European Sustainable Phosphorus Platform

Commission expert group on Fertilising Products
Meeting of 18-19 April 2023 - Item 4.1a Post-processing of manure in CMC10
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ESPP input on post-processing of CMC10 manure v24/5/23

COM requested input on processes likely to be applied to "Processed manure and processed frass" (as defined in the Animal By-Products Regulation, and as specified in the SANTE draft Delegated Act art. 3(d)*) when used as component materials in EU Fertilising Products, under CMC10.

The input below is based on suggestions received by ESPP from several companies and stakeholders, and also on coherence with existing wording for post-processing of digestates (CMC5 amended points 3a-3d, CMC2)

** "processed manure and processed frass which fulfil the requirements set out in Section 2, points (a), (b), (d) and (e) of Chapter I, of Annex XI to Regulation (EU) No 142/2011"*

When "Processed manure and frass" (as defined in the ABPR) are included into CMC10, it should be specified that they can be processed as follows. These are widely applied processes, necessary to enable effective agronomic use (stability, handling, transport, controlled application in the field, behaviour in soil).

Proposed processes to specify as applicable to "Processed Manure" in CMC10

Processes as already specified for digestates in CMC5

We suggest to include for "Processed manures and processed frass" in CMC10the processes already specified for digestates in CMC5

- **Mechanical separation into liquid and solid fractions**
- **Removal of all or part of the soluble ammonium and/or of the phosphate to recover nitrogen and/or phosphorus, without the intention to otherwise modify the material.**
- **Physical processing to remove water without the intention to otherwise modify the material.**

We note that these three processes are clarified in the FAQ 8.24:

Mechanical separation of the solid/liquid fraction, which could be done via processes such as:
- filtration, ultra-, nano- or other membrane filtration, including under pressure or vacuum;
- gravitational separation, such as settling or flotation (including air bubble flotation, centrifugation).

Recovery of nitrogen or phosphorus by, for example:
- ammonia stripping (e.g. by increasing pH by adding e.g. caustic soda, bubbling air through the digestate, increasing the temperature, decreasing the pressure (vacuum), gas membrane separation) followed by nitrogen recovery;
- adsorption / ion-exchange;
- precipitation

Dewatering, by processes such as:
- drying by standing, atmospheric drying, using air or hot air, or by using solar radiation, belt dryers, push-turn, fluid bed, and drum dryers;
- concentration of the liquid fraction;
- freeze drying;
- reverse osmosis and membrane concentration;
- vacuum evaporation

All such processes are allowed provided that they lead only to the changes inherent to mechanical separation, nutrient recovery or dewatering, without the intention to otherwise chemically modify the digestate or the fraction.

Other post-processing

We suggest to also include for “Processed manures and processed frass” in CMC10, because these are widely used industry processes:

- **Dilution with water**
- **Grinding, milling, sifting, sieving, screening**
- **Pressing, pelletisation, tableting and granulation (for example: dry, air jet, fluidized bed, etc.)**

The wording for these could be aligned with that of CMC2 (plant parts): “*cutting, grinding, milling, sieving, sifting, centrifugation, pressing, drying, frost treatment, freeze-drying, extraction with water, supercritical CO 2 extraction, or fiberisation at a temperature not higher than 100 °C*”.

Additives

CMC5 indicates (as amended, point 3d):

- **Additives needed in the post processing … may be used provided that:(a) the additive complies with the requirement set out in point 2 in CMC 1; (b) the concentration of the additives needed in each of the processes does not exceed 5 % of weight.**

This should also be included for “Processed manures and processed frass” in CMC10.

ESPP proposed list of processes:

The above logic would lead to the following list of processes:

1. **Mechanical separation into liquid and solid fractions**
2. **Removal of all or part of the soluble ammonium and/or of the phosphate to recover nitrogen and/or phosphorus, without the intention to otherwise modify the material.**
3. **Physical processing to remove water without the intention to otherwise modify the material.**
4. **Dilution with water**
5. **Grinding, milling, sifting, sieving, screening**
6. **Pressing, pelletisation, tableting and granulation (for example: dry, air jet, fluidized bed, etc.)**

7. **Additives needed in the post processing … may be used provided that:(a) the additive complies with the requirement set out in point 2 in CMC 1; (b) the concentration of the additives needed in each of the processes does not exceed 5 % of weight.**

Related proposals for the FAQ

Proposed modification to FAQ 8.24

We suggest that the FAQ 8.24 should be modified to add

"Processes combining solid/liquid separation and/or dewatering and/or nitrogen or phosphorus recovery, such as
- mechanical vapour (re)compression (MVC/MVR)"

Examples of such processes are operational full scale worldwide. At present, it is unclear if such processes are included as they combine the different post-processing functions cited in the FPR consolidated text CMC5 in one single installation.

Composting, anaerobic digestion, precipitation of phosphates, combustion, pyrolysis/gasification

It should be clarified that as well as being authorised for use as such (or post-processed) under CMC10, "Processed manure and processed frass" (as defined in the ABPR, that is in effect "hygienised") can also be used as inputs to CMCs 3, 5, 12, 13, 14 (as specified in these CMCs): composts, digestates, precipitated phosphates and derivates, thermal oxidation materials (ashes) and derivates, pyrolysis and gasification materials.