

Scientific Program

Monday 27 November 2017

Chairman Renske Verhulst, Nutrient Platform (Netherlands), NL

8:00 – 9:00	Registration and welcome coffee	Koepel
9:00 – 9:30	Official opening of ManuREsource 2017 and welcome speeches by: <ul style="list-style-type: none"> the organizing committee (Dhr. Dirk Denorme, president of VCM) Deputy of Province Noord-Brabant (Ms. Anne-Marie Spierings) 	Philips Hall
9:30 – 10:00	Keynote lecture by European Parliament Member Jan Huitema	Philips Hall
10:00 – 10:15	Legislative procedure new EU Fertilizer Regulation by Johanna Bernsel, European Commission, legal officer DG GROW	Philips Hall
10:15 – 10:45	Coffee break and poster session	Koepel
10:45 – 12:15	Panel debate '<i>Transition towards a circular economy</i>' The members of the panel are: <ul style="list-style-type: none"> <i>Wim Debeuckelaere, European Commission, DG ENVI</i> <i>Prof. dr. Fabrizio Adani, University of Milan</i> <i>Kees Langeveld, ICL Fertilisers Europe</i> <i>Elisabet Nadeu, RISE</i> <i>Maurice Ortman, TERRAMASS</i> 	Philips Hall
12:15 – 12:30	Call for Actions: <ul style="list-style-type: none"> Working group manure processing and end-of-manure by Ministry of Agriculture Questionnaire Biorefine Cluster on Nutrient Recycling Community 	Philips Hall
12:30 – 14:00	Lunch and poster session	Koepel

14:00 – 15:15	<p>Flash presentations by our sponsors:</p> <ul style="list-style-type: none"> • Province Gelderland, Kees Kroes (LTO Noord, NL) • Nijhuis industries, Wilbert Menkveld (NL) • Best-Hall, Paul Goris (NL) • BASF, Jorge Sanz-Gomez (DE) • GMI, Chris Voell (USA) • RIKA Biofuels, Gregory Krupnikovs (UK) • VP Hobe, Roel Keursten (NL) • Dorset, Henk Haaring (NL) • Eurofins Agro, Ad Merks (NL) • N2 Agri, Henk Aarts (NL) • Real Shit, Federico Lodolini (IT) 	Philips Hall
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15:15 – 16:30	Parallel sessions		
SESSION T1 Fertilising with manure, digestate and derived products Chair: Lars Stoumann Jensen, Copenhagen University, DK	SESSION T3 Process innovations in manure & digestate treatment Chair: Sergio Piccinini, CRPA, IT	SESSION T4 Environmental impact of manure/ digestate management and treatment Chair: Fabrizio Adani, University of Milan, IT	SESSION W1 WORKSHOP: Value of European research projects for manure and digestate processing companies Chair: Meers, E., Ghent University, BE
Philips Hall	Saturn	Neptune	Jupiter
A farm scale sustainable process based on digestate microfiltration aimed at fertigation through drip lines Moscатели, G., CRPA, IT	Overview of the potential of bioelectrochemical systems to improve anaerobic digestion effluent and performance Bonmati, A., IRTA, ES	Minimizing N₂O emission during sustainable nitrogen removal from pig manure co-digestion Peng, L., University of Antwerp, BE	Future funding opportunities under H2020 Mahy, L., DG AGRI, BE
Can acidification increase nitrogen fertilizer value of bio-based fertilizers? Sigurnjak, I., Ghent University, BE	Recovery of ammonium from digestate as fertilizer Menkveld, W., Nijhuis Industries, NL	Decentralized recycling of digested residues in agricultural regions: A multi-dimensional sustainability assessment Vaneckhaute, C. Laval University, CA	EIP-AGRI, Focus groups and results or relevant focus groups including the nutrient recycling Desimpelaere, K., EIP-AGRI Service Point, BE
Validation of the fertilizing performance of phosphorus and nitrogen salts recovered from pig manure in on-farm field trials in Germany and Spain Ehmann, A., Hohenheim University, DE	Farms for the future: innovation for sustainable manure management from farm to soil Ortiz, C., Departament d'Agricultura, ES	Response of the soil microbiome to processed manure or digestate amendment: no negative effects on soil quality Vandecasteele, B., ILVO, BE	The BioRefine Cluster Europe: a collaborative framework of European projects resulting in higher impact and research capitalization Michels, E., Ghent University, BE
Tailor made digestate products by blending with animal manure products, compost and mineral fertilizers Vanden Nest, T., ILVO, BE	Hydrogen production and nutrients recovery from digestate using microbial electrochemical technologies Pepè Sciarria, T., University of Milan, IT	Increasing the potential of farm-scale anaerobic digestion in Flanders Vergote, T., Ghent University, BE	Implementing nutrient recovery at the largest Belgian biogas plant in frame of H2020-BBI Dedeyne, H., AM Power, BE

16:30 – 16:45	Coffee break and poster session			Koepel
16:45 – 18:00	Parallel Sessions			
SESSION T2 Product innovations and new markets for manure & digestate Chair: Vaneeckhaute, C., Laval University, CA	SESSION T3 Process innovations in manure & digestate treatment Chair: Prof. dr. Willy Verstraete, Ghent University, BE	SESSION T4 Environmental impact of manure/ digestate management and treatment Chair: Bart Vandecasteele, ILVO, BE	SESSION W2 WORKSHOP: Analysis of the effectiveness of Flemish and Dutch manure legislation Chair: Jan van Bergen, Ministerie van Infrastructuur en Waterstaat, NL	
Philips Hall	Saturn	Neptune	Jupiter	
Which tailor made digestate-based organo-mineral blends are ready for marketing in Flanders and elsewhere? Boogaerts, C., VLACO, BE	The concentration and treatment of anaerobic digestates using hybrid membrane – freeze-thaw processes Lovitt, R., Membranology Ltd, UK	Biogas digestate processing – a cost efficient and climate friendly strategy for nutrient export from surplus regions? Roth, U., KTBL, DE	Evaluating the Dutch fertilizer and manure policies: How successful were they in reaching the targets of the Nitrate Directive and Water Framework Directive? Bleeker, A., PBL, NL.	
Emerging value in the US agricultural digester market Voell, C., EPA and GMI, US	Nature-based manure & digestate valorisation: promising business cases Van Dijk, W., WUR, NL	Framework for assessing co-effects and trade-offs of low-emission transition pathways to meet 2030 climate objectives in the Dutch livestock sector Spijker, E., JIN Climate & Sustainability, NL	Perspectives on agricultural nutrient management policies in Flanders. A pressure impact-analysis of current policies to identify new possibilities of mitigation. Van Gijsegem, D., VLM, BE	
Economic feasibility of using struvite from the Netherlands as phosphate fertilizer in Western Africa Postma, R., NMI, NL	A full-scale hydrodynamic cavitation pretreatment in an agricultural biogas plant: monitoring results Piccinini, S., CRPA, IT	Gaseous emission measurement and environmental assessment at a biogas plant Torrellas, M., IRTA, SP	Discussion on fertilization policy effectiveness moderated by Jan van Bergen, Ministerie van Infrastructuur & Waterstaat, NL	
Towards a circular economy on world scale Derikx, P., WUR, NL	The recovery of amino acids and phosphorus from swine manure Vanotti, M., USDA-ARS, USA	Uncertainty in the process of eutrophication: how should policy distribute the risk? Bral, A., Ghent University, BE		

18:00 – 18:30	End of Conference	
18:30 – 19:00	Reception at Reception Room ‘Willy van der Kuijlen’ at the business club of PSV Eindhoven.	Stadion Eindhoven
19:00 – 19:45	Visit to the Stadion of Eindhoven.	Stadion Eindhoven
19:45 – 22:30	Conference dinner at Diner Room ‘Casa Romario & Erik Gerets’ at the business club of PSV Eindhoven.	Stadion Eindhoven

Tuesday 28 November 2017

Chairman Emilie Snauwaert, Vlaams Coördinatiecentrum voor Mestverwerking, BE

8:30 – 9:00	Opening with welcome coffee	Koepel
9:00 – 9:15	Presentation of the US dairy industry evaluation catalogue of manure treatment technologies and suppliers by Steve Rowe of Newtrient	Philips Hall
9:15 – 10:30	Duo presentation Danone – Friesland Campina on the impact of agrofood concerns on the transition of manure processing towards a circular economy.	Philips Hall
10:30 – 11:00	Coffee break and poster session	Koepel
11:00 – 13:00	<p>Round table discussions on the transition towards a circular economy:</p> <ul style="list-style-type: none"> • Table 1: Technological feasibility (Chair: Jennifer Bilbao, Fraunhofer IGB, DE) • Table 2: Nutrient recovery from pilot to full-scale (Chair: Oscar Schoumans, WUR, NL) • Table 3: EU Nitrates Directive and manure in a processed form (Chair: Chris Thornton, ESPP) – ROOM: NEPTUNE • Table 4: Economic Feasibility (Chair: Harm Wientjes, DLV Advies, NL) • Table 5: Cooperation between excess regions - Policy (Chair: Weert Sweets, Landwirtschaftskammer Niedersachsen, DE) • Table 6: Cooperation between excess regions - Technology (Chair: Helmut Döhler, Döhler Agrar, DE) • Table 7: Cooperation between excess and demand regions (Chair: Jeroen Buysse, Ghent University, BE) • Table 8: Marketing products from manure and digestate processing (Chair: Lieke Boekhorst, Boer op Advies, NL) • Table 9: Alternative uses for manure (Chair: Kees Kroes, LTO Noord, NL) • Table 10: Tailor-made fertilizers (Chair: Christophe Boogaerts, VLACO, BE) • Table 11: Public Awareness (Chair: Kimo Van Dijk, ESPP) • Table 12: Environmental effect of nutrient recovery from manure & digestate (Chair: Co Daatselaar, WUR, NL) • Table 13: Closing Nutrient Cycles in Agriculture and Food in NW Europe (Chair: Jan Buys, Provincie Noord-Brabant, NL) • Table 14: VERA – Verification of environmental technologies in agricultural production (Chair: Iris Beckert, VERA, DE) 	Ring, Except Table 3: Neptune
13:00– 14:30	Lunch and poster session	Koepel

14:30 – 15:45	Parallel sessions		
SESSION T1 Fertilising with manure, digestate and derived products Chair: Ryckaert, B. INAGRO, BE	SESSION T3 Process innovations in manure & digestate treatment Chair: Ludwig Hermann, Outotec GmbH & Co. KG, DE	SESSION T3 Process innovations in manure & digestate treatment Chair: August Bonmati-Blasi, GIRO, SP	SESSION T4 Environmental impact of manure/ digestate management and treatment Chair: Georges Hofman, UGENT, BE
Philips Hall	Saturn	Neptune	Jupiter
Enhancing nitrogen use efficiency of anaerobic digestate in a winter wheat cropping system Sanchez-Rodriguez, A.R., Bangor University, UK	Nutrient recovery from wastewaters as high-valued hydroponic fertilizer and non-fertilizer products using hybrid ion exchange nanotechnology Weinberg, E., Laval University, CA	Nutrient isolation phosphorous removal and struvite prevention technology in dairy digested effluent and raw manure Roa-Espinosa, A., Wisconsin-Madison University, USA	Manure Standards – joint guidelines for manure data and its use in the Baltic Sea Region Luostarinen, S., Luke, FI
Phosphorous fertilizers efficiency compared in agronomic trials: struvite an opportunity of reuse and recycle Motta, S.R., ERSAF, IT	Potential of supercritical wet gasification for optimal valorisation of pig manure Rulkens, W., WUR, NL	The production of struvite from the liquid fraction of digestates Zangarini, S., Milan University, IT	Field experiments in using digestate products as substitutes for mineral (N) fertilizer: agronomic performance, odours and ammonia emission Orzi, V., Milan University, IT
Application of NIRS to determine the chemical composition of solid animal manure Rietra, R., WUR, NL	Phosphorus recovery from biogas slurry by ultrasound/h2o2 digestion coupled with hfo/biochar adsorption process Zhang, T., China Agricultural University, CN	Manure valorisation - turning a problem into a commodity Bilbao, J., Fraunhofer IGB, DE	Determining manure nutrient concentration on farm level in pig husbandry in Flanders De Bolle, S., VLM, BE
A framework for combined agronomic and economic evaluation of organic fertilizers Buysse, J., Ghent University, BE	Effect of digestion time on ultrasonic disintegration of manure digestate Somers, M., KUL, BE	Nitrogen recovery from a pig slurry and a digestate using a simplified stripping technology Provolo, G., Milan University, IT	The Biogasdoneright model reduces the carbon footprint of the electric energy produced in the biogas plants Piccinini, S., CRPA, IT

15:45 – 16:15	Coffee break and poster session	Koepel
16:15 – 17:30	Plenary conclusions in the presence of the press <ul style="list-style-type: none"> • ManuREsource 2017 Poster Award • Concluding remarks of the debate and round table discussions • Presentation of the ManuREsource 2017 Position paper 	Philips Hall
17:30 – 18:30	Closing drink at Evoluon	

Wednesday 29 November 2017

On Wednesday 29/11/2017 there is a facultative excursion (subscription needed). Two innovative manure treatment installations will be visited.

Visit to Groot – Zevert Vergisting (Beltrum)

Groot Zevert produces biogas from manure. A part of the biogas is used for electricity production for on-site use, but the majority of the biogas goes through a gas pipe to a plant of FrieslandCampina in Borculo, where it is used instead of natural gas.



Combined with the biodigester, the first Dutch 'Green Minerals Central' is in use. Groot Zevert offers an economically and environmentally sustainable solution to the manure surplus. Pig slurry is processed in such way that only the surplus of available minerals is recovered from the manure in a mineral form.

Visit to Terramass (Odiliapeel)

The company Minovia is manufacturer of organic fertilizers. Terramass is the first plant of the group, situated in Odiliapeel. Terramass has contracts with 120 pig farmers in the region to collect the pig manure and transform it into valuable end products.



The first part of the production facility is finished and in operation. This part contains the processing of the liquid manure into thick fraction and treatment of liquid fraction by evaporation and stripping. Terramass processes on year basis 200.000 tons of pig manure. The next stage is the finishing of the mono-digester. By digesting the incoming manure (95% and 5% co-products) Terramass produces its own energy which is needed for the treatment installations. About 20.000 tons of CO₂ are then saved.

In the third stage of the project (which is also partly ready) solid fractions of separated slurry or solid manure types are dried (thermal) and pelletised in order to obtain an exportable and concentrated product.

There is a strong cooperation with chain partners, at the front side of the raw materials as also on the back side of creating value of the end products and marketing.

PROGRAMME

BUS 1		BUS 2	
8:00	Departure <i>Vestdijk 47, Eindhoven</i> (Pullman Eindhoven Cocagne Hotel)	8:00	Departure <i>Vestdijk 47, Eindhoven</i> (Pullman Eindhoven Cocagne Hotel) (Pullman)
10:30	Arrival in Beltrum (Groot-Zevert)	9:00	Arrival in Odiliapeel (Terramass)
12:00	End of visit Groot-Zevert and departure to HCR Prinsen for lunch sponsored by Province Gelderland	10:30	End of visit Terramass and departure to HCR Prinsen for lunch sponsored by Province Gelderland
13:30	End of lunch and departure to Terramass	12:30	Arrival at HCR Prinsen and lunch
15:30	Arrival in Odiliapeel (Terramass)	14:00	Arrival in Beltrum (Groot Zevert)
17:00	End of visit to Terramass and departure to Pullman Eindhoven Cocagne Hotel	15:30	End of visit to Groot-Zevert and departure to Pullman Eindhoven Cocagne Hotel
18:00	Arrival at Pullman Eindhoven Cocagne Hotel	18:00	Arrival at Pullman Eindhoven Cocagne Hotel