

Antibiotic use in livestock & experiences with use of natural products in the Netherlands

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Netherlands, Wageningen

Wageningen Food Safety Research



Natural substances within WFSR

- Statutory Research Tasks- illegal (health) claims on animal feed
- Quality and safety of natural products
- European Reference laboratory for plant toxins
- Generating and spreading reliable information on the use of natural products “stable- booklets”
- “Taylor-made Knowledge” project together with University of Utrecht, agricultural colleges and feed industry
- Nature based solutions, herbal grasslands

Agriculture in Netherlands

- Never again hunger
- Maximum production
- Artificial fertilizers, antibiotics
- Selection on productivity
- Loss of biodiversity
- Loss of genetic variability
- Antibiotic resistance
- Loss of public support....



Monitoring antibiotics in animals

- Maran reports
- Use of antibiotics in different animal species and humans
- Occurrence of resistance

MARAN 2021

Monitoring of Antimicrobial Resistance
and Antibiotic Usage in Animals in the Netherlands
in 2020

June 2021

NethMap 2021

Consumption of antimicrobial agents and
antimicrobial resistance among
medically important bacteria
in the Netherlands

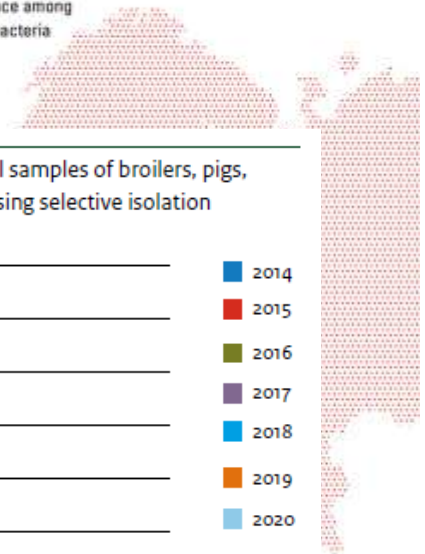
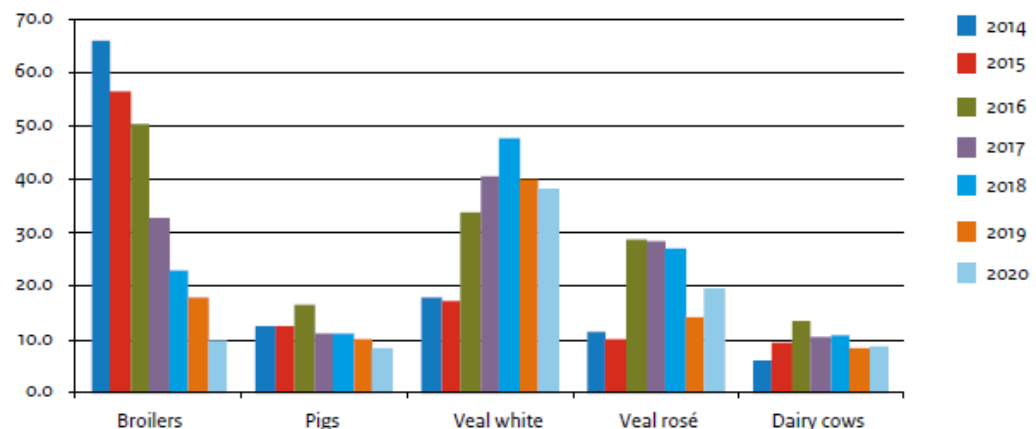


Figure ESBL02 Trends in prevalence of ESBL/AmpC-producing *E. coli* in faecal samples of broilers, pigs, white and rosé veal calves and dairy cows from 2014-2020 determined by using selective isolation



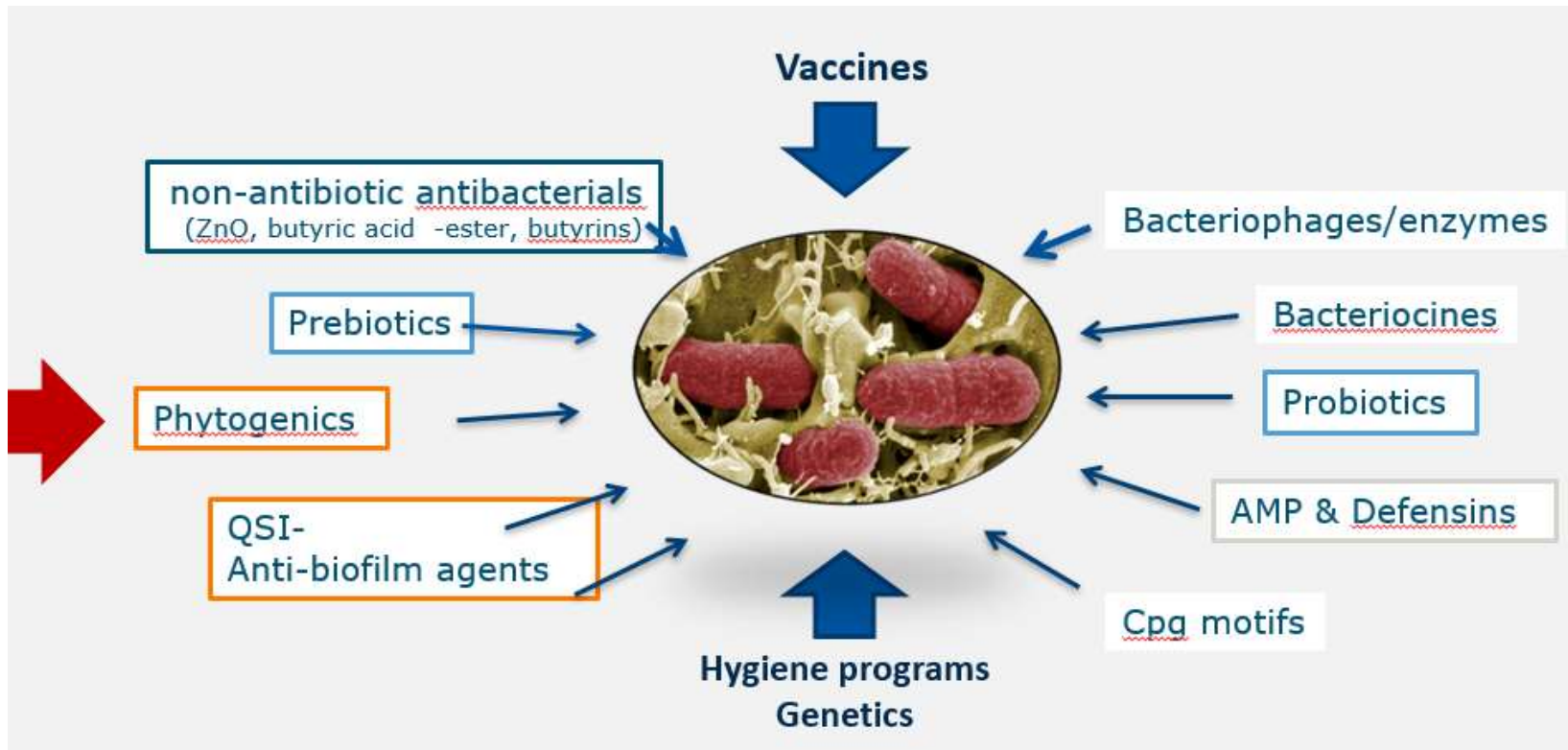
Reduction of veterinary antibiotic use in the Netherlands

- ~ 63% reduction (2009-2018)
- Fluoroquinolones and 3rd/4th-gen cephalosporines usage reduced to a minimum
- Registration of all antibiotics used by veterinarians
- Netherlands Veterinary Medicines Authority (SDa) controls
- Defined Daily Dose animal levels for each animal production group
- When higher usage intervention occurs



EU strategy: Reduce the need for antibiotics in animals

- Feed additives with positive effects on health and welfare



Transition Dutch dairy

- Dutch policy to reduce the use of antibiotics (residues/resistance) in animal production
- Agriculture with minimal damage to the environment
- Respect for soil and biodiversity
- Use of natural products to keep animals healthy



Change for sustainability

- Biodiversity
- Crossbreeding
- Less antibiotics
- Natural remedies
- Active promotion by the government



Farmers and veterinarians

- Natural products used by farmers
- Veterinarians get no education on natural products
- Not evidence based, reluctant to advice
- Goal: natural products part of herd/farm specific health plan



Education

- Stablebooks for farmers
- Per species a book with common health issues, management solutions, available natural products and scientific information
- Now updated, new format, starting with pigs
- “Wiki” for herbs and herbal products, will be expanded



Education

- Training for veterinarians (with Dutch NLF) and farmers
- Phytotherapy week organised by veterinary students
- Education for agricultural schools (middle and higher)
- Attractive, practical, modular
- Assignments for students



Need for information

- Farmers, veterinarians, governments, feed industry, consumers
- Goal: **safe food from healthy animals with minimal use of antibiotics**
- Guides for different countries?
- Involve stakeholders for commitment
- Monitor the use of antibiotics



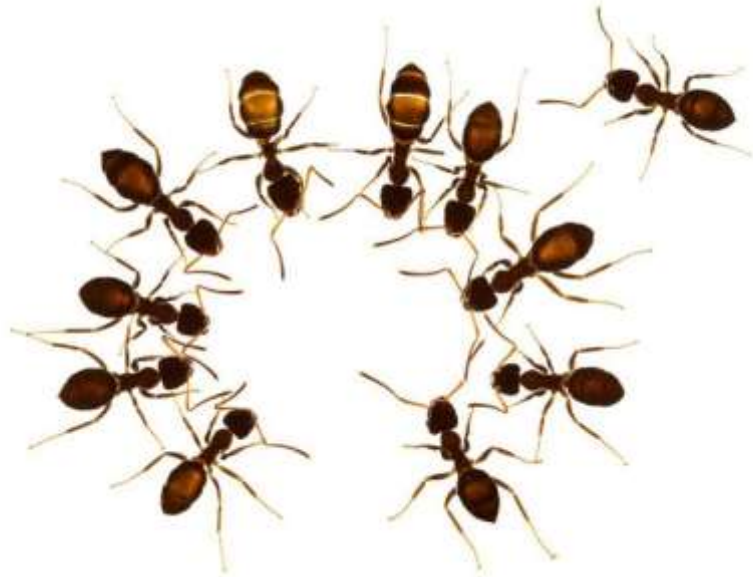
Inventory of needs

- Reliable and easily accessible information on safety and efficacy of natural products in animal health care
- To train teachers so they can teach students and other teachers („train the trainer“)
- Dissemination by different options of communication
- Interactive group meetings („knowledge sharing“)
- Online resources (easy and free accessible information).



Collaboration with commercial partners

- Workshops for veterinarians, farmers and students
- Student assignments
- Providing research information on their products for the stablebooks and Wiki
- Online cafés
- Networking



Dissemination of the concept

- International collaboration
- Publications



PERSPECTIVE article
Front. Public Health, 24 February 2016 | <https://doi.org/10.3389/fpubh.2016.00012>

The Hidden Effects of Dairy Farming on Public and Environmental Health in the Netherlands, India, Ethiopia, and Uganda, Considering the Use of Antibiotics and Other Agro-chemicals

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31,754
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frontiers
in Veterinary Science

The Next Step to Further Decrease Veterinary Antibiotic Applications: Phytogenic Alternatives and Effective Monitoring; the Dutch Approach

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Thank you for
your attention!

To explore
the potential
of nature to
improve the
quality of life