RECOMMENDATIONS

COMMISSION DELEGATED REGULATION (EU) .../...

of XXX

amending Regulation (EU) 2019/1009 of the European Parliament and of the Council as

regards the requirements applicable to EU fertilising products containing inhibiting

compounds and the post-processing of digestate

Fertilising products – technical amendments to the rules on digestate

The Nutri2Cycle project (www.nutri2cycle.eu) welcomes the proposed technical amendments to the fertilising product regulation (FPR), in particular to the CMC4 and CMC5 in annex 2. The regulation will allow **solid-liquid separation, dewatering and ammonia recovery** for digestate upgrading.

Nutri2Cycle shares its **analysis and interpretation** of the proposed amendments:

To the amendment introducing the **paragraph 3a**[1] no remarks are raised.

The amendment introducing the new **paragraph 3b**[2] allows to recycle nitrogen from digestate and to use a **N-reduced fraction** to produce tailor-made digestate products. However, **it fails** to acknowledge techniques for phosphorus recycling, such as **precipitation of phosphate**, which produces **P-reduced fractions**. Nutri2Cycle suggests introducing **a new paragraph 3d** to acknowledge **phosphate precipitation**.

The new **paragraph 3c**[3] introduces **processes to remove water**. Such techniques are very useful to reduce digestate volume and constitute normal standard. Common practices include **atmospheric evaporation**, where no dried digestate is produced, but instead thickened liquid solutions, and **vacuum evaporation**, where H_2O, CO_2, NH_3 leave the liquid fraction at lower temperatures than standard boiling. The same paragraph seems to allow **drying of the solid fraction of the digestate**. This is typical where the **hot air**, e.g. from the CHP of the biogas plant, is conducted through or over the digestate to be dried. Other frequent drying practices such as **belt dryers, push-turn, fluid bed, and drum dryers**, **trailer and container dryers** seem to be allowed too. However, it is **not** clear if **membrane filtration** is acknowledged by paragraph 3c. Membrane (micro, ultra, nano filtration, and reverse

[1] An EU fertilising product may contain a solid or liquid fraction of digestate, provided that all of the following conditions are met:

(a) the solid or liquid fraction is obtained by mechanical separation of digestate compliant with points 1 to 3;

(b) the additives needed for the mechanical separation comply with the requirement in point 1(b)(i);

(c) the total concentration of all additives does not exceed 5 % of the digestate weight.

[2] An EU fertilising product may contain a digestate compliant with points 1 to 3, or a fraction compliant with point 3a, from which all or part of the soluble ammonium has been removed to recover nitrogen, without the intention to otherwise modify the digestate or the fraction.

[3] An EU fertilising product may contain a digestate compliant with points 1 to 3 or point 3b, as well as a fraction compliant with point 3a, which have undergone only physical processing to remove water that does not chemically modify the digestate or the fraction

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osmosis) requires the use of minimum additives like flocculants for proper functioning. Nutri2Cycle recommends aligning the wording of the paragraph 3c to the paragraph 3b[4]. **Both paragraphs 3b, 3c and 3d** should include additional subparagraphs authorising the use of **additives**[5], just as allowed for the solid liquid separation in paragraph 3a.

Nutri2Cycle suggest introducing a **new paragraph 3e** that acknowledges another upgrading technique of the dry fraction of digestate, such as **pelletising**. The goal of pelletising is to compact the dried digestate into digestate pellets to improve the density as well as handling and appearance. Farmers and horticulture practitioners usually prefer pellets. Digestate pellets are simply obtained through a combination of high pressure (centrifugation) and high temperatures that first melt and secondly solidify digestate.

The proposed amendments are important, but other elements are still missing, especially for animal derived products for use as fertilisers and soil improvers (i.e. by-products after anaerobic digestion). Manufacturers that want to place such digestate products on the market have to wait until an end point in the manufacturing chain is determined. Member States will start implementing the FPR in July 2022 but no information for the end point is available yet.

Other obstacles that slow down or limit the uptake of digestate fertilisation still exist. For example, in Germany N from manure and digestates including plant and waste-based N are accounted to the maximum of 170 kg of N per hectare per year (annex III, article 2 of the Nitrates Directive) in order to protect water bodies, while in other Member States only N from livestock is included. The European Commission published a technical proposal[6] with specific safety criteria for the use of REcovered Nitrogen from manURE (RENURE) in Nitrogen Vulnerable Zone in 2020. RENURE materials include digestate and Nutri2Cycle recommends to translate the technical proposal in legislation to create a level playing field for safe digestate fertilization. We also highlight that member states should in parallel provide good monitoring practices to assess impact on agronomic and environmental performance of RENURE digestate while promoting this transition.

About Nutri2Cycle: The Nutri2Cycle project will be running between 2018 and 2023. The Nutri2Cycle project assesses the current Nitrogen (N), Phosphorus (P) and Carbon (C) flows looking into existing management techniques in different farms across Europe and analysing their related environmental problems.

Project partners: Universiteit Gent, Universita Degli Studi di Milano, Politechnika Czestochowska, United Experts, Fundación Cartif, Johann Heinrich Von Thuenen-Institut, Soltub, Trade And Service Providing Limited Liabilty, Stichting Wageningen Research, Instituto Superior de Agronomia, Kobenhavns Universitet, Terra Humana, Chambre Departementale d'Agriculture, Zuidelijke Land- En Tuinbouworganisatie Vereniging, Institut de Recerca i Tecnologia Agroalimentaries, Teagasc - Agriculture And Food Development Authority, European Biogas Association, Ips Konzalting Doo Za Poslovne Usluge, Inagro, Consorzio Italbiotec.

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[4] The sentence "that does not chemically modify the digestate or the fraction" should be replaced with the sentence "without the intention to otherwise modify the digestate or the fraction".

[5] The Nutri2Cycle recommends adding the following sentence to paragraph 3b, 3c and eventually to 3d for precipitation of phosphates: "provided that all of the following conditions are met:

(a) the additives needed for the mechanical separation comply with the requirement in point 1(b)(i);

(b) the total concentration of all additives does not exceed 5 % of the fraction weight.".

[6] https://publications.jrc.ec.europa.eu/repository/handle/JRC121636

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