19 Apr 2016

Evaluation of two different approaches to the treatment of the swine respiratory complex disease in weaners

Annalisa Scollo
DVM, PhD

www.SUIvet.it

19 Apr 2016

Agenda

- Context
- The field trial
- Implications

www.SUIvet.it

Context | Field trial | Implications

Antibiotic *resistance*

SELECTIVE PRESSURE

- Improper use in medicine
- Use for not therapeutic purposes
- Environmental contamination

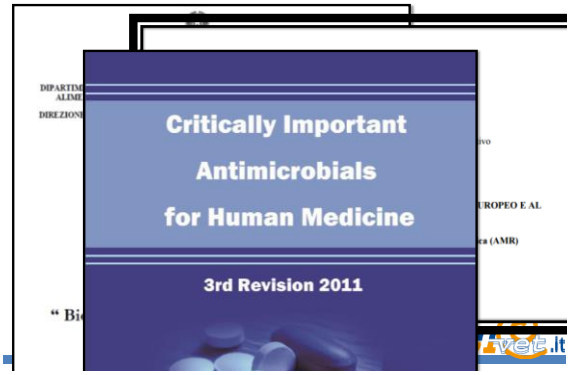
Context | Field trial | Implications

What is the problem?

- Therapeutic failures
- Increasing hospitalization rate
- Mortality
- Public health costs

www.SUIvet.it

Context | Field trial | Implications



Context | Field trial | Implications

Priority Critically Important Antimicrobials

Fluoroquinolonies

Cephalosporins 3rd e 4th generation

Macrolides

www.SUIvet.it

Context | Field trial | Implications

CRITICALLY IMPORTANT ANTIMICROBIALS			
Drug name*	C1	C2	Comments
Macrolides and ketolides	Yes	Yes	(Criterion 1) Limited therapy for *Legionella*, *Campylobacter* and MDR *Salmonella* and *Shigella* infections. (Criterion 2) May result from transmission of *Campylobacter* spp. and *Salmonella* from non-human sources.
azithromycin clarithromycin erythromycin dirithromycin flurithromycin josamycin midecamycin miocamycin oleandomycin rokitamycin roxithromycin spiramycin telithromycin troleandomycin *Veterinary use only:* gamithromycin kitasamycin tildipirosin tilmicosin tulathromycin tylosin tylvalosin			
Monobactams	Yes	Yes	(Criterion 1) Limited therapy for

Is it the sole, or one of limited available therapy, to treat serious human disease?

Is it used in zoonoses (may the resistance to be transmitted to humans from non-human sources)?

www.SUIvet.it

Context | Field trial | Implications

The **RESPONSIBLE** *use of antibiotics is needed*

www.SUIvet.it

Context | Field trial | Implications

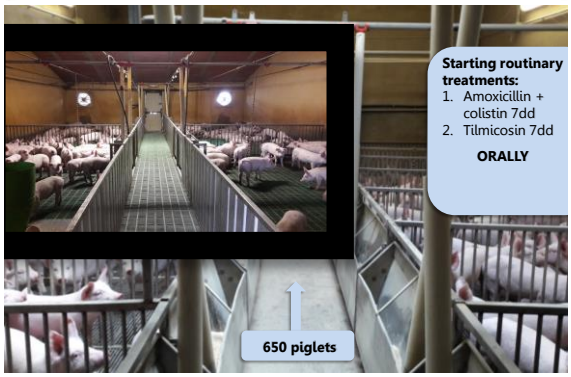
Aim:

A different approach

Oral metaphylaxis of the herd **VS** *Individual treatment by injection*

www.SUIvet.it

Context | Field trial | Implications

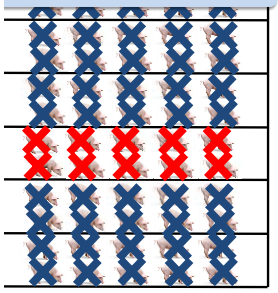


Starting routinary treatments:
1. Amoxicillin + colistin 7dd
2. Tilmicosin 7dd

ORALLY

Context | Field trial | Implications

Action protocol



Rule 1:

Above 20% of the single pen
=
100% of the pen

Rule 2:

Above 15% of all pens
=
100% of the room

www.SUIvet.it

Context | Field trial | Implications

- **Mortality and culling rates**
- **Treatments**
  - Clinical signs
  - Active principle
  - Quantity
  - Re-treatments
- **Growing data**

www.SUIvet.it

Context | Field trial | Implications

Antibiotic treatments IM	Metaphylaxis (n = 323)	Individual treatment (n = 318)	P-value (Odds ratio)
Respiratory syndromes, n°/pig	0,03	0,07	ns
Neurological syndromes, n°/pig	0,02	0,08	0,009 (0,23)
Skin infections, n°/pig	0	0,01	ns
Enteric syndromes, n°/pig	0,11	0,06	ns
Total	0,19	0,29	0,022 (0,58)

www.SUIvet.it

Context | Field trial | Implications

Antibiotic treatment's costs/pig	Metaphylaxis (n = 323)		Individual treatment (n = 318)		Difference euro
	ml/gr*	euro	ml/gr*	euro	
Per os					
Amoxicillin + Colistin	3500	26,25	3500	26,25	0
Tilmicosin	1356,6	107,2	0	0	-107,2
Amoxicillin	128	3,88	128	3,88	0
Injectable					
Tulatromicin	14	6,11	30	13,09	6,98
Amoxicillin	8	0,54	32	2,14	1,6
Amoxicillin + Clavulanic acid	0	0	3	0,61	0,61
Enrofloxacina	48	5,84	26	3,17	-2,67
Total	5054,6	149,82	3719	49,14	-100,68

*of product

www.SUIvet.it

Context | Field trial | Implications

Farmer VS *Public opinion*

Costs reduction for antibiotics

Reduced use of antibiotics

MORE SUSTAINABLE PRODUCTION!

www.SUIvet.it

Context | Field trial | Implications

The **RESPONSIBLE** *use of antibiotics is needed*

www.SUIvet.it

Context | Field trial | Implications

Very last one slide for... personal considerations!

This is the right way but be aware to
SOMETHING THAT APPENED:

FARM TECHNICIANS
(especially in this trial)
MAKE THE DIFFERENCE

www.SUIvet.it

19 Apr 2016

Thanks

Annalisa Scollo
DVM, PhD

www.SUIvet.it