

ESPP proposals on processed manure and the Nitrates Directive v15/7/17

Context and overall objectives

1. The Nitrates Directive is very important to protect surface and ground water quality from agricultural nitrogen losses, and also indirectly phosphorus losses.
2. It is possible to process manures to high quality fertiliser products, which contain nutrients in forms suited to crop needs, and which are easy to transport, store, handle and are adapted to farmers' requirements. Such products can offer economic advantages for farmers and enable efficient nutrient use with nutrient losses to the environment comparable to mineral fertilisers. Such technologies are developing rapidly, with potential markets for both processed manure fertiliser products and processing know-how.

Exempting certain manure recycled nutrient products from the 170 kgN/ha spreading limit

3. The Nitrates Directive limitsⁱ the application of manure (and also of processed manureⁱⁱ) to levels below levels for mineral fertilisers, unless case-by-case "exemptions" (derogations) are granted by the EUⁱⁱⁱ. This results in application limits for all recycled nutrient products recovered from manure^{iv} which are not applicable to (virgin) mineral fertilisers. This is an obstacle to recycling, because it restricts the application of, and so potential value of, recovered nutrient products, or obliges transport over significant distances. It is an obstacle to rollout of nutrient recycling technologies, because the Nitrates Directive status of the recovered product is unclear and different in different Member States / regions.
4. This limitation does not generally reduce nitrogen inputs to farmland in Nitrate Vulnerable Zones, because the total N spreading limit is not modified by how much of this total limit is recycled or virgin N.
5. ESPP considers that case-by-case national Action Programme "exemptions" from the 170 kgN/ha for certain processed manure products are not appropriate because they do not deliver a single market, neither for recovery technologies nor for the recovered nutrient products (different product status depending on national Action Programmes).
6. **(6a) ESPP considers that the limit to application of manure-recovered N should be not applicable to manure-recovered recycled nutrient products if the following conditions are met:**
 - (i) The product is shown to have **relevant properties not significantly different from "chemical fertilisers"** (as defined by article 2(f) of the Nitrates Directive); **AND**
 - (ii) **100% of the recovered product's nitrogen content should be taken into account in calculating Nitrates Directive application limits^v**: that is, use to substitute mineral fertilisers should not in any circumstances result in an increase in the total N applied; **AND**
 - (iii) the recovered material has **End-of-Waste status and is recognised as a fertiliser**, either via the EU Fertiliser Regulation (CE-mark fertiliser) or as a nationally homologated fertiliser with End-of-Waste Status

These criteria should be precise, legally secure and technically easy to assess

- (6b)** ESPP proposes that, for a given manure recycled product, it should be possible to obtain European validation of similarity to chemical fertilisers should be established by two different routes:
 - **"Fast track"**: the product is shown to be not significantly different^{vi} in physico-chemical composition from a chemical fertiliser
ESPP proposes the following criterion: **organic carbon < 1% of dry matter^{vii}**
 - **Other products**: scientific evidence should be produced (e.g. pot or field trials, incubation or leaching tests, ...) to show that crop uptake and/or soil leaching when the product is used as fertiliser are better or not significantly different than from when standard chemical fertiliser is used.
7. ESPP notes that this Nitrates Directive "exemption" status should be independent of and not impact the Animal By Products (ABP) Regulation status of the processed manure products concerned. These products can only exit from ABP obligations (use limitations, traceability) if the manure processing conforms to the specifications in the ABP Regulation^{viii}.
8. Where a CE-label manure-recovered product is identified by one Member State's competent body as respecting the above criteria for Nitrates Directive manure application limits "exemption", then this should be recognised across Europe. Manure-recovered products which are not CE-labelled (but are national fertilisers) can also be identified by a Member State as respecting the above criteria.

9. ESPP notes that if the manure-recovered product also contains P, then application should also respect local NVZ Action Programme phosphorus constraints, EU Water Framework Directive objectives, and should not result in increased phosphorus application (compared to application of mineral fertiliser).

Processes where only a part of the input is manure mixed with other materials

10. ESPP requests that clear, EU-wide rules be defined concerning the Nitrates Directive classification as processed manure of digestates, composts or similar where only a proportion of the inflow material is manure (e.g. digestate where input materials are crop by-products, municipal food waste, agri-food industry by products as well as some manure). We propose that
- (a) these products be not considered as processed manure if manure is <10%^{ix} of input material by dry weight over both (a) one year and (b) two months
 - (b) if manure > 10% and <75%^x of input material by dry weight, then the application limit be calculated pro-rata to the % manure content

Harmonisation of definitions and implementation

11. Additionally to the above, ESPP requests that, following adoption of the revised Fertilisers Regulation, the Commission should ensure a progressive harmonisation where possible of definitions in NVZ Action Programmes for: (A) how “efficiency” is calculated; (B) reference to N-org/C-org^{xi} preferable to N-total/C-total; (C) definitions of fertilisers vs. soil improvers and inclusion of soil improver nutrients in Action Programmes; (D) allocated efficiency coefficient for EU-fertiliser products (organic and organo-minerals). This harmonisation of definitions and classifications is not intended to hinder subsidiarity in defining appropriate Action Programmes adapted to local climate, crop, environmental challenges ...

Calls for action

12. ESPP considers that it is possible to **progress rapidly towards defining “fast track” physico-chemical criteria as indicated above, to define when (certain) manure recycled nutrient products are not significantly different from a “chemical fertiliser”**, in order to define at the EU level when products should not be subject to the Nitrates Directive manure application limit “exemptions”. This should be done within the same timeline as the entry into force of the EU Fertilisers Regulation
13. ESPP asks that a clear deadline for fixing these criteria be specified in the EU Fertilisers Regulation
14. ESPP asks that the EU Commission propose rapidly
- (a) a legal framework for implementing such criteria, specifying interactions with Waste Framework Directive, Nitrates Directive, Fertilisers Regulation, other regulations
- and**
- (b) a consultation process between Member States, technical experts, farmers, industry and other stakeholders to elaborate such criteria

ⁱ The reason for this is that organic forms of nitrogen in manures are only slowly available to crops. Thus, if mineral fertilisers are applied appropriately they should be largely taken up by crops whereas manure nitrogen more likely to be not taken up and so to be lost to air or to surface or ground waters. For this reason, manure N is generally not calculated at 100% of its nitrogen content in Nitrates Directive Action Programmes, but as a % corresponding to the estimate of its “efficiency”.

ⁱⁱ art. 2(g) of the Nitrates Directive: “livestock manure”: means waste products excreted by livestock or a mixture of litter and waste products excreted by livestock, even in processed form”. In this document we refer to ‘processed manure’ for short, referring to this Nitrates Directive definition. The word ‘processed’ in this document does not mean processed in accordance with the Animal By Products Regulation 1069/2009

ⁱⁱⁱ Directive specifies (Annex III) that Action Programmes in Nitrate Vulnerable Zones must limit both the total application of all fertilisers (this covers mineral fertilisers, organic fertilisers, manures ...) but also specifically limit the application of livestock manures to 170 kgN/ha/year, unless a ‘derogation’ is obtained, which requires the opinion of the EU Nitrates Committee and a subsequent Commission decision.

^{iv} For example : ammonium sulphate, ammonium nitrate or comparable inorganic chemicals recovered from biogas gas scrubbing, struvite, mineral concentrates produced by membrane separation / ultrafiltration / reverse osmosis, other new innovative products in the future ...

^v That is the « nitrogen efficiency », in the sense of the Nitrates Directive, should be calculated as 100%

^{vi} One possibility would be to require “sameness” as for REACH, but this is not clearly defined, and would result in much more variation than the criteria proposed here by ESPP (REACH generally accepts as “same” products with up to 20-30% variation)

^{vii} ESPP would have preferred, for reasons of coherence with the Nitrates Directive objectives the criterion that the nitrogen present in the product should be 80-90% in mineral form. Unfortunately there seems to be no feasible way of testing this: standard methods would not identify the N in struvite as “mineral” unless the struvite was dissolved in strong acid, but this would result in organic forms of N also being transformed to “mineral”

^{viii} Questions: does struvite precipitated from manure liquor have ABP status ? Should traceability be ensured ?

^{ix} a different % may be appropriate.

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^{xi} or N-total x C-org/C-total if N-org not easy to measure