

Scientific Program

Wednesday, 4 December 2013

Visit to 'Samagro nv' (sponsor of the conference)

The main activity of Samagro nv is composting manure to a product that can be exported. Since this year Samagro has its own pelletizer machine which makes it possible to export high quality organic fertilizers all over the world. The company also has a digester with manure input, producing green heat and electricity.

Visit to 'Hof ter Bussche'

Since this year the family Vandenbussche-Rouseré has an installation for biological treatment of pig manure. The manure from their own farm, together with manure from neighboring farms is treated in this installation. The installation has a treatment capacity of 20.000 tons a year.

13:15 Bus leaves at Vrijdagmarkt, Bruges

14:30 Visit installation Samagro (\pm 1 hour)

15:45 Visit installation Hof ter Bussche (\pm 1 hour)

17:45 Back at Vrijdagmarkt, Bruges

Thursday, 5 December 2013

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| 8:00 – 9:15 | Registration and welcome | Ground floor |
| 09:15-09:45 | Official Opening of ManuREsource 2013 & Welcome Address
Carl Decaluwe, Provincial Governor of West Flanders & ir. Dirk Denorme, Flemish Land Agency | Main Room, 1st Floor |
| 09:45-10:15 | Manure management in the EU: win-win solutions for farmers and the environment
Claudia Olazábal, Head of Unit Agriculture, Forest, Soil, DG Environment, European Commission | Main Room, 1st Floor |
| 10:15-10:45 | Coffee break and poster session | Ground floor |
| 10:45-12:15 | Panel debate with Member States representatives: Manure management in the EU | Main Room, 1st Floor |
| 12:15-13:45 | Lunch | Ground floor |

13:45-15:15 Parallel sessions

Main Room, 1st Floor	Room A, 1st Floor
<p>Session Fertilisation Management and fertilising value of manure and digestate treatment products – I Chair: Bart Vandecasteele Institute for Agricultural and Fisheries Research (ILVO), BE</p>	<p>Session Economics, Marketing and Quality – I Chair: Bart Van der Straeten Flemish government, BE</p>
<p>N supply characteristics of food– and manure-based digestates? Invited lecture: Prof. Chambers, B.J., ADAS UK, GB</p>	<p>The price of precision: the facts and deceits of green fertilizers Invited lecture: Prof. Buysse, J., Ghent University , BE</p>
<p>Bio-based fertilizer for the greenhouse cropping: a lab and field scale assessment Sigurnjak, I., Ghent University, BE</p>	<p>Increase and regulation of biogas production by the application of concentrated animal waste and other concentrated biomass waste fractions Hjort-Gregersen, K., AgroTech, DK</p>
<p>Phosphorus fertilizer value of digestate from biogas installations without and with mechanical solid-liquid separation Bachmann, S., University of Rostock, DE</p>	<p>Economic evaluation of different digestate treatment technologies Koster, D., Public research Centre Henri Tudor, LU</p>
<p>Acidification of slurry in barns, stores, and during application: review of Danish research, trials and experience Birkmose T.S., AgroTech, DK</p>	<p>Towards 15 years of reliable biological manure treatment in Flanders Deboosere, S., Trevi NV, BE</p>

15:15-15:45 **Coffee break and poster session**

Ground floor

15:45-17:15 Parallel sessions

Main Room, 1 st Floor	Room A, 1 st Floor
<p>Session Fertilisation Management and fertilising value of manure and digestate treatment products – II Chair: Gerard Velthof University of Wageningen, NL</p>	<p>Session Economics, Marketing and Quality – II Chair: Jeroen Buysse University of Ghent, BE</p>
<p>Closing the nutrient cycle by using bio-digestion waste derivatives as synthetic fertilizer substitutes: a field experiment Ryckaert, B., Inagro, BE</p>	<p>Economic aspects of small scale digestion of manure versus agro residual streams Van Driessche, J., DLV InnoVision , BE</p>
<p>Manure applications in Croatia: state-of-the-art and the consequences of entering the European Union Spicnagel, A.M., IPS Konzalting, HR</p>	<p>The spatial aspect of the manure allocation problem and the impact on the need for manure treatment capacity Van der Straeten, B., Flemish government, BE</p>
<p>Assessment of Nitrogen replacement value to evaluate manure N-utilization on dairy farms; a new procedure tested at experimental farm 'De Marke' Verloop, K., University of Wageningen, NL</p>	<p>Quick scan of economic and environmental impacts of state-of-the-art manure processing systems Luesink, H., University of Wageningen, NL</p>
<p>Change in inorganic and organic compounds and fertilizer efficiency, biogas production and GHG emission potential as affected by separation and acidification of pig slurry Sommer, S.G., University of Southern Denmark, DK</p>	<p>Quality Assurance of digestate products from manure, energy crops and biowaste in Flanders, a safeguard for product quality Vanden Auweele, W., Vlaaco, BE</p>

17:45-19:00 Reception at Bruges City Hall

20:00 Conference dinner

Friday 6 December 2013

08:45-09:00 Opening

Ground floor

09:00-09:30 Plenary session – keynote lecture

Main Room, 1st Floor

Four decades of transition in animal manure treatment technology

Willy Verstraete, Ghent University, BE

09:30-11:00 Parallel sessions

Main Room, 1 st Floor	Room A, 1 st Floor	Room B, 1 st Floor	Room C, 1 st Floor
<p>Session Environmental aspects of manure and digestate treatment– I Chair: Daniël Koster CRP Henri Tudor, LU</p> <p>Environmental aspects of manure and digestate treatment Invited lecture: Dr.ir. Velthof, G., Wageningen UR, NL</p>	<p>Session Innovation in manure and digestate treatment technologies - I Chair: Willy Verstraete Ghent University, BE</p> <p>Innovative agro-environmental technologies to tighten nutrient cycles Invited lecture: Foged, H.L., CBMI, DK</p>	<p>Session Nutrient recovery from manure and digestate - I Chair: Erik Meers Ghent University, BE</p> <p>Nutrient recovery from manure and digestate Invited lecture: Ir. Schoumans, O., Wageningen UR, NL</p>	<p>Session Energy production from manure - I Chair: Raf Dewil University of Leuven, BE</p> <p>Energy production and energy saving from manure processing through anaerobic digestion - limitations and advantages Invited lecture: Dr. Delfosse, P., CRP-Gabriel Lipmann, LU</p>
<p>Greenhouse gas and ammonia emissions during storage of digested slurry untreated and after mechanical separation Provolo, G., University of Milan, IT</p>	<p>Benefits of pure oxygen use in system with high nitrogen loading Boussemaere, R., Air Products, BE</p>	<p>Development of a new continuous pilot process recycling phosphorus from pig slurry Daumer, M-L., IRSTEA, FR</p>	<p>Improved energy and ammonia recovery from anaerobic digestion and microbial fuel cell integrated system Cerrillo, GIRO Joint Research Unit IRTA-UPC, ES</p>

Main Room, 1st Floor	Room A, 1st Floor	Room B, 1st Floor	Room C, 1st Floor
Sustainability of products from manure Zwart, K.B., Wageningen University, NL	Drying solid fractions of animal manure and digestate to produce commercial fertilizers Mantovi, P., Research Center on Animal Production, IT	Green fertilizer upcycling from manure through ManureEcoMine: Technological, economic and environmental sustainability demonstration Vlaeminck, S.E., Ghent University, BE	Struvite and energy production from animal manure via pyrolysis Kwapinski, W., University of Limerick, IE
	The use of membrane filtration processes for formulation of microbial growth media from spent anaerobic digester sludge Lovitt, R.W., Swansea University, GB	Small-scale vermicomposting – A pilot unit turned into successful business Lalander, C.H., Swedish University of Agricultural Sciences, SE	Triple benefit of manure and solid slaughterhouse waste rendering products co-digestion: simple concept, increased volumetric biogas production and fertilizer value Pitk, P., Tallinn University of Technology, EE

11:00-11:30 **Coffee break and poster session**

11:30-13:00 Parallel sessions

Ground floor

Main Room, 1st Floor	Room A, 1st Floor	Room B, 1st Floor	Room C, 1st Floor
Session Environmental aspects of manure and digestate treatment– II Chair: Brian Chambers ADAS UK, GB	Session Innovation in manure and digestate treatment technologies - II Chair: Sergio Piccinini CRPA, IT	Session Nutrient recovery from manure and digestate - II Chair: Bart Ryckaert Inagro, BE	Session Energy production from manure - II Chair: August Bonmati Blasi IRTA-UPC, ES

<p>Optimizing strategies for nutriënt cycling: a material flow optimization of manure treatment options De Pue, D., Ghent University, BE</p>	<p>Aluminium sulphate as an improved alternative for dairy slurry acidification during storage Regueiro, I., Technical university Lisbon, PT</p>	<p>Combined recovery of phosphorous and potassium as K-struvite from manure and digestate Frank, D., University of Stuttgart, DE</p>	<p>Small-scale manure digestion – testimonial on the practical implementation of a 200kWe installation on a pig farm Bamelis, L., DLV InnoVision, BE</p>
<p>Animal slurry acidification: more than a solution for ammonia emissions abatement? Fangueiro, D., Technical University of Lisbon, PT</p>	<p>Techno-economic assessment of pyrolysis char production from pig manure Kuppens, T., Hasselt University, BE</p>	<p>Nitrogen recovery from digestate with ammonia stripping : results of 27 tests Piccinini, S., CRPA-Research centre on animal production, IT</p>	<p>Manure Based Biogas Production in the Baltic Sea Region - Current practices and recommendations for the future Luostarinen, S., MTT Agrifood Research Finland, FI</p>
<p>Life Cycle Assessment of digestate treatment technologies in Flanders (Belgium) Vázquez-Rowe, I., Public Research Centre Henri Tudor, LU</p>	<p>The importance of farmers' behaviour when modeling the emergence of sustainable manure treatment technologies Maes, D., Hasselt University, BE</p>	<p>Ammonium recovery from liquid animal manure using a novel Liquid-to-Gas-to-Liquid stripper Starmans, D.A.J., Wageningen University and Research Centre, Netherlands NL</p>	<p>Up-draft gasification of poultry litter – a case study Taupe, N.C., University of Limerick, IE</p>
<p>Odour emissions impact of on-farm biogas production with co-digestion: a case study in four European farms of the Great Region Adam, G., University of Liège, BE</p>	<p>Implementation of Biogas-refinery of livestock effluents in South Tyrol: research on Nitrogen-removal and recovery processes to apply on alpine farms Nardin F., Free University of Bozen-Bolzano, IT</p>	<p>EU-BIOREFINE– Recovery of inorganic minerals from organic sidestreams Meers, E., Ghent University, BE</p>	<p>Perspectives of innovative thermochemical processes for beneficial recovery of energy and minerals from manure: an overview Rulkens, W., Wageningen University, NL</p>

13:00-14:00 Lunch

Ground floor

14:00-14:45 Parallel sessions

Main Room, 1 st Floor	Room A, 1 st Floor	Room B, 1 st Floor	Room C, 1 st Floor
<p>Session Environmental aspects of manure and digestate treatment– III Chair: Maire-Line Daumer IRSTEA, FR</p>	<p>Session Innovation in manure and digestate treatment technologies - III Chair: Evi Michels Ghent University, BE</p>	<p>Session Nutrient recovery from manure and digestate - III Chair: Erik Meers Ghent University, BE</p>	<p>Session Energy production from manure - III Chair: Anke De Dobbelaere Inagro, BE</p>
<p>Energy and Nutrient Recovery from Manure – Opportunities and Challenges Hermann, L., Outotec GmbH, DE</p>	<p>Energy and organic fertilizer from a dairy cattle farm Piccinini, S., CRPA-Research centre on animal production, IT</p>	<p>Environmental framework for nutrient recycling policies : a constructive approach Raymaekers, F., DLV Belgium, BE</p>	<p>On-Farm Fluidised Bed Combustion of Poultry Litter Lynch, D., University of Limerick, IE</p>
<p>Mitigation of nitrogen and greenhouse gas emissions from the manure management chain – a review Hou, Y., Wageningen University, NL</p>	<p>Quantification of the effect of adding gypsum to dairy slurry Hunter, C., Glasgow Caledonian University, GB</p>	<p>Nutrient recovery from liquid fraction of digestate by adsorption Kocatürk, N.P., University of Copenhagen, DK</p>	<p>Development of psychrophilic anaerobic digestion technology for processing ammonia-rich swine manure Rajagopal, R., Dairy and Swine Research and Development Center, CA</p>

14:45-15:30 **Plenary Closing Session**

Lifetime overview of manure management and potential of green fertilizers

Michael Hamell, associate professor of agriculture, University College Dublin, IE

Conclusions

E. Meers, Ghent University - P. Tavernier, POM West-Flanders, BE

Main Room, 1st Floor

15:30-16:30 **Closing drink**

Ground floor

Plenary policy debate

Members of the policy debate:

- Harm Smit, Senior staff member Manure and Environment, Ministry of Economic affairs, Netherlands
- Liliana Cortellini, Ministry of Environment, Italy
- Jaume Boixadera Llobet, Head of Agricultural Service, Genralitat de Catalunya, Spain
- Franz Jansen-Minßen, Agricultural Chamber of Niedersachsen, Germany
- Kevin Grauwels, the Flemish Land Agency, Belgium
- Prof. Brian Chambers, Head of Soils and Nutrients, ADAS UK, United Kingdom
- Henning Lyngso Foged, Agro Business Park, Denmark

With presence of EU representatives Claudia Olazábal, Head of Unit Agriculture, Forest, Soil, DG Environment, European Commission and Eric Liégois, Policy Officer Fertilisers, Plant Protection Products, Biocides, DG Enterprise & Industry, European Commission.

Supplementary private parallel session

A supplementary private parallel session will be organized during the conference. This will take place the 5th of December, at 13h45.

Members of the plenary panel debate, as well as the members of the European Nitrate Committee are invited to join this session. This session will enable the participants to discuss on key issues concerning the **‘European regulatory issues relating to the ambition of closing nutrient cycles’**.

The objective of this session is to gather national and regional policy advisors of all EU member states to discuss on the different legislative aspects that deal with recycling nutrients from manure. The final purpose is to reach a **common point of view**, shared by the different regions and member states.

During the session, the following **‘Memorandum of Understanding’**, which synthesizes different key points, will be discussed to come to a conclusive decision, if possible. The organising committee hopes to realise a joint declaration, signed by all participants (per member state or region) that can be presented during the closing speech of the conference.

Moderation: Eric Liégois, Belgium (DG enterprise, European Commission)