



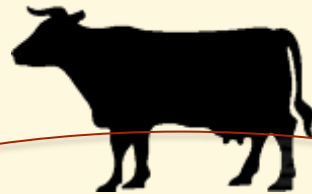
Herbal medicines as an alternative to antibiotics in animal health care



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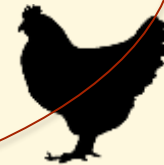
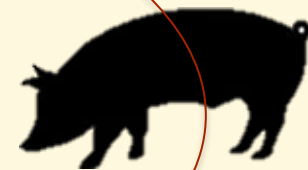
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Therapeutic needs in veterinary medicine & animal health care

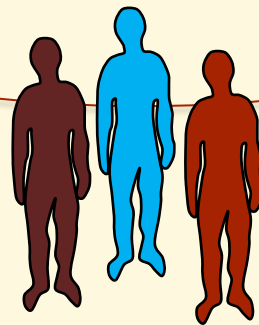


Herd health management
Improvement of productivity
and animal welfare

Zoonotic Diseases
Food Safety



Advanced health care of
the individual animal

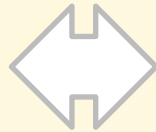


Analyzing the Practice



Specialized production units
Early weaning
Re-grouping
Transport
Change of environment
(and pathogen composition)

Negative (oxidative) Stress
and Immunosuppression



Feed discontinuity
Deficiency in animal protein supplies
(pigs and poultry are omnivores!)
Drastic feed changes
Variability of feed composition
Undesirable substances in animal feeds

Instability of the intestinal flora

No indications for antimicrobial therapy!

**Economic pressure in farm animal practice:
In the absence of incentives for antimicrobial avoidance
antibiotics are currently the cheapest solution.**

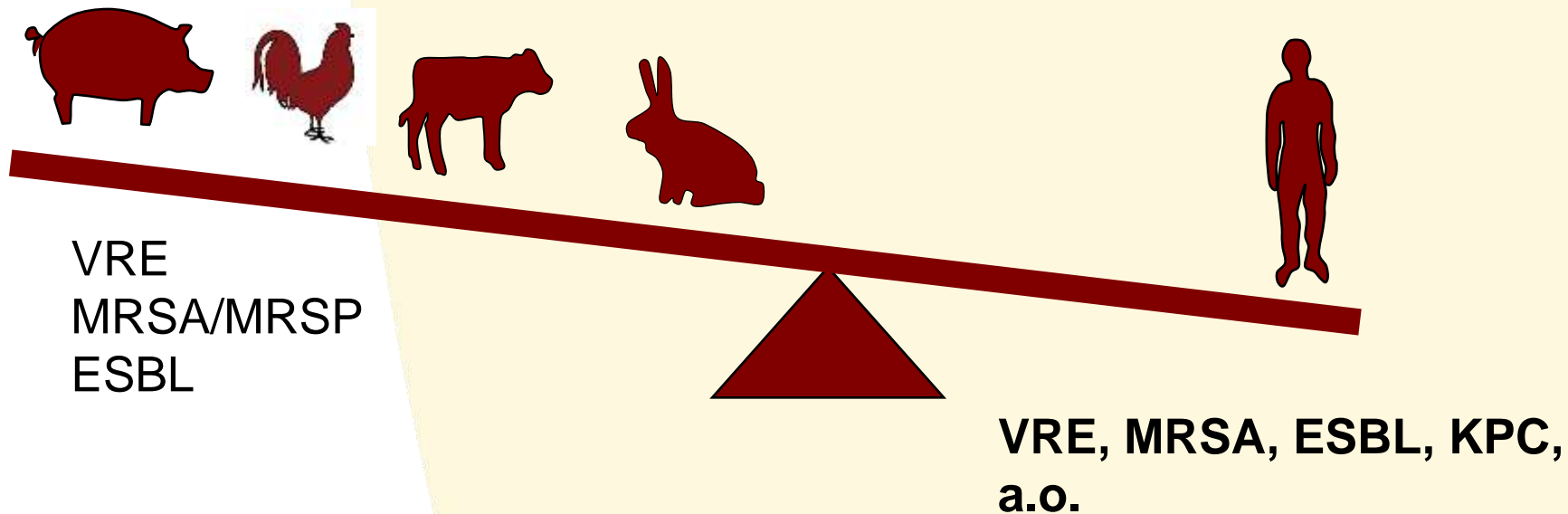


Risk identification

The unlimited use of antibiotics facilitates the emergence of bacterial populations that exhibit resistance to one or more classes of antibiotics



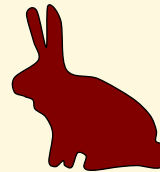
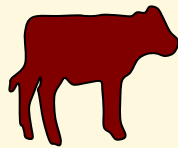
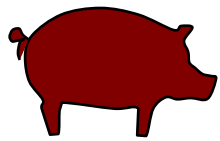
Antimicrobial resistance is a global concern



The need for a new concept!

Preventive medicine:

Keeping people and animal healthy!



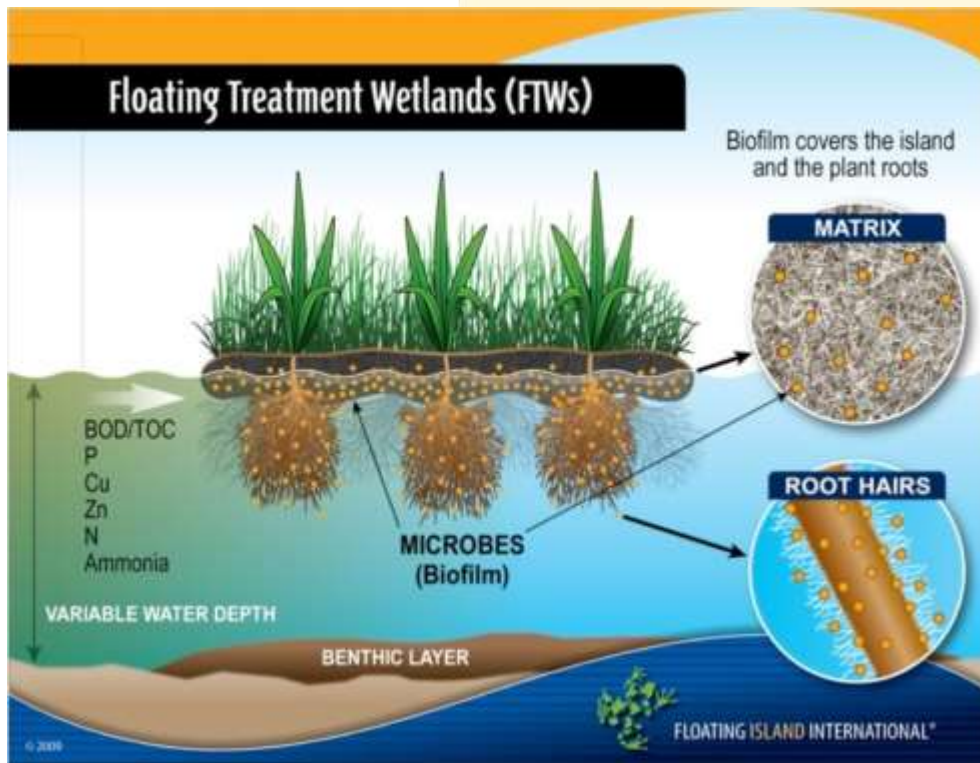
Improving animal welfare!

Education & Information



Learning from nature:

Plants have developed perfect systems to combat bacterial infections



Plant metabolites (phytobiotics)

Antibiotics

QS inhibitors

Antioxidants

Immune stimulants

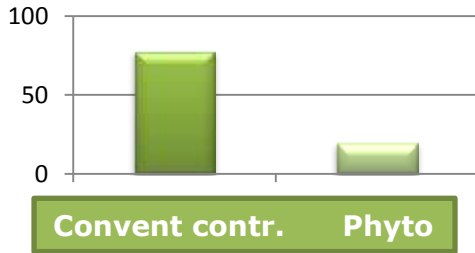
Cell cycle regulators



No resistance
due to complexity
(multiple targets)



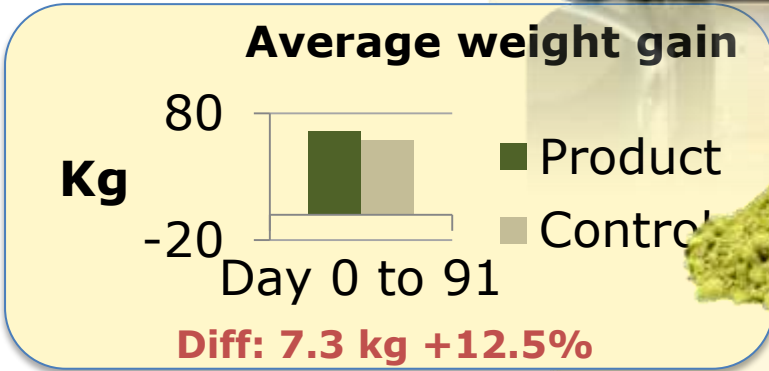
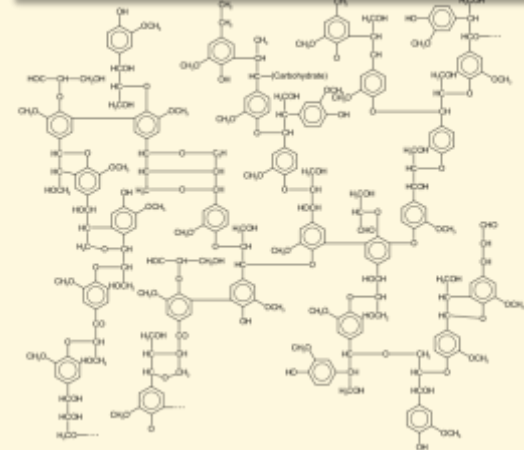
PHYTOBIOTICS – what can we expect?



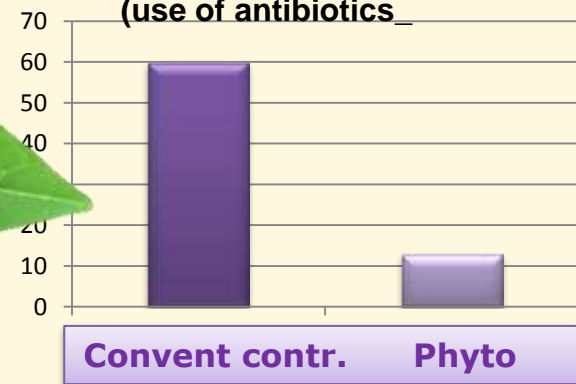
Decline in disease prevalence & severity



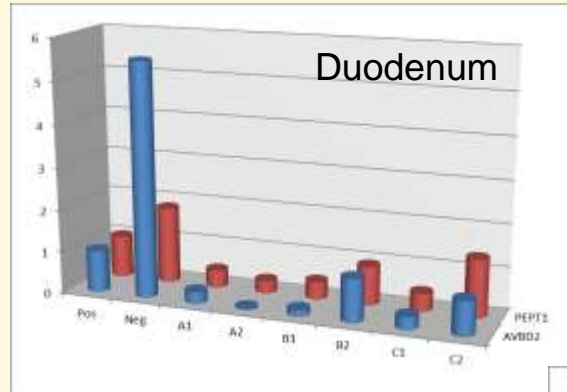
Polyphenols:
also present in green tea
& other consumer products



Reduction in treatment needs
(use of antibiotics)

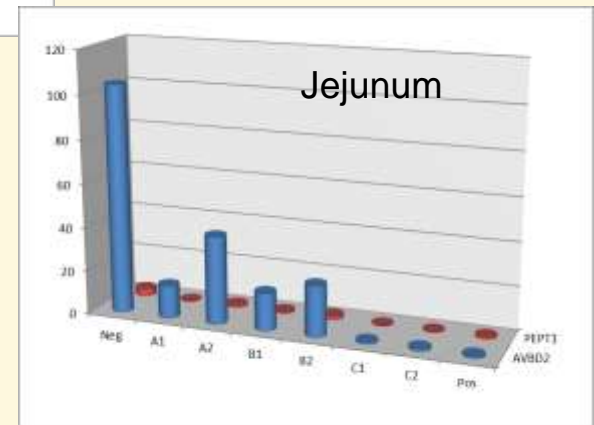


Stimulation of endogenous Defensins



PepT1 is up-regulated in inflammatory processes

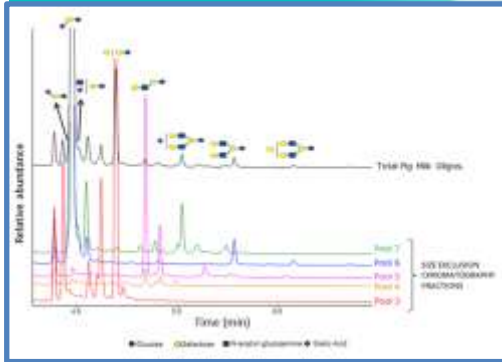
The expression of **AvBD2** is a marker of inflammation: its expression is induced for example by LPS.



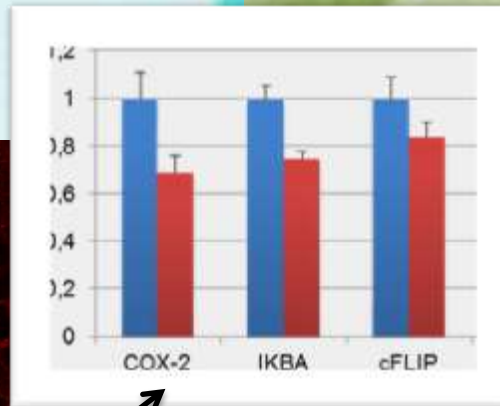
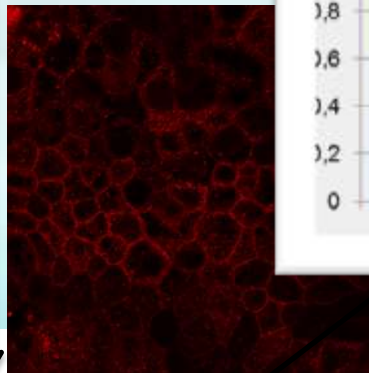
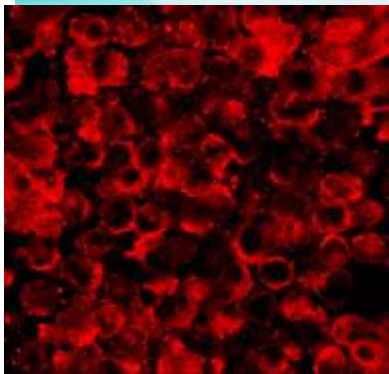
A paradigm shift: facilitating optimal animal health



Integrated animal health care with natural products



GOS – optimizes intestinal colonization (microbiota)



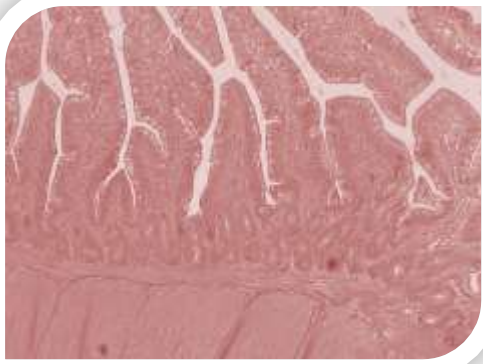
Inflammatory reactions decrease

Herbs in fattening pigs stabilize gut microbiota and improve health and wellbeing



PHYTOBIOTICS – what can we expect?

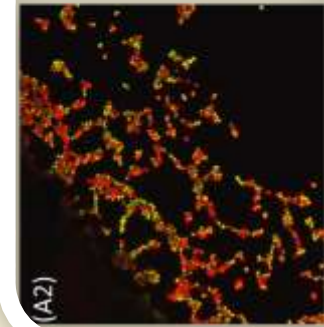
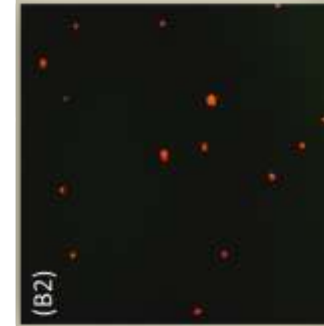
Stimulation of the innate immunity of animals



Species-difference remain a challenge !

- (Improved) Feed consumption & efficacy
- Mild antibiotic effects & QS inhibition = disease prevention
- Anti-oxidant activity & immune stimulation
- Stimulation of endogenous defense systems (defensins)

Stabilization of gut microbiota
(Health & welfare & anti stress)



What do we need to achieve ?

- ❖ **Broader education (stimulation of new curricula/courses for professionals)**
- ❖ **Prioritization of the embedding in Community legislation**
- ❖ **Broader information of consumers**

Within the EU, all products used in food producing animals need to fulfill the requirement of Council Regulation EC/1831/2003 (as a feed additive) or need to be licensed as a veterinary medicines (EC/37/2010)

Is there a need for a new category: Phytobiotics?
(in compliance with current EC feed and drug legislation)





Herbal products: using plants to the benefit of people and animals



One world - One health



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Thank you