Water quality: differences of perception and management between poultry and pig producers... a new way to reduce antibiotic usage

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INTRODUCTION

- Drinking water is an essential nutrient for animals. Correct and safe water supply, in terms of both quality and quantity, allows optimization of animal performances while maintening their health
- On field, waterlines cleaning protocols seem to be more frequent in poultry farms than in pig farms

- Indeed, when the physiological animal's requirements are not satisfied, performances can decrease and/or diseases may appear, both having an economical impact for pig and poultry productions.

Is it a reality?
Are poultry farmers more aware of water quality than pig producers?

In order **to assess the different approaches for water management in pig and poultry farms**, a study was conducted **to compare water supplies, their optimization and the different management practices** for piglets in post-weaning rooms and broiler chickens

MATERIAL AND METHODS

Phone survey of 45 farmers (Sanders Bretagne)

- 20 pig producers
- 20 poultry farmers
- 5 with both activities

In the west region in France

Randomly selected

Inclusion's criteria

- Presence of post-weaning rooms
- At least one building with broilers

Main themes in the questionnaire

- ***Water quality perception, water supplies and analyses***
- ***Animal sanitary status***
- ***Water management practices***
  Water treatment,
  Monitoring for water consumption,
  Waterline cleaning protocols

Statistical analysis

- The association between practices and production characteristics was analyzed with chi-square tests

RESULTS AND DISCUSSION

Water quality perception, water supplies and analyses

Water quality is a main concern in all interviews

Both bacteriological and chemical parameters are regarded as important for water quality, even if chemical analysis is less frequently performed.

Water mainly comes from drilling (bore water)

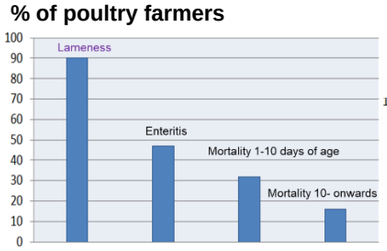
Repartition of the questionnaires' answers

Estimated Parameters	*Pig farmers (n=25)*	*Poultry farmers (n=25)*
Criteria use for water quality		
Bacteriological/chemical analyses	20	20
Only bacteriological analysis	2	4
« Drinking water »	3	1
Water origin		
Bore water	12	13
Tap water	5	7
Well water	6	5
Mix	2	0
Water as an administration route	21	25
Nutritional factors*	3	25
Antibiotics	21	25
Vaccines*	0	24
Anthelminthics*	8	0
Others (AINS, acid, disinfectant)	3	1
Continuous water disinfection	15	20
Physical/chemical treatment	5	9
Water cleaning protocols		
When animals are present		
Waterline washing	0	4
Line flushing*	0	12
During the down period		
Waterline washing*	14	25
Line flushing*	7	21
Use of a base*	2	20
Use of an acid*	3	22
Disinfectant*	3	15

Statistically different, (type of animal production)

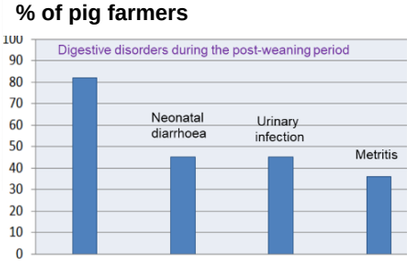
Animal sanitary status

% of poultry farmers



Frequency of health disorders linked to water quality cited by farmers in our survey

% of pig farmers



Water management practices

Water is an **administration route :** antibiotics, anthelminthics, vaccines, nutritional factors.

For continuous water disinfection, 60% of the pig farmers use chlorination whereas 80% of the poultry farmers perform it with different disinfectants or electrolysis and the remaining 20% used tap water.

When animal's are present, no pig farmers perform pipes' draining while 72% of poultry farmers do.

During the down period, all the poultry farmers set up protocols with mechanical and chemical procedures (flushing, draining, use of base, acid and/or disinfectant) whereas 24 out of 25 pig farmers only clean the troughs in post-weaning rooms.

- **This study underlined that the control of water management is more settled in poultry farming compared to the pig industry.**
- **The main differences concern the monitoring of water consumption and the waterpipe maintenance (including cleaning measures to eliminate the biofilm).**
- **The improvement of water management could help to prevent health disorders and thus to reduce antibiotic consumption.**