Alternatives to Veterinary Antimicrobials (AVANT): A new EU project focussed on diarrhoea in Pigs

Poul Baekbo
DVM, PhD, Dipl. ECPHM
SEGES Danish Pig Research Centre
WHO IS POUL BAEKBO?

Veterinarian in 1982 (DVM)

- PhD 1989
- Dipl. ECPHM 2009

2 years in general practice at the countryside

6 years at the Veterinary University in Copenhagen

- Research in diseases of pigs (PhD) and horses

29 years in pig disease R&D for the pig industry
THE OVERALL CHALLENGE

To ensure a **cost-efficient** pig production with a **minimal use of antibiotic** to reduce the risk of antimicrobial resistance (AMR)

The EU Commission:

**Medical Zinc Oxide** (2,500-3,000 ppm) must be banned in 5 years or less (Latest by 2022)

**BIG challenge for weaning of healthy pigs!**
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BIG challenge for weaning of healthy pigs!
CVMP Reflection paper on promoting the **authorisation of alternatives** to antimicrobials in the EU

CVMP: Committee for Medicinal Products for Veterinary Use
ANTIMICROBIAL CONSUMPTION (MG/PCU) IN LIVESTOCK (EUROPE)

Figure 4. Sales of antimicrobial agents by antimicrobial class as percentage of the total sales for food-producing species, in mg/PCU, aggregated by 31 European countries, for 2017.
Figure 10. Spatial distribution of overall sales of all antimicrobials for food-producing animals, in mg/PCU, for 31 countries, for 2017.
ANTIMICROBIAL CONSUMPTION (KG) IN MAIN ANIMAL SPECIES (DENMARK)

- Pigs, 75%
- Cattle, 12%
- Pet animals, 1%
- Horses, 1%
- Other, 2%
- Poultry, 2%
- Fur Animals, 5%
- Aquaculture, 2%

DANMAP 2016

Kg active compound
Antimicrobial consumption in Danish Pig Production

Distribution of antimicrobial consumption by age group, 2018

- 25% Sows & Piglets
- 30% Weaners
- 45% Finishers
AVANT – a EU funded R&D project (Horizon 2020)

The strategic objective of AVANT is to significantly reduce antimicrobial consumption by demonstrating 3 field interventions that target the animal species and disease condition accounting for the majority of antimicrobials used in livestock.

AVANT: a 5-year & 6 million euro EU-project
(Start in January 2020)

AIM:
To develop and test innovative alternatives to antimicrobials for management of post-weaning diarrhoea in pigs (ETEC)
AVANT: a Multi-actor approach

**Academia**
- University of Copenhagen, Denmark
- Royal Veterinary College, United Kingdom
- Wageningen University, Netherlands
- Universidad Complutense, Spain
- Swiss Federal Institute of Technology Zürich

**Industrial partners**
- Biomin, Cooperl, Overjero
- Laboratories, SEGES

**JPIAMR affiliations**
- veRi BEAM, GAP-ONE, REDUCEAMU

**SMEs**
- RTDS, Easy-Agricare
- Klifovet AG
- Schothorst Feed Research

**External collaborators**
- HealthyLivestock, Feed-a-Gene, One health EJP

**Veterinary association**
- FVE
14 participants from 9 European Countries

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<th>Participant No. *</th>
<th>Participant organisation name</th>
<th>Country</th>
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<td>1 (Coordinator)</td>
<td>University of Copenhagen (UCPH)</td>
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<td>Biomin (BIOMIN)</td>
<td>Austria</td>
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<td>Cooperl (COOP)</td>
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<td>Association</td>
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<td>Ovejero Laboratories (OL)</td>
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<td>Royal Veterinary College (RVC)</td>
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AVANT portfolio

1. ProPig (pre- & probiotics)
2. Faecal transplantation
3. Phages
4. Polymers
5. Oral immuno-stimmulants
6. Injectable immuno-stimmulants
7. Feeding strategies

The most promising ATA will be tested by farm trials
AVANT project structure

- **WP1**: Gut microbiome modulators
- **WP2**: Anti ETEC veterinary medicinal products (Draw Polymer)
- **WP3**: Injectable and feed additive immunostimulants
- **WP4**: Feeding strategies for sows and piglets

### Pre-clinical studies
- **WP5**: Intervention assessment on clinical efficacy under field conditions
- **WP6**: Intervention assessment on reduction of antimicrobial use at farm and EU levels
- **WP7**: Regulatory support, GAP analysis, classification of interventions and requirements for registration

### Multi-actor approach
- **EU & JPI AMR liaison**
- **Academia**: veRI BEAM, GAP-ONE, REDUCEAMU
- **Industry & SME**: HealthyLivestock, One Health, FVE
External Advisory Board (EAB)

A body of experts with advisory role committing to monitor and advise the Consortium on scientific progress, dissemination of the project’s results

Organizations represented in the EAB:
• Relevant EU projects (e.g. HealthyLivestock and OneHealth EJP)
• JPIAMR networks (e.g. Gap One and VeRI BEAM)
• Stakeholder organizations (e.g. EMA, OIE, HealthforAnimals, COPA-COGeca, FEFAC, etc).
Results from AVANT: 4th ATA Conference 😊
See CORDIS for further information: https://cordis.europa.eu/project/rcn/225153/factsheet/en

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Questions?