

Antibiotic use in French pig farms: Indications and therapeutic strategies

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Introduction

The French EcoAntibio 2017 Plan (1) aims to reduce antibiotic use in veterinary medicine by 25 % in 5 years. The aim of this study is to review the main reasons for antimicrobial treatments in pig farms. These data will help to develop strategies for reducing antibiotic use.

Materials and Methods

The study is based on collected data from the INAPORC Panel consisting of 169 pig farms representative of French production (2). For each antimicrobial they bought in 2010, farmers described, during a phone call, their antimicrobial usage pattern, as category of animals treated and indications of treatment. The indications of treatment were prioritized according to the percentage of concerned farms and the amounts of antibiotics required in the corresponding age group, expressed in number of Animal Daily Dose / animal (ADD/a) and number of Animal Course Dose / animal (ACD/a), as recommended by the European Medicines Agency (3).

Results

In sows, antibiotic treatments for urogenital infections (like cystitis or Leptospirosis) dominated, as they were mentioned by 71 % of farms and represented 65 % of ADD/a and 61 % of ACD/a (Table 1). They were mostly treated with Tetracyclines (21 % of farms concerned, 42 % of ADD/a and 29 % of ACD/a) or Trimethoprim-Sulfonamides (18 % - 26 % - 22 %). Penicillins were used in more farms (41 %) but represented less quantities of antibiotics (12 % - 19 %) as they mostly concerned individual treatments. In suckling piglets, antibiotic treatments for digestive and locomotor disorders dominated. The first-line antibiotics were Penicillins for locomotor problems (41 % - 61 % - 64 %) and Colistin for digestive disorders (41 % - 43 % - 30 %), followed, in this last case, by Fluoroquinolones (33 % - 15 % - 22 %). For all these treatments in suckling piglets, the injectable route was widely used. In post-weaning pigs, digestive disorders were the major indication of treatment. They were mostly treated with Colistin (82 % - 53 % - 66 %), by oral forms. Respiratory diseases, the second indication of treatment, were mainly treated with Tetracyclines (30 % - 47 % - 57 %), also orally. In fattening pigs, respiratory and digestive diseases also dominated. Tetracyclines (36 % - 38 % - 51 %), Macrolides (18 % - 28 % - 12 %) or Trimethoprim-Sulfonamides (8 % - 22 % - 20 %) were used orally for respiratory treatments, like Colistin (16 % - 42 % - 54 %) and Macrolides (20 % - 34 % - 20 %) for digestive treatments.

Table 1. Indications of treatment by age group: part of nDD/a, nCD/a and farms concerned

	Sow	Suckling piglet	Post-weaning pig	Fattening pig
	% farms*	% farms	% farms	% farms
	% nDD/a - nCD/a	% nDD/a - nCD/a	% nDD/a - nCD/a	% nDD/a - nCD/a
Digestive	31 7 - 6	68 53 - 35	89 69 - 69	38 40 - 34
Respiratory	24 8 - 6	6 1 - 3	46 17 - 16	63 45 - 49
Locomotor	28 2 - 3	58 33 - 49	29 2 - 2	36 1 - 2
Systemic	53 7 - 12	16 8 - 8	34 8 - 8	19 8 - 6
Urogenital	71 65 - 61	-	-	-
Udder	27 2 - 4	-	-	-
Skin	10 0 - 0	1 0 - 0	5 1 - 1	5 2 - 4
Nervous	0 0 - 0	0 0 - 0	7 1 - 1	2 0 - 0
Mortality	0 0 - 0	2 2 - 3	2 1 - 1	1 1 - 1
Don't know	8 10 - 6	6 2 - 2	12 3 - 3	8 3 - 2

*Percentages of farms involved is greater than 100 because a farmer could cite several indications of treatment for one antimicrobial

Conclusions and discussion

Approaches to reduce antibiotic use, which had already been undertaken in France since 2010 (4), should go on targeting in priority these main reasons for treatment.

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References

1. EcoAntibio 2017 Plan, 2012.
2. Hémonic et al., 2013. J. Rech. Porcine, 45, 255-260
3. EMA/286416, 2012.
4. Chouët S et al., 2012. Bulletin GTV, 64, 55-56.