Animal Health and Greenhouse Gas Emissions Intensity Network

Presented by: Dirk von Soosten

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Issues of the Animal Health and Greenhouse Gas Emissions Intensity Network

The Animal Health and Greenhouse Gas Emissions Intensity Network seeks links between animal diseases and greenhouse gas emissions and explores ways to reduce greenhouse gas emissions from livestock by controlling animal diseases. Greenhouse gas emission intensities from animal husbandry could be reduced by increasing efficiency and production through improved animal health. The aim of the network is to bring together researchers from various fields (agricultural science, veterinary science, epidemiology, animal sciences, modeling, social sciences, etc.) to identify links and synergies between the control of animal diseases and the reduction of greenhouse gas emission intensity.

Network update and further activities

- First alliance between the Dairy Sustainability Framework and the AHN was established. The interested persons came together at FAO (Rome) in April 2019 to discuss future collaborations.
- FLI researchers published a review relating to the AHN issues about the associations between dairy cow health and greenhouse gases (available by open access at: https://www.mdpi.com/2624-862X/1/1/3).

Open Access Review

Dairy Cow Health and Greenhouse Gas Emission Intensity

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Nutritional and metabolic diseases (SARA, ketosis)

Infectious diseases (bacteria, viruses)

Parasitism, inherited diseases

Sick dairy cow (subclinical or clinical)

Feed intake ↓

↔

Animal yield/ Productivity ↓

↔

Useful life ↓

Greenhouse gas emission intensity ↑

Source: von Soosten et al., 2020

Virtual Meeting 1st September 2020: Outcomes

Network members agree to start the preparation of a review

Previous work of the network should be used as a start point:

Cattle	Sheep	Both
Johne's Disease	Sheep scab	Liver fluke
Leptospirosis	Foot rot	**Gastrointestinal nematodes**
IBR	Jaagsiekte	**Lungworm**
Mastitis	**Chlamydia**	
Lameness	**Toxoplasmosis**	
Neosporosis		

Sources:
https://www.climatexchange.org.uk/media/2031/livestock_health_and_ghg.pdf
https://www.sciencedirect.com/science/article/abs/pii/S001393511630319X

Virtual Meeting 1st September 2020: Outcomes

Review:

Objective:

- Identify most important diseases with an influence on GHG emission intensity
- List and compile a priority list of diseases

Further possible topics:

- Molecular diagnostics for earlier detection of subclinical diseases
- Transmission from animals to people → zoonotic diseases
- Disease control through trade monitoring
- Co-benefits of healthy animals → income
- Role of antibiotics in disease control

Global or regional scale? → still needs to be discussed

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Knowledge products

Developing knowledge products on animal health and GHG mitigation for use in Southern Africa

Possible organizations involved:

- Global Research Alliance (GRA)
- Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)
- Adaptation to Climate Change in Rural Areas in Southern Africa program (ACCRA).

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Connections to other Networks

Network members suggest to connect to other Networks

Within the GRA

- Feed and Nutrition Network

Outside GRA

- EU bovINE network, 17 partners, launched by Teagasc
- Live stock data for decisions Network

Why link to other networks?

Example:

Feed and Nutrition Network

Nutritional and metabolic diseases (SARA, ketosis)

Infectious diseases (bacteria, viruses)

Parasitism, inherited diseases

Sick dairy cow (subclinical or clinical)

Feed intake ↓ ↔ Animal yield/ Productivity ↓ ↔ Useful life ↓

Greenhouse gas emission intensity ↑

Source: von Soosten et al., 2020

Challenges for the Network

- Long term funding for the Network
- Secure funding for research projects on animal health and GHG emissions
- Enable more countries to be able to participate in Network activites

Thank you

for your attention!

For more on the Animal Health Network or to join, please contact its coordinator Dirk von Soosten (dirk.von_soosten@fli.de), Friedrich-Loeffer-Institut (FLI), Federal Research Institute for Animal Health, Germany.
Website: https://globalresearchalliance.org/research/livestock/networks/animal-health-network/
You can also follow the Animal Health Network on twitter: @AHGHGN