

## Event Chat

Stefano Marconi: Question: why sawage sludge is not consider as organic source for fertilizers?

André Thissen: Comment and question to Fertecon presentation . the slide showing the decrease of P=K use reduction not affecting the yield of wheat is deceptive because unlike N. P and K are stored in the soil Too low use of PKfert will lead to soil scarcity overtime only and then it should be a huge problem;

Alberto Persona: @André Thissen Indeed, under application and “soil mining” can be a huge problem in the long term, and it is sensible to say we are now risking soil scarcity if low application persists. We project higher p and I demand from 2023/24 onwards after the 2022 drop

Dr Andrea Beste: As far as I know, only wood ash may be used in Germany, not biochar. In the Fertilizer Ordinance (DüMV), vegetable coals, biochars, BioChar etc. have not yet been approved and may therefore not be used. Only lignite (also leonhardite, xylith, not as residue from previous production and processing) and charcoal (with a carbon content of at least 80% in dry matter from chemically untreated wood) are approved as raw materials for growing media (but not for soil additives or fertilizers!) and as a carrier substance, in conjunction with the addition of nutrients via approved fertilizers.

<https://www.lfl.bayern.de/iab/boden/266039/index.php> Pflanzenkohle/Biokohle im Ackerbau. Es ist davon auszugehen, dass die Landwirtschaft aufgrund des Klimawandels sich auf zunehmende Trockenheit, Starkregenereignisse sowie Veränderungen bei der Nährstoffverfügbarkeit einstellen muss. Der Einsatz von Pflanzenkohle im Ackerbau wird zunehmend als potentieller Beitrag zur Entwicklung einer klimaschonenden Landwirtschaft und zur Sicherung der natürlichen Bodenfunktionen diskutiert. Durch Einbringung von Pflanzenkohle in den Boden soll aufgrund ihrer chemisch-physikalischen Eigenschaften die Speicherfähigkeit für Wasser und Nährstoffe erhöht und damit eine langfristige Verbesserung der Bodenfruchtbarkeit, insbesondere bei leichten Böden, erzielt werden. Zum anderen könnte ein Verkohlungsprozess eine langfristige Festlegung von klimaschädlichem CO<sub>2</sub> im Boden bewirken und so einen Beitrag zum Klimaschutz leisten.

Terlouw Ton: Good presentation. Retrospective research does not include new techniques. A lot of fertilizer experiments are done against a standard fertilizer regime. In NL this simply means NUE is always lower for organically based fertilizers.

Alessandra Céspedes: Good afternoon. I would like to consult Andrea Schievano: Has Compost Tea been included among the organic fertilizers in his study? I would really appreciate some reliable information about the positive effects of Compost Tea in extensive agriculture. Thank you and congratulations, very interesting presentation!

André Thissen: Question to Fertimanure business model : are the sales of products-by products sufficient to finance the pilot plants and the development of the company ?

Georgia Budden: Question for Thijs Kapteijns, have you applied your solution to Biosolids from waste water processing?/is this something you're looking to do?

Daniel EL CHAMI: Is Flytiser registered as fertiliser or amendment?

Jenna Senecal: Yara presentation: Where the plots irrigated? If remaining on the surface - risks of N loss to atmosphere? Wondering if drilling in the fertilizer could have a different result?

Emma Burak: Hi Jenna, thanks for your questions. In this experiment the fertilisers were applied to the surface but we have done other trials that incorporated the OMF into seed bed. Unfortunately none of the

field trials I have been involved with have incorporated emissions analysis but I am currently working on a lab trial to assess this. I believe my colleagues in Germany have also looked into this.

Jenna Senecal: Thanks Emma! I am growing barley with urine based fertilizer - was very fun to see your results.

Daniel EL CHAMI: what's the energy balance per tonne of organic matter?

Terlouw Ton: Strong presentation of Maurice. I like to join in the research

Tom Bruulsema: For Leon: Are the carbon footprint figures for urea vs soy versus flytizer per kg of N? or of product?

Henrik Pedersen: What is the permanence in years of the CO<sub>2</sub> incorporated in the fertilizer products?

Tom Bruulsema: For Hammond: Ammonium bicarbonate fertilizers tend to have greater NH<sub>3</sub> losses than urea. How stable is the ammonium in your product?

Stéphanie Louvet: what is the timing for the publication of the digital labelling rules? thank you

Cristian Terrones: Have you evaluated the availability of the P present in the digestate? If the P from feedstock was in phytic acid form, then the availability might not be high. This would be the case for pig manure for example

Telmo Machado: The composting conditions required for processing animal by-products - namely time-temperature profile - are not met in a wide range of composting plants. Can we expect a revision of these values or will companies need to do a case by case validation? Can biochar produced from materials derived from food waste (kitchen waste) be used for the production of CE marked fertilizers - ex. food waste, digestate, composting refuse?

Niall Reynolds: If a producer is located in the UK or Northern Ireland, is it possible to get their products CE marked and how do they do that.

Giovanna Nino-Savala: What is the documentation for the proof that a substance is REACH registered? What does the manufacturer of a fertilising product needs from a supplier of an ingredient ? REACH certificate and SDS?

Myriam ECK: For a Module B+C, is it mandatory for the NoBo to receive a product sample and have it analysed? Can the analysis provided in the technical documentation be sufficient?

Niall Reynolds: When will the end point for processed manure be announced?

Cristian Terrones: In the CMC 14 on pyrolysis products, there is a required H/C ratio which technically excludes Hydrothermal carbonization. What's the reason for such a limitation?

Inge Regelink: Apart from manure. In general, if the supply of an input product is from different sources, should it be certified for every single company that delivers the supply?

Henrik Pedersen: Are the compost quantities measured as dry matter?

Niall Reynolds: Question for FermoFeed - how do they think the new FPR will affect their business ?

Hui Min Lee: Mineral fertilizers are traded internationally, do you see this is possible for organic fertilizers to have an international market?

Niall Reynolds: Jessica summed up the conference perfectly. Huge opportunities, but a large gap between aspiration of policy makers and actual regulations. Also huge money going into research but difficult to avoid the scientific reality that its' too expensive to make valuable fertiliser from low nutrient, high moisture waste streams.

Tom Bruulsema: I haven't caught all presentations, but so far there has been no mention of fertilizers made from ashes of municipal waste. Is Europe moving away from incineration?