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# Antimicrobial usage:

## Pig farmer's perceptions, attitudes and management



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### INTRODUCTION

- Because of the rising threat from antimicrobial resistance, a number of international, European and national initiatives have been developed to mitigate the risk from antimicrobial use in animals.
- However, these initiatives are facing challenges and information gaps, especially related to how to quantify, explain and reduce antimicrobial use in food-producing animals.
- In the field, pig farmers are strongly encouraged to reduce their antimicrobial usage.
- In order to achieve national and European reduction targets, herd level action is needed. **Alternatives**, especially preventive measures, have to be implemented to reduce the need for antimicrobial treatments. **Nevertheless, what is the reality?**

In order to update data concerning the different practices and perception for antimicrobial usage in pig farms, **this study aimed at comparing antimicrobial usage, technical performances, management practices, farmers' perception of their antimicrobial usage and farmers' attitudes towards antimicrobial resistance**

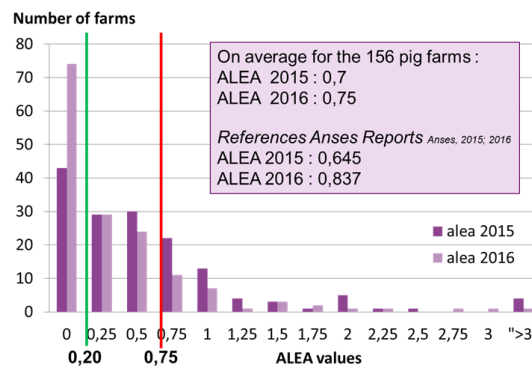
### MATERIAL AND METHODS

#### Indicavet software (Sanders, CEVA, DBM)

- This software monitored the antimicrobial usage of pig farms and is based on vet prescriptions
- The Animal Level of Exposure to Antimicrobials (**ALEA**) is calculated by dividing the body weight treated by the biomass of the animal population potentially treated with antimicrobials.

#### Selection of the farms and survey

- Elaboration of 4 "antimicrobial consumption" categories based on 2 threshold ALEA values (0,2/0,75) : low consumers, high consumers, farms who decrease their antimicrobial consumption between 2015 and 2016 and farms who increase their antimicrobial consumption
- After the selection of the farms, a questionnaire has been filled during an interview with the farmers



ALEA values' distribution for the 156 farms located in the West region in France and monitored since 2015 with Indicavet



We selected 5 farms per category for the survey

#### Statistical analysis

- The association between practices, perceptions or technical performances (feed conversion ratio, wean-to-finish mortality rate) has been analyzed with Chi Square or Kruskal-Wallis tests

### RESULTS AND DISCUSSION

**No link between technical performances and antimicrobial usage**

#### Major tools of antimicrobial reduction ?

Major « tools » for antibiotic reduction	Farmers' answers	
	No	Yes
Use of alternatives	4	15
Building / Material	11	9
Biosecurity	3	17
Regulation/Prices	8	12
Sanitary status	7	13
Genetic	13	5
Vaccines	3	17

- **Vaccination** (17/20) is considered as a major tool of antimicrobial reduction like **biosecurity** (17/20) or the use of "**alternatives**" (15/20)

Inefficient measures for antimicrobial reduction	Farmers' answers
Use of alternatives	5
Biosecurity	2
Feed	3
Management	2
None	7

- Nevertheless, during an opened question concerning ineffective measures, these "alternatives" have also been cited (5/20) →

#### Perceptions/key measures for antimicrobial reduction?

- Among the farmers' proposals as key measures for antimicrobial reduction, a **better training and more informations/knowledge** concerning diseases, treatments or "alternatives" were cited (8/25)
- In all the interviews, pig farmers
  - underline the **strong advisory role of the veterinarian** and
  - state that **antimicrobial resistance is a main concern**

- **Many positive and encouraging points like the strong implication of the veterinarian as the main advisor on animal health.**

- **Strengthened advisory role implies that veterinarians develop better communication skills and adjust their advices to the perceptions or attitudes of the farmers.**

- **Finally, the absence of link between the technical performances and the consumption of antimicrobials is also a major point to help veterinarians to engage farmers to reduce their antimicrobial use. This is a key to help farmers to comply with the measures they recommend whatever the economic situation.**

**This study highlights brakes and levers for antimicrobial reduction in pig farms**