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To members of the EU Fertilising Products Expert Group
In preparation for the meeting of 22-23 Nov. 2021, agenda point 4.5

Post-processing of digestates and composts

Agenda point 4.5 of the EU Fertilising Products Expert Group meeting 22-23 November 2021 is "*The mechanical separation of solid/liquid fractions in digestate belonging to CMCs 4 and 5"*.

ESPP and other organisations raised the concern that "post-processing" of digestates and composts excludes their use as CMCs under the current Annex II CMCs 3, 4 and 5 texts.

ESPP strongly welcomes the COM proposal (as circulated) to amend the texts of CMCs 4 and 5 to include post-processing by solid-liquid separation (by mechanical means), taking into account additives used in such processes (coagulants, polymers).

We wish to make the questions / comments below on the COM proposal.

PS – a minor typo in the proposed COM amendment: in \$4, referring to PAH_{16} there is missing the word "not".

1. Solid-liquid separation, drying and concentration

The definition of "mechanical separation" (the term used in the proposed COM amendment) is perhaps largely common sense, **but it would be important to specify that drying and concentration are also permitted and to clarify the definition of** mechanical solid-liquid separation.

1a: Drying and concentration

The solid fraction of digestate will often be dried to produce a fertilising product, the liquid fraction may be concentrated.

We suggest to specify, by modification of the COM proposed amendment, or by an additional amendment (\$ 3.x), or in the FAQ (if this is legally sufficient), that drying and concentration of the digestate and/or the fractions is acceptable, including

- drying or concentration at temperatures not intended to chemically modify the digestate
- freeze drying
- use of vacuum
- reverse osmosis and membrane concentration
- or other comparable mechanical processes (non exhaustive list)

1b. Definition of Mechanical Solid-Liquid Separation

It would be useful to include into the FAQ (at a later date) **a clarification as to which mechanical solid-liquid separation processes are included.**

We would suggest to specify inclusion of the following:
- filtration, ultra-, nano- or membrane filtration, including under pressure or vacuum
- gravitational separation, such as settling or flotation (including air bubble flotation)
- including with additives (as specified in text) used to improve separation, such as polymers or coagulants
- including with facilitation by electric or magnetic fields
- including separation of specific solid fractions, e.g. recovery of fibres
- or other comparable mechanical solid-liquid separation processes (non exhaustive list)

2. Ammonia stripping

Ammonia "stripping" (used here to mean a process to drive ammonia out of digestate into a gas/water droplet stream) is developing rapidly: to avoid ammonia emissions (National Emissions Ceilings Directive, odour), to reduce N-losses, to enable recovery of N as a valuable fertilising product, and to generate digestate products with preferable N/P balance.

Such recovered N is under consideration for inclusion in CMC-WW. However, the digestate from which ammonia has been removed is currently excluded from use as a CMC (if solid-liquid separation is carried out downstream of the ammonia stripping, then both the solid and the liquid fraction are excluded). In some cases, CO2 may also be "stripped" and recovered.

Ammonia stripping can be achieved by one or a combination of:
a) increasing pH by adding e.g. caustic soda
b) bubbling air through the digestate
c) increasing the temperature
d) decreasing the pressure (vacuum)
e) gas membrane separation
f) adsorption / ion-exchange

These processes do not chemically modify the remaining digestate (caustic can be considered to be a processing "additive").

We request that consideration be given to integrate also ammonia stripping as follows:

3b. An EU fertilising product may contain a digestate, or fraction referred to in point 3a, from which all or part of the soluble ammonium has been removed, without the intention to otherwise modify the digestate or fraction, and with the intention of nitrogen recovery.

Similarly to the definition of mechanical solid-liquid separation above, we suggest to then clarify in FAQ the ammonia removal (and recovery) processes included, with a non-exhaustive list of examples.