

Work Group 1

Methane-determining factors

WG1 Main tasks

...to compile :

- an inventory and discuss possible factors associated with variation in methane production
- standardized definitions for methane measurements
- combined and integrated data into novel genetic models

Methane-determining factors

Email query to 42 addressees:

12/2/14 ⇒ reply: 4x

reminder: 25/3/14 ⇒ reply: 13x

17x

WG1 Inventory Methane measurements planned/available

Name	Country	Number
Leonhard Gruber	A	120
Frédéric Debarthe	BE/IRL	452
Nico Balen & Sam De Campeneere	BE	55
Michael Kreuzer	CH	100
Nina Krattenmacher	D	50
Björn Kubel	D	160
Hermann Seelke	D	3000
Jørgen Madsen	DK	260
Jan Lassen	DK	2500
David Fanez Ruiz	ESP	75
Eva Utrera	ESP	40
Yves Python	F	50
Diego Morgui	F	450
Gilles Renaud	F	112
Gilles Renaud	F	200
Eryew Ngussie	FI	200
Bruno Stefanon	I	1000
Stefano F.	I	600
Evo Lewis	IRL	700
Yvette de Haas	NL	300
Karsten Völske	NL	2000
Adam Cieslak & Małgorzata Skumacher-Strabel	PL	300
Tomasz Strabel	PL	600
Phil Garrowsworthy	Ruminomics	3700
Yan Tianha	UK	1300
Eileen Wall	UK	
Kirsty Hammond	UK	416
Bertilsson, J.	SE	130
Britt Berglund	SE	500

14 countries

~19.370

WG1 Inventory ...already available

Person	Country	Approx. number of animals
Leonhard Gruber	A	120
Frédéric Dehareng	BE/IRL	182/270
Michael Kreuzer	CH	100
Nina Krattenmacher	D	10
Björn Kuhla	D	100
Jørgen Madsen	DK	260
Jan Lassen	DK	2500
David Yanez Ruis	ESP	75
Yves Python	F	50
Gilles Renand	F	112
Diego Morgavi	F	450
Enyew Negussie	FI	200
Bruno Stefanon	I	1000
Yvette de Mass	NL	300
Britt Berglund	SE	500
Phil Gansworthy	UK	3700
Yan Tianhai	UK	1300
Jan Bertilsson	SE	130
Kirsty Hammond	UK	416
Nico Peiren & Sam De Campeneere	BE	55
Eva Lewis	IRL	700
Eva Ugarte	ESP	40

13 countries ~13.170

Does not consider animals measured repetitively

WG1 Inventory Methods (planned to be) used

CH ₄ yield – day based	n	Indicators	n
Hood System	~3000	milk MIR	~1500
Resp. Chamber		faecal archaeol	
SF ₆		fatty acid profiles	
CH ₄ yield – min based	n	CH ₄ concentration	n
Greenfeed	~4.500	laser	~3000
Sniffer			

WG1 Inventory Further animal-related information available

Measurement by	n (feed intake)	n (milk and weight)	n (genotype)	Mid and late lactation	Early lactation or dry-off
SF ₆ only	780	932		y	
SF ₆ or Greenfeed	272			y	
SF ₆ or respiration chamber	1620			y	
sniffer only	280	2980	5600	y	
sniffer or Greenfeed	1000			y	
respiration chamber only	492	182	probably	y	y
Greenfeed only	660	600		y	
	-5.150	-10.700	-5.600		

WG1 Inventory Methane Measurements planned

Person	Country	Breed	Method	Approx. number of animals
Björn Kuhla	D	HOL	Greenfeed	60
Herman Swalve	D	HOL	Laser	3000
Nina Krattenmacher	D	HOL	Faecal archaeol	40
Gilles Renand	F	BEEF	Greenfeed	180
Marleen Visser	NL	HOL	Sniffer	2000
Adam Cieslak & Malgorzata Szumacher-Strabel	PL	Polish	IR-spectroscopy/laser	300
Tomasz Strabel	PL	HOL	Sniffer	600
Biscarini, F	IT	HOL	Greenfeed	600
	5 countries			-6.800

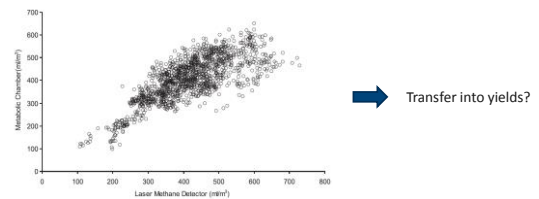
WG1

Inventory, next steps (according to tasks)

- 1) ...discussing possible factors associated with variation in methane production
 - 2) ...standardization between methane measurement methods????
⇒ Collaborative work with WG 2 necessary!!!
- ⇒ Quality and relationship between direct measurements and indicators???
- ⇒ Collaborative work with WG 3 necessary!!!
- ⇒ Relationship between CH₄ concentration and CH₄ yield ?
- ⇒ Relationship between rumen CH₄ and whole-body CH₄ ? (Range 3-12%!)
- ⇒ Persistency and Repeatability ?

WG1

Inventory, next steps (according to tasks)



M. Chagunda, Animal 2013

⇒ Same issue with methane indicators (WG3)

WG1

plans for meetings (Skype, physical)

David: ◀ Common WG1 and WG2 Workshop in Malaga (November 2014)

- ◀ Notes on FACCE-JPI Program on GHG Mitigation: "Global network for the development and maintenance of nutrition-related strategies for mitigation of methane and nitrous oxide emissions from ruminant livestock"
(<https://www.faccejpi.com/FACCE-Joint-activities/International-Call-on-Mitigation>)

WG1

ongoing work

Activities in international programs (FACE-JPI) :

- ◀ Global Network (nutrition related strategies for the mitigation of methane and nitrous oxide emissions) project leader: A.N. Hristov
- ◀ RumenSTABILITY (understanding the development and control of stability in the rumen microbiome as a basis to reduce methanogenesis) project leader: R. Dewhurst
- ◀ Network and Database on Feed and Nutrition in relation to Greenhouse Gas Emissions (FNN) meeting at the ADSA/ASAS meeting July 20th 2014, Kansas, USA

2014 XVIII ISBC Conference
International Society for Biological Cabimetry June 1 - 4, Lund, Sweden

Conference info | Registration | Submission | Program | Practical info | About Lund | ISBC conferences

1 - 4 June 2014 Lund, Sweden

The list of accepted abstracts is now available:
List of abstracts accepted for XVIII ISBC in Lund (28Mar2014)

The Abstract Submission is now closed. If you still wish to submit an abstract, please contact submit@isbcabimetry.org.

New deadline for the early-birds Registration: April 16th, 2014!

Welcome to the city of Lund and Lund University for the XVIII ISBC conference on Biological cabimetry, which will be held in Lund, Sweden, 1 - 4 June, 2014.

We invite you to present your research on cabimetric studies of biological phenomena. Topics include (but not limited to): **Biotechnology, Biomolecules, Biothermodynamics, Environmental sciences, Health sciences, Food science and Instrumentation.**

We have chosen **'Biocalimetry of the future'** as the motto of the conference.

THE WINNER OF THE LAYCHER MEDAL, IS following our tradition, we will at XVIII ISBC give the Laycher medal to an international scientist considered for an outstanding contribution to the development and/or the application of direct cabimetry in biology and medicine. We have a medal with a name on. (Other name will be decided later).

Search

Announcement

Rowett Institute of Nutrition and Health
University of Aberdeen

INRA
SCIENCE & IMPACT

Gut Microbiology: from sequence to function

9th Joint Symposium organised by the Rowett Institute of Nutrition and Health, University of Aberdeen, Scotland (UK) and the Institut National de la Recherche Agronomique, Clermont-Ferrand-Thaix (France)

Rowett-INRA 2014: Aberdeen, 16-19 June 2014

Venue: Aberdeen Exhibition and Conference Centre, Aberdeen, United Kingdom, 16-19 June 2014

Scope of the conference

Announcement

SAVE THE DATE: March 16-18, 2015
Montpellier, France

Third Global Science Conference on Climate Smart Agriculture

LEIBNIZ INSTITUTE FOR FARM ANIMAL BIOLOGY

Announcement

Joint ISNI/ISRP International Conference 2014: *Enhancing the Ecology and Physiology of Herbivores* | 8 - 12 September 2014 | [Email Us](#) | [Contact Us](#)

Joint ISNI-ISRIP International Conference 2014
Enhancing the Ecology and Physiology of Herbivores
Cairns, Australia 8-12 September 2014

Only 152 days left!

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Welcome

Dear colleagues and friends,

On behalf of the Australian Society of Animal Production (ASAP), I would like to invite you to participate and contribute to the first joint International Symposium on the Nutrition of Herbivores/International Symposium on Ruminant Physiology (ISNH/ISRIP) in Cairns, Australia, 8-12 September 2014. Cairns is the ideal location to provide delegates with an invigorating scientific, field and social program focusing on **ACS-3: *Enhancing the Ecology and Physiology of Herbivores***. Cairns is also home to some of the most progressive regions for animal production in Australia, with major nodes for dairy, beef and sheep production close by. This destination appeal, along with Cairns' ACS-3 world renowned meeting infrastructure and professional industry expertise means that the 2014 ISNH/ISRIP conference will attract a large number of participants, which in turn will result in a successful event.

The conference will provide an excellent international forum that will facilitate the discussion, development and exchange of knowledge on the basic and applied physiology, biochemistry and nutrition of herbivores and its interactions with animal health, welfare, production and product quality. This international meeting will provide a high profile platform for public awareness of the importance of herbivores in human society and the sustainability of our environment. The ground breaking research being conducted throughout Australia on controlling greenhouse gas emissions through nutritional and biotechnical manipulation, on energetic efficiency and meat quality will result in important focus for this conference.

Announcement