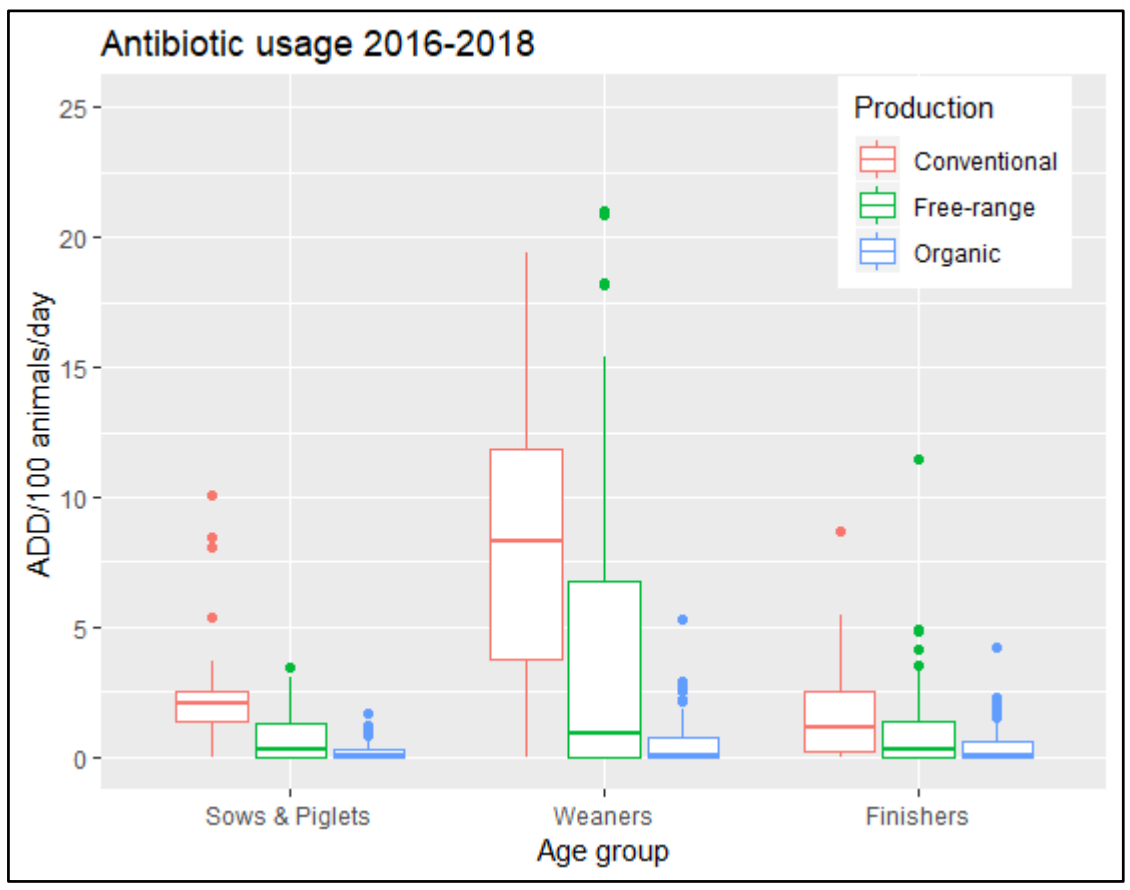
Animal antibiotic usage is associated with the development of antimicrobial resistance.

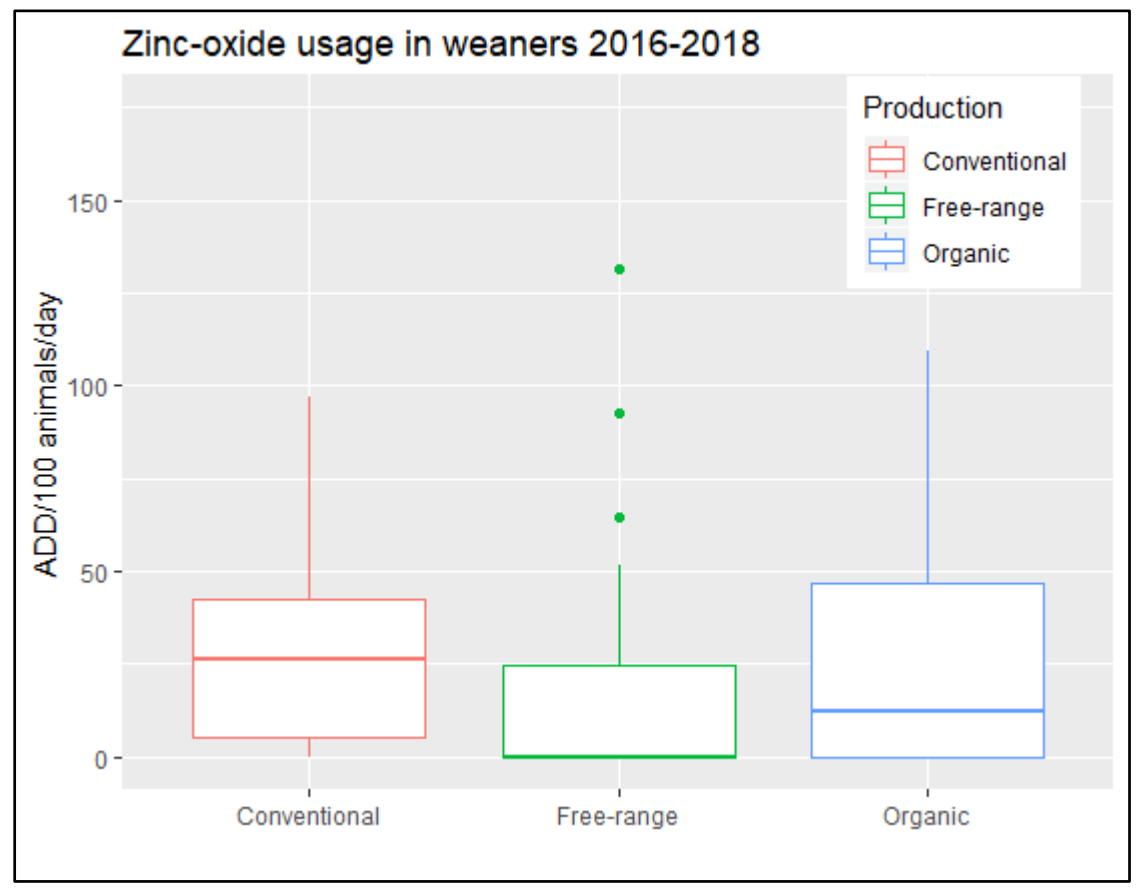
Zinc oxide causes environmental pollution and may coselect for antimicrobial resistance.

The majority of antibiotics that is used for animals is used for pigs, especially for treatment of gastrointestinal infections in weaners.

OBJECTIVE

To compare the usage of antibiotics and zinc oxide between and within different production systems.





MATERIALS AND METHODS

Mandatory Danish register data on medicine prescriptions (VetStat) and herd demographics were used.

All free-range and organic herds with min. 50 sows/100 weaners/100 finishers and a random sample of 300 conventional herds fulfilling the same inclusion criteria were included.

Outcome: ADD*/100 animals/day on herd level.

*ADD: animal daily doses

CONCLUSIONS

Antibiotic usage is different between production systems with highest usage in conventional production, intermediate usage in free-range production and lowest usage in organic production.

Antibiotic usage vary between herds within production systems, depending on management decisions and disease challenges.

Many free-range herds do not use zinc oxide at all.

In free-range and organic pig production the antibiotic- and zinc oxide usage may be negatively correlated.

Production	Conventional	Free-range	Organic
Suckling period	Indoor	Outdoor	Outdoor
Age at weaning	4 weeks	5 weeks	7 weeks
Housing (100 kg)	0.65 m^2 per pig Rooting material	1.2 m^2 per pig Outdoor access Bedding material	2.3 m^2 per pig Outdoor access Bedding material
Access to roughage	No access	Access	Access
Antibiotic treatment	Farmer can initiate	Farmer can initiate	Veterinarian must initiate
Zinc oxide mixed in feed	Max.14d after weaning	Max.14d after weaning	Max.14d after weaning

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