



## ESPP proposed amendments to EU Fertilisers Regulation

V3/2/17

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## 1) Use of mechanically processed CMCs as fertiliser components

### Explanation

CMC1 (with some conditions) effectively authorises any kind of chemical or processed material, coming from virgin resources, and not made by processing waste, by-products or animal by-products. CMC2 authorises mechanically processed plant materials or plant extracts. CMC7 authorises dried or freeze dried micro-organisms. However, for CMC3 – CMC6 (composts, digestates, food industry by-products) and CMC11 (animal by-products) it is not specified that they are authorised after any form of processing. Thus, for example, a literal application of the current text would seem to exclude (from use as CMCs) products such as dried, pelletised or filtered digestate or compost.

Additionally, at present, there are different definitions (different wording) of “mechanical processing” of plants/organisms in CMC2, in CMC3-1-c and in CMC-5-1-c.

Also, at present, plant materials can be “mechanically processed” before use as inputs to composting, digestion, but apparently source separated bio-wastes or ABPs cannot.

### Proposed amendment to Annex II – Component Material Categories

Modify the first paragraph of Annex II as follows:

*“A CE marked EU fertilising product shall consist solely of **unprocessed or mechanically processed** component materials complying with the requirements for one or more of the Component Material Categories ('CMC') listed below.”*

Add after this paragraph: *“**Any material specified as acceptable input material for a given CMC in this annex, is also acceptable under the same conditions when it has been mechanically processed**”*

Add after this paragraph: *“**Throughout this Annex II, “mechanically processed” means washing with water, pressing, freezing, drying, freeze-drying, cutting, grinding, centrifugation, filtration, solid/liquid separation, flotation, extraction with air or water, steam distillation, heating and sanitation (to temperatures not susceptible to destroy or pyrolyse organic carbon), pickling with vinegar, smoking or other non-chemical food conservation processes**”*

[NOTE – we are still working to improve the wording above]

Replace the different lists of treatments in CMC2, in CMC3-1-c and in CMC-5-1-c by *“**mechanically processed**”*

## 2) Clarification of CMC2 plant parts & CMC6 food industry by-products

### Explanation:

At present it is ambiguous whether, for example, olive stones left after crushing and pressing to extract olive oil are AUTHORISED under CMC2 or EXCLUDED as a food industry by-product not listed under CMC6

### Proposed amendment to Annex II – Component Material Categories

Add to CMC6 (1) a point (d) *“any food industry by-product which is conform to the specifications of CMC2”*

## 3) Sanitisation of animal manures in composts and digestates

### Explanation:

The proposed Council Presidency amendments of 7/9/16 to CMC3-1-b and CMC5-1-b (*“for which the end point in the manufacturing chain has been determined in accordance with ...”*) could be interpreted to mean that only sanitised animal manures could be used as input materials to (EU labelled) compost and digestate production (CMC3, CMC5) because APBs would be required to have already reached the ABP end-point to be eligible for use as input materials.

This is not logical as the composting/anaerobic digestion process itself can, subject to respecting Animal By-Product Regulation (ABPR) end point operating conditions, ensure sanitisation. A requirement to sanitise manures before their input into composting or digestion would effectively mean processing twice and paying twice, and would result in pointlessly duplicated energy consumption, greenhouse gas emissions and uneconomic costs.

The text should be modified to specify clearly that the composting / digestion process must ensure ABPR end point sanitisation if non-sanitised animal manure is an input material.

### Proposed amendment to Annex II – Component Material Categories

In CMC3-1-b and CMC5-1-b *“Products derived from animal by-products referred to in Article 32 of categories 2 and 3 according to Regulation (EC) No 1069/2009 for which the end point in the manufacturing chain has been determined in accordance with the third paragraph of Article 5(2) thereof and where this end point has either (a) already been reached prior to their use as an input material or (b) is reached in the anaerobic digestion / composting process itself”*

## 4) Contaminants in input materials used for fertiliser production

### Explanation:

Annex II (CMCs) includes the following heading paragraph: “*The component materials, or the input materials used to produce them, shall not contain one of the substances for which maximum limit values are indicated in Annex I of this Regulation in such quantities as to jeopardise the CE marked EU fertilising product's compliance with one of the applicable requirements of that Annex.*” This is unclear and unnecessary:

- Does it mean that an input material containing contaminant levels higher than the levels fixed for PFC “inorganic fertiliser” cannot be used? E.g. phosphate rock with high cadmium cannot be used – even if the cadmium is removed in the fertiliser manufacturing process?
- The paragraph seems to mean the lowest contaminant levels in any PFC? Whereas only the PFC for which the input material is destined is relevant?
- What does “jeopardise” mean in terms of legal application? How do Member States verify this?
- This paragraph serves no purpose, in that the product must necessarily respect the contaminant levels fixed for the PFC under which it is sold

On the other hand, the obligation of the Waste Framework Directive, art. 7(4), which bans “*diluting or mixing*” to reduce contaminant levels, should be ensured

### Proposed amendment to Annex II – Component Material Categories

Annex II (CMCs) “*The component materials, or the input materials used to produce them, shall not contain one of the substances for which maximum limit values are indicated in Annex I of this Regulation for the PFC(s) in which the component material is used ~~in such quantities as to jeopardise the CE marked EU fertilising product's~~ unless the processing to produce the CMC ensures compliance for these substances with one of the applicable requirements of that Annex I (PFCs). For wastes and by-products, conform to art. 7(4) of the Waste Framework Directive 2008/98/EC, this may not be achieved by diluting or mixing to lower contaminant concentrations*”

## 5) Use of authorised CMCs as inputs to composting and digestates

### Explanation:

If materials such as plant parts (CMC2), food industry by-products (CMC6), appropriately sanitised animal by-products (CMC11) are eligible directly as CMCs, then they should also be clearly authorised as inputs to compost (CMC3) and digestate (CMC5).

This is NOT at present possible. The first sentence of Annex II states “*A CE marked fertilising product shall consist solely of component materials complying with the requirements for one or more of the Component Material Categories ('CMC') listed below*”. This addresses the mixing of CMCs to make a CE product (PFC), but does not authorise the use of one CMC as an ingredient (input material) for production of another CMC.

### Proposed amendment to Annex II – Component Material Categories

Add to CMC-3-1 and CMC-5-1:

- “*materials conform to CMC2, CMC3, CMC4, CMC5, CMC6, CMC11*”

## 6a) Art. 42.1 Criteria for addition of new CMC categories

### Explanation

Art. 42.1 specifies that Annexes II (CMCs) can be modified subject to add CMCs “(a) which are likely to be subject of significant trade on the internal market, and (b) for which there is scientific evidence that they do not present an unacceptable risk to human, animal or plant health, to safety or to the environment, and that they are sufficiently effective.”

This poses a problem for the example of sewage sludge incineration ash. This material as such may pose risk (heavy metal levels) but processes exist which can remove these contaminants. Also, this material is largely not effective as a fertiliser (nutrients are not accessible) but processes can render the nutrients plant available. It should be possible to admit sewage sludge incineration ash as a CMC input material after appropriate Impact Assessment (underway in the JRC STRUBIAS process), but subject to specifying that it is processed to remove problematic contaminants and render nutrients plant available in the CMC.

There are a wide range of processes already tested at pilot scale which can achieve these objectives (contaminant removal, nutrient availability) and it should not be necessary to specify each such process individually in a CMC because this would inhibit innovation (limitative process list). Such processes include:

- Acid dissolution of ash, using different acids, in some cases heat or pressure, with separate precipitation of heavy metal contaminants then of phosphate minerals
- Acid dissolution of ash then solvent extraction of heavy metals
- Carbon dioxide extraction of phosphorus as phosphoric acid then production of fertiliser minerals
- Alkali extraction of phosphates and separation of heavy metals
- Thermal reduction to P<sub>4</sub> then production of phosphate fertiliser minerals
- Others under development ...

Additionally the term “sufficiently effective” is not defined.

Finally, the “significant likely trade” criteria should apply to the CE product, not to input materials: a raw material may not be traded: e.g. olive stones (after olive oil extraction) are heavy, inconvenient to transport, so unlikely to be traded, but could be used on-site as input materials to produce a (future) CMC (by some future innovative drying / chemical nutrient extraction process to produce a recycled fertiliser product).

### Proposed amendment: Art. 42.1 Criteria for addition of new PFC and CMC categories

“(a) which are likely to be subject of significant trade on the internal market, **or are to be used to produce CE fertiliser products likely to be subject of significant trade on the internal market,**

and

(b) for which there is scientific evidence that, **subject to processing requirements specified (e.g. contaminant removal or nutrient solubilisation), they do not present an unacceptable risk to human, animal or plant health, to safety or to the environment, and that they offer product characteristics as specified by one or more PFCs are sufficiently effective.**”

## 6b) Art. 42.1 Commission modification of Annex II

### Explanation

It is important that Annex II (CMC list) can be modified by Commission decision, in order to enable adaptation to new technologies and new nutrient circular economy value chains. However, guarantee of health and safety criteria is essential.

We therefore propose

- Modification of Annex I (PFCs), which defines key contaminant levels, possibly by Parliament – Council co-decision process
- Modification of Annex II (CMC list) should remain to be by Commission decision, but subject to consultation and to scientific assessment

### Proposed amendment: Art. 42.1 Criteria for addition of new PFC and CMC categories

*“The Commission shall be empowered to adopt delegated acts in accordance with Article 43 to amend Annexes ... for CE marked fertilising products, **after prior consultation and after scientific assessment by JRC**”*

## 7) Traceability

### Explanation:

Traceability of products susceptible to contain organic contaminants should be ensured, from the fertiliser-on-the-shelf, via the production batch code, back to farms or factories originally supplying the organic input materials it contains. This is necessary to (a) ensure consumer confidence and (b) ensure that it is possible to “limit damage” if a local contamination occurs\*.

This should be obligatory for products containing material from wastes or by-products which have not undergone a process which will destroy organic contaminants, pathogens and genetic material (incineration, chemical processing in concentrated acid ...). The objective is to address not only health and environmental risks but also public opinion and farmer confidence concerns relating to pathogens, organic contaminants (e.g. pharmaceuticals, consumer chemicals), genetic material.

Such traceability is not contrary to the objective of EU-label fertilisers and the single market. Today, traceability is in place for meat production placed on the EU market, from birth and upbringing of the animal on the farm or farms, through the abattoir, to the supermarket shelf or butcher’s shop. Mobile IT such as smart phones enables paperless, reliable and fast plotting. This could be adapted for organic by-products and wastes being processed to CE fertilisers.

Traceability should be defined pragmatically for EU-Fertiliser production batches or time series depending on the process. It is coherent with Art. 6(5) – 6(7) and ‘Whereas’ (29) which require to specify on packaging or in accompanying documentation, inter alia, “*type, batch or serial number other element allowing identification*”, but which, to our understanding, refer only to market surveillance traceability (back to the product producer only, not back to the source of the organic material).

For animal by-products (ABP), traceability is already in place today (e.g. for organic fertilisers from manures) by Regulation 142/2011 art. 17 and Regulation 1069/2009 art. 22 which requires “*systems and procedures to identify: (a) the other operators to which their animal by-products or derived products have been supplied; and (b) the operators from whom they have been supplied.*”

However, this APB traceability will effectively disappear for CE-label fertilisers using ABPs as inputs, given that they will benefit from de facto End-of-Waste status by art. 18 of the revised Fertilisers Regulations and will be “excluded from the requirements of Regulation (EC) No 1069/2009” (Fertilisers Regulation proposal, Whereas, §9 and art. 45).

Furthermore, such traceability should be ensured for organic wastes which are not ABPs: for example sewage biosolids, food industry by-products, food wastes.

\* Traceability can limit damage in case of contamination, e.g. a disease breakout in certain livestock units or contamination of certain food industry streams (case of cooking oils in Spain or illegal use of GMOs in crop production). If traceability is in place, the farms having used fertiliser products containing organic input materials originating from the contaminated farms or factories can be identified, instead of facing a situation where all EU agricultural production is considered as potentially tainted because an “EU Fertiliser” has been placed on the market without traceability

### Proposed amendment to Annex III Labelling Requirements – Part I General Labelling Requirements, point (2)

Add 2(f): *“A system of traceability labelling will be developed and applied to all CE fertiliser products (all PFCs) susceptible to contain organic materials originating from organic wastes or by-products, including animal by-products, which have not been through a process which has destroyed all organic materials (e.g. combustion conform to the conditions of the Incineration Directive 2000/76/EC Art. 6, or dissolution in concentrated acid or alkali, or equivalent). Under this system, the label will specify which such wastes and by-products have been used and a batch number or production time series number. This number will refer to traceability data held by the producer (e.g. online register) and which identifies the sources (farms, factories ...) of each organic waste/by-product used in the batch/time series. The Commission will publish within 2 years, after consultation and taking into account both the requirements of articles 6(5) – 6(7) and existing traceability systems (e.g. for animal by products), specifications for implementation of this disposition, which will enter into force by Commission decision after a delay of 2 years”.*



## 8) PROBLEM: definition of “mineral” or “inorganic” fertiliser

- There is general agreement of the need for a “positive” definition of “inorganic” or “mineral” fertilisers (not as at present, definition by exclusion as ‘everything which is not organic or organo-mineral’)
 

Indeed the current definition by exclusion leads to problems: as we read the current proposal text, this will allow (in some cases) up to 15% organic carbon in “inorganic fertilisers”. For example, PFC 1(C)1a (solid inorganic macro-nutrient fertiliser) is defined as any product which is not an “organic” fertiliser (that is organic C < 15%) and is not a “co-formulation (that is, not based on an inorganic fertiliser as defined in PFC1(B), that is not an “organo-mineral”). Thus a product produced directly containing 15% organic C (not produced by co-formulation) would fall under PFC1(C)1a
- This definition should accept recovered materials of plant and animal origin when processed to a ‘mineral’ form
- Specify here (or in definitions = Art. 2) that “mineral” means “inorganic chemicals”
- There is general agreement that organic carbon in “mineral” or “inorganic” fertilisers should be limited to a MAXIMUM 1 – 2 % C<sub>org</sub> (a farmer purchasing a “mineral” fertiliser expects it to be “mineral”).
- On the other hand, “organo-mineral fertilisers” should have a MINIMUM content of organic carbon of 7.5 – 10% (lower organic carbon means that the product is not really “organo-mineral, and will not bring the properties the farmer expects of the organics in organo-minerals)
- One solution could be to keep the current system: organic, organo-mineral and “other”. At present the “other” is called “inorganic”: change this to “mineral fertiliser with some organics” for C<sub>org</sub> > 1-2% or “mineral” depending on C<sub>org</sub> < 1-2%

### Proposed amendment to Annex II, PFC1(C):

*“An ~~inorganic~~ fertiliser shall be a fertiliser other than an organic or organo-mineral fertiliser shall be termed:*

*‘MINERAL’ if it contains <1-2% [to be defined] organic carbon by dry mass*

*‘MINERAL WITH SOME ORGANICS’ otherwise*

*NOTE: it should also be added: “Calcium cyanamide, urea and its condensation and association products shall be considered as containing nutrients in a mineral form.”*



## 9) Use of other crop residues as inputs to CMC4

### Explanation:

The CMC4 “Energy crop digestates” benefits from reduced monitoring requirements, because there is no risk of contaminants (e.g. pathogens, antibiotics) in such materials. This is important because it reduces cost and administration, so facilitating recycling. This should be widened to include all other crop and plant materials. The risk from colza leaves and stems left over after using the colza seed to produce biodiesel is the same as the risk from colza leaves and stems left over after using the colza seeds to make cooking oil.

### Proposed amendment to Annex II – Component Material Categories

Add to CMC-4-1:

- “*unprocessed and mechanically processed residues from other crops, forestry*”
- “*unprocessed and mechanically processed plant materials = CMC2*”

## 11) Use of food industry by-products as compost & digestate inputs

### Explanation:

At present CMC3 and CMC5 exclude (from inputs) “*industrial sludges*”. It is not clearly defined what is an “*industrial sludge*”. Are residues from the agro-food industry (from liquid discharge treatment) considered as biowaste within the meaning of Directive 2008/98/EC resulting from separate bio-waste collection at source so admitted as inputs, or are they considered to be “*industrial sludges*” and so excluded? Many sludges from the agro-food industry (e.g. from fruit processing, dairy / cheese production ...) are a completely clean organic materials and appropriate, safe inputs to compost and digestate processes.

### Proposed amendment to Annex II – Component Material Categories

Add to CMC-3-1 and CMC-5-1 a point (f):

- “*(f) unprocessed and mechanically processed residues from food production industries (except from industries using animal by products according to Regulation (EC) no 1069/2009)*”

And modify the existing second bullet point of CMC-3-1(c) and CMC-5-1(c)

- “*sewage sludge, industrial sludge other than as specified in (f) or dredging sludge*”

## 12) CMC11 Certain animal by-products

### Explanation:

Hundreds of thousands of tonnes of processed ABPs are already placed on the market as fertilisers in different EU countries, providing effective and safe recycling to performance nutrient materials: for example:

- dried manure or manure (co-)digestate, conform to ABP sanitisation requirements, e.g. blended with mineral nutrient fertilisers to adjust nutrient balance for specific crops, pelleted, sold as organic fertilisers (e.g. FERTIKAL Belgium, COOPERL France, HEWEM Netherlands ITALPOLLINA Italy ...)
- ash from incineration of chicken manure/litter or Meat and Bone Meal Ash (e.g. SARIA UK MBM, EPR UK, ACL/Wykes UK, COOPERL Brittany France, Elosato Oy Finland, Fibrophos UK, BHSL Ireland, BMC Moerdijk Netherlands, Sanders France ...)

It should therefore be a priority action to either complete the table in the empty box and/or to develop specific CMCs for these different products.

However, it is at present unclear the interaction between CMCs which authorise inclusion of certain ABPs (with specified processing), for example CMC3 and CMC5 at present, and in the future probably an “ash” CMC, presumably covering chicken manure incineration ash and meat and bone meal ash as above (proposal currently under development by the JRC STRUBIAS working group).

Clarification is needed to ensure that there is no contradiction between CMC11 and other CMCs authorising specific ABPs for specific uses.

### Proposed amendment to Annex II – Component Material Categories

Add to the paragraph above the empty box in CMC11:

*“A CE marked fertilising product may contain animal by-products within the meaning of Regulation (EC) No 1069/2009 **as specified in other CMCs in this annex or having reached the end point in the manufacturing chain as determined in accordance with that Regulation, which are listed in the table below and as specified therein:**”*

### 13) CMC1 Use of by-product and recycled minerals

#### Explanation:

CMC1 currently excludes the use as input to fertiliser production of any product which is or comes from a “by-product” \*. This contradicts the fact that much of the chemicals industry uses by-products and industrially recycled chemicals. For example:

- Most of the world’s phosphate fertiliser is produced from phosphate rock via phosphoric acid, and sulphuric acid is used to convert phosphate rock to phosphoric acid. Today, nearly all sulphuric acid used is a by-product, from of diesel and heating oil refining (sulphur must be removed from these fuels to improve quality and reduce emissions), from recovery in chimney scrubber gases (avoidance of “acid rain” sulphur emissions), and from spent iron and steel pickling fluids and other industrial sulphuric acid recycling. However, the wording of CMC1 at present excludes the use of any input material which is or has been a waste or by-product. Most of the phosphate fertilisers currently on the market could thus no longer be sold.
- Projects to use today’s better performance technologies to extract phosphorus from second grade phosphate rock previously discarded and available in stocks near mines, would be excluded from selling resulting fertiliser (under CMC1)

The exclusion of industry by-products would prevent future innovation, because any fertiliser product using an industrial by-product would be excluded, whereas increasing the chemical industry functions in circularity, with one process by-product being the input to another process.

To illustrate: if magnesium and potassium were extracted from seawater by reverse osmosis, to produce a mineral brine which was then processed to give a liquid Mg-K fertiliser, this would be eligible under CMC1. But if the same reverse osmosis process was operated to produce drinking water, the same mineral brine (a by-product) could not be used in fertiliser under CMC1.

\* “By-products” are defined in Directive 2008/98/EC (Waste Framework Directive) art. 5 as “A substance or object, resulting from a production process, the primary aim of which is not the production of that item”

#### Proposed amendment to Annex II – Component Material Categories

Modify point 1(b) of CMC1:

“A CE marked fertilising product may contain substances or mixtures, other than:

1 (b) by-products (within the meaning of Directive 2008/98/EC) **resulting from a production process using waste (within the meaning of Directive 2008/98/EC) as input. Note that waste which has obtained End of Waste status (within the meaning of Directive 2008/98/EC) is not considered as waste for the purpose of this clause. ”**