

# Reducing use of antibiotics and safety of herbal products in Dutch dairy farming

2022 December 6<sup>th</sup>, Maria Groot



# Introduction

- Maria Groot, Veterinarian, researcher, Wageningen Food Safety & Research part of Wageningen University & Research
- Research on herbs and other natural products since 1999
- Collaboration with Natural Livestock Farming foundation
- Books for farmers and veterinarians on management and products to keep animals healthy



# Contents

- Change in agricultural policy
- Agriculture in NL
- Reduction of synthetic drugs (veterinary medicine)
- Room for natural remedies (herbs, clay minerals, organic acids, probiotics, etc.)
- Pasture management
- Knowledge dissemination





# Agriculture in Netherlands

Was

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



# Effects

- Green desserts
- Antibiotic resistance
- Transition needed



Herbal grasslands, biodiversity

# Background

## Transition to...

- 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

- Training for veterinarians (with PNV) and farmers
- Phytotherapy week organised by veterinary students
- Set up education for agricultural schools (middle and higher)
- Attractive, practical, modular
- Assignments for students



# Safety of herbal products

- Most sold as complementary feed
- Or for topical application
- Products have to be safe for milk and milk processing
- Control by NZO (Dutch Dairy Association), Royal GD
- Dutch Food Safety Authority (claims)



# Pasture management

- Netherlands farmers are interested in biodiverse pastures
- Hesitant, fear loss of production (yield/ha),
- Worry about persistency of herbs, economically viable.





# Netherlands lessons learnt

- Herbs are a suitable tool to initiate a system change:
- soil oriented – low fertilizer – attractive production under 'extreme' conditions!
- More education, farm learning & experimenting towards sustainable farming
- It is not a single 'advantage' which makes pasture herbs work; The accumulated benefits of all aspects make the difference!



# Reduction of antibiotics: Dutch policy

- Compulsory registration of antibiotic use
- Monitoring antibiotic use on farm level
- Analysis of antibiotic residues in noninvasive matrices such as hair and feathers
- Swabs with cotton pads could also be used to obtain samples from cattle

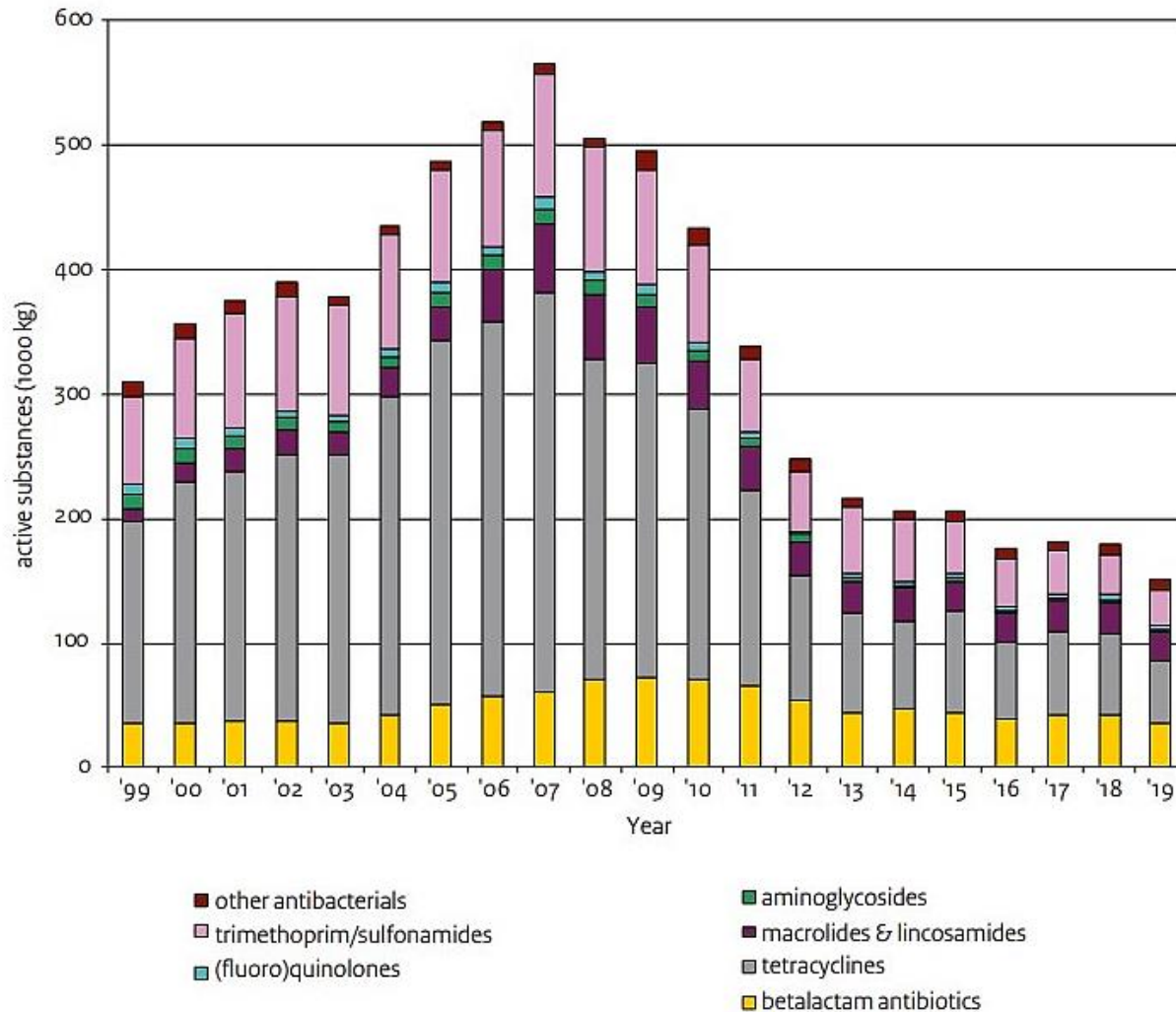
## MARAN 2022

Monitoring of Antimicrobial Resistance  
and Antibiotic Usage in Animals  
in the Netherlands in 2021



# Reduction of antibiotics

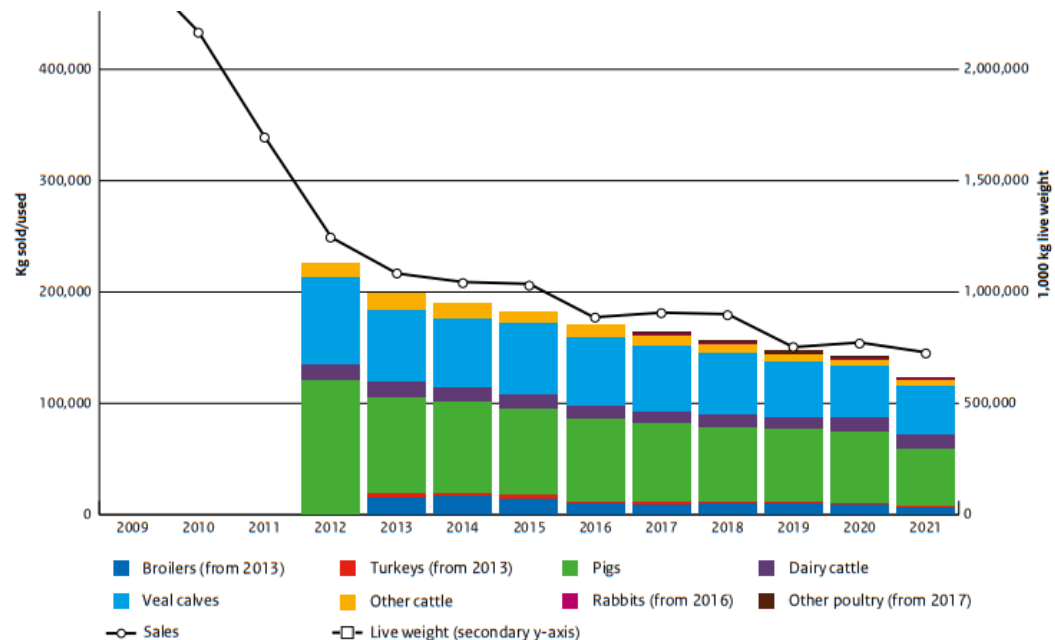
**Figure 1** Antimicrobial Veterinary Medicinal Product (AVMP) sales 1999-2019 in kg (thousands)





# Reduction of antibiotics

- More than ten years of antibiotic reduction policies has resulted in more than 70% reduction of sales of antibiotics for veterinary use.
- Antimicrobial resistance has decreased simultaneously in isolates from most livestock species.



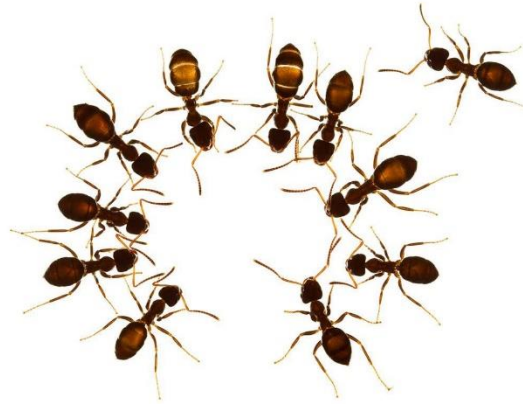
# Project Tailor made knowledge: knowledge transfer natural products

- Joint project of Wageningen Food Safety Research, Platform Natuurlijke Veehouderij and VKON
- Collaboration with agricultural schools, veterinary faculty, producers of natural products (feed additives, complementary feed), Nature pharmacy, agricultural organisations, farmer organisations
- Inventory of needs: knowledge on prevention, legal aspects, ethnoveterinary use, self medication, etc.
- Set up education in agricultural and veterinary schools



# 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

- Presentations like this
- Publications




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## The Next Step to Further Decrease Veterinary Antibiotic Applications: Phytogetic 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