# Decree of the Ministry of Agriculture and Forestry

**amending the Decree of the Ministry of Agriculture and Forestry on fertilising products**

By decision of the Ministry of Agriculture and Forestry,

section 6 and section 7, subsection 3 of the Decree of the Ministry of Agriculture and Forestry on Fertilising Products (964/2023) and sections 1C1.2, 1C3, and 5 of Annex 1; sections 3, 4, 8, 9, and 11 of Annex 2; section 1C3 and 2 of Annex 3; and Annex 5, are *amended* as follows:

Section 6

*Use of fertilising products and manure*

Only CE-marked fertilisers in accordance with the EU Fertilising Products Regulation and fertilisers in accordance with the Fertilisers Act 711/2022, which consist exclusively of components marked as suitable for forest fertilisation in the list of component materials, may be used in the forest.

Soil improvers and fertilisers, with the exception of forest ash fertilisers, shall not be applied to snow-covered, frosted or water-impregnated land.

Manure that has not been treated in accordance with Annex V or Annex XI of the Implementing Regulation may only be used in agriculture and horticulture.

The use of fertilising products containing ammonium carbonate is prohibited. The maximum average cadmium load resulting from the use of fertilising products in agriculture and horticulture may be 7.5 grams of cadmium per hectare applied over a period of five years, and in forestry a maximum of 100 grams per hectare applied over a period of 60 years.

In fertilisers with added boron used in the forest, the application rate of boron per hectare may not exceed 2.5 kg of boron per hectare, except where boron deficiency has been detected by soil, leaf or needle analysis. In such cases, a maximum of 4 kg of boron may be applied per hectare. The application of fertiliser with added boron in category 1 groundwater areas is prohibited.

Section 7

*Use of sewage sludge in agriculture and horticulture*

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Arable land to which the fertilising product containing sewage sludge in accordance with component material category 10 is applied shall be analysed in accordance with Annex 5 if the pH of the arable land is below 5.8. When lime-stabilised sewage sludge is used, the arable land shall be analysed if the pH is below 5.5. Samples must be taken before the first application of sewage sludge. If, on the basis of toxic metals loads, there is reason to believe that the permissible concentrations have been exceeded, analysis shall be carried out every five years before the sludge is used. However, the requirement in subsection 2 does not apply to septic tank and cesspool sludge intended for common use on a farm or farms, or other sludge and dry toilet waste from a sewage treatment system on a property or commonly used by a number of farms that originates from residing on the farm or other activities on the

holding or from other residential properties located in the vicinity of the farm, and the utilisation of which is not subject to an environmental permit under the Environmental Protection Act (527/2014).

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This Decree enters into force on [date] [Month] 202[year].

Helsinki, x.x.20xx

Minister of Agriculture and Forestry Sari Essayah

Ministerial Adviser Titta Berlin

*Annex 1*

**CATEGORIES OF FERTILISING PRODUCTS**

**1C1.2. COMPOUND INORGANIC MACRONUTRIENT FERTILISER**

An inorganic compound macronutrient fertiliser contains 1.0 % by mass of at least two declared primary nutrients. The sum of all declared macronutrient contents shall be at least 7 % by mass. However, the total sodium content shall not exceed 30 % by mass. The minimum declared content of secondary primary nutrients is 1.0 % by mass.

**1C3. FOREST ASH FERTILISER**

Forest ash fertiliser means ash in accordance with component material category 8 used in forestry, with a combined total phosphorus and potassium content of at least 2.4 % by mass.

No more than 10 % of the total mass of a fertilising product may be added to forest ash fertiliser to enhance the availability of component materials or fertilising products in other component material categories.

Contaminants in forest ash fertiliser shall not exceed the maximum content set out in the following table:

| **Element** | **Maximum content mg/kg DM.** |
|---|---:|
| Arsenic | 40 |
| Mercury | 1 |
| Cadmium | 25 |
| Chromium | 300 |
| Copper | 600 |
| Lead | 150 |
| Nickel | 120 |
| Zinc[1)] | 4,500 |

[1)]Exceedance of the maximum content is allowed only when a soil, leaf or needle analysis has detected zinc deficiency in the growth. In such cases, the maximum quantity shall not exceed 6 000 milligrams per kilogram of dry matter.

3A. ORGANIC SOIL IMPROVER

A solid organic soil improver shall contain 15 % or more of dry matter. Organic carbon content in a solid organic soil improver shall be at least 7.5 % by mass. In a liquid organic soil

improver, the organic carbon content shall be at least 2 % by mass or the total primary macronutrient content shall not be less than 0.2 % by mass.

Contaminants in an organic soil improver shall not exceed the maximum content set out in the following table:

| **Element** | **Maximum content mg/kg DM.** |
|---|---|
| Arsenic | 40 |
| Mercury | 1 |
| Cadmium | 1.5 |
| Chromium | 300 |
| Copper | 600 |
| Lead | 100 |
| Nickel | 70 |
| Zinc | 1500 |

Maximum quantities of pathogens in an organic soil improver:

| **Pathogen** | **Maximum quantity** |
|---|---|
| Salmonella spp. | Absent in 25 g or 25 ml |
| Escherichia coli or Enterococcaceae | 1 000 CFU in 1 g or 1 ml |

**5. BIOSTIMULANT**

A biostimulant shall have a scientifically verifiable effect in Finnish conditions that stimulates plant nutrition processes independently of the product's nutrient content or improves one or more of the characteristics of the plant or plant rhizosphere: nutrient use efficiency, tolerance to abiotic stress, quality traits or availability of confined nutrients in the soil or rhizosphere.

A microbial plant biostimulant shall consist of a micro-organism or a group of micro-organisms referred to in component material category 7 in Part II of Annex II to the EU Regulation on Fertilising Products.

Contaminants in a biostimulant medium shall not exceed the maximum content set out in the following table:

| **Element** | **Maximum content mg/kg DM.** |
|---|---:|
| Arsenic | 40 |
| Mercury | 1 |
| Cadmium | 1.5 |
| Chromium | 300 |
| Copper | 300 |
| Lead | 100 |

| | |
|---|---|
| Nickel | 70 |
| Zinc | 1 500 |

Maximum number of pathogens in biostimulants:

| Pathogen | Maximum quantity |
|---|---|
| *Salmonella spp.* | Absent in 25 g or 25 ml |
| *Escherichia coli* or *Enterococcaceae* | 1 000 CFU in 1 g or 1 ml |

*Annex 2*

**COMPONENT MATERIAL CATEGORIES OF FERTILISING PRODUCTS**

COMPONENT MATERIAL CATEGORY 3. COMPOST

A fertilising product may contain compost obtained through an aerobic composting process involving exclusively one or more input materials and composting additives necessary to improve the process performance or the environmental performance of the composting process. The input materials and composting additives are contained in the list of ingredients maintained by the Finnish Food Safety Authority. Compost shall not contain municipal sewage sludge or precipitation and sealed tank sludge, or any other sludge from a sewage treatment system on a property or commonly used by a number of farms.

Composting shall take place in a facility where physical contacts between input and output materials are avoided, including during storage.

Aerobic composting is controlled decomposition of biodegradable materials, which is predominantly aerobic and which allows the creation of temperatures suitable for thermophilic bacteria, as a result of biologically produced heat. Processing shall be such that the treated material is sanitary and homogeneous.

During the composting process, all parts of each batch shall have one of the following temperature-time profiles:
1) a temperature of 70 °C or more for at least 60 minutes, with a particle size of not more than 12 mm;
2) a temperature of 70 °C or more for at least 3 days;
3) a temperature of 65 °C or more for at least 5 days;
4) a temperature of 60 °C or more for at least 7 days;
5) a temperature of 55 °C or more for at least 14 days;
6) a temperature of 70 °C or more for at least 1 day;
7) a temperature of 65 °C or more for at least 3 days;
8) a temperature of 60 °C or more for at least 5 days; or
9) a temperature of 55 °C or more for at least 7 days.

Compost processed in accordance with points 6 to 9 above must undergo after-ripening for 6 months when the composting process is not closed. However, the temperature-time profiles given above do not apply if the facility has been approved in accordance with the Implementing Regulation and the processing complies with the transformation parameters applicable to composting plants in Annex V to the Regulation.

Until 31 December 2027, compost may contain:
a) no more than 5 g/kg dry matter of impurities above 2 mm in any of the following forms: glass, metal or plastics; and

b) no more than 10 g/kg dry matter of the sum of the impurities referred to in subparagraph (a) above.

From 1 January 2028, compost may contain:
a) no more than 2.5 g/kg dry matter of impurities above 2 mm in any of the following forms: glass, metal or plastics; and
b) no more than 5 g/kg dry matter of the sum of the impurities referred to in subparagraph (a) above.

The compost shall meet one of the stability criteria in the table below, depending on how the compost is to be used:

| **Product category** | **Stability criterion** |
|---|---|
| Fertiliser and growing medium | A carbon dioxide yield of not more than 3 mg $CO_2$-C/g VS/day and a plant response of at least 70 %; or<br>An oxygen uptake rate not exceeding 5 mmol $O_2$/kg organic matter/h and a plant response of not less than 70 % |
| Soil improver | CO2 yield up to 6 mg $CO_2$-C/g VS/day; or<br>An oxygen uptake rate not exceeding 25 mmol $O_2$/kg organic matter/h |

Maximum levels of pathogens in compost:

| **Pathogen** | **Maximum amount** |
|---|---|
| *Salmonella spp.* | Not present in 25 g or 25 ml |
| *Escherichia coli* or *Enterococcaceae* | 1 000 CFU in 1 g or 1 ml |

COMPONENT MATERIAL CATEGORY 4: DIGESTATE

A fertilising product may contain digestate obtained through the anaerobic digestion of exclusively one or more input materials and additives which are needed to improve the process performance or the environmental performance of the digestion process. The input materials and additives are contained in the list of ingredients maintained by the Finnish Food Safety Authority. Digestate shall not contain municipal waste water sludge or precipitation and sealed tank sludge, or any other sludge from a sewage treatment system on a property or commonly used on a number of farms.

The anaerobic digestion shall take place in a facility where input and output materials cannot come into contact with each other, including during storage.

The anaerobic digestion is controlled decomposition of biodegradable materials, which is predominantly aerobic and which allows the development of temperatures suitable for mesophilic or thermophilic bacteria. Processing shall be such that the treated material is sanitary and homogeneous. During the digestion process, all parts of each batch shall have one of the following temperature-time profiles:
a) thermophilic digestion at 55 °C and an average hydraulic retention time of at least 20 days;
b) thermophilic or mesophilic digestion and sanitation at 70 °C for 60 minutes with a particle size of not more than 12 mm; or
thermophilic or mesophilic digestion and composting in accordance with the processing requirements of 'Component material category 3. compost'.

However, the temperature-time profiles given above do not apply if the facility has been approved in accordance with the Implementing Regulation and the processing complies with the transformation parameters applicable to biogas facilities in Annex V to the Implementing Regulation. However, a hygienizing process is not required if the ingredient to be treated has been hygienized immediately before treatment.

With effect from 1 January 2027, both the solid and the liquid part of the digestate shall meet at least one of the following stability criteria:

| **Method** | **Criterion** |
|---|---|
| Oxygen uptake:<br>an indicator showing the extent to which biodegradable organic matter is being broken down within a specified period. The method is not suitable for material with a content of particle sizes > 10 mm that exceeds 20 %. | not more than 25 mmol O2/kg organic matter/h |
| Residual biogas potential:<br>an indicator of the gas released from a digestate in a 28-day period and measured against the volatile solids (VS) contained within the sample. The test shall be run as three parallel assays, and the average result shall be used to demonstrate compliance with the criterion. The volatile solids (VS) are those solids in a sample of material that are lost on ignition of the dry solids at 550 °C. | not more than 0.25 l biogas/g VS |

In addition, the plant response of digestate used as fertiliser, fertiliser component or as an ingredient in growing media must be at least 70 %. Plant response means an index calculated on the basis of the germination percentage and root length.

Until 31 December 2027, digestate may contain:

a) no more than 5 g/kg dry matter of impurities above 2 mm in any of the following forms: glass, metal or plastics; and
b) no more than 10 g/kg dry matter of the sum of the impurities referred to in subparagraph (a) above.

With effect from 1 January 2028, the digestate may contain:
a) no more than 2.5 g/kg dry matter of impurities above 2 mm in any of the following forms: glass, metal or plastics; and
b) no more than 5 g/kg dry matter of the sum of the impurities referred to in subparagraph (a) above.

Maximum quantities of pathogens in the solid and the liquid part of the digestate:

| **Pathogen** | **Maximum amount** |
|---|---|
| *Salmonella spp.* | Not present in 25 g or 25 ml |
| *Escherichia coli* or *Enterococcaceae* | 1 000 CFU in 1 g or 1 ml |

COMPONENT MATERIAL CATEGORY 8. ASHES AND SLAGS

A fertilising product may contain ash formed by thermal oxidation of input materials included in the Finnish Food Authority's list of ingredients, as well as slags formed in metallurgical processes included in the list of ingredients maintained by the Finnish Food Authority.

The total concentration of organic carbon in slag and bottom ash shall not exceed 3 % of the dry matter in the material.

The concentrations of contaminants or compounds in ash and slag shall not exceed the maximum levels indicated in the table below:

| **Substance or compound** | **Maximum content mg/kg DM.** |
|---|---|
| Chromium | 400 |
| Vanadium | 600 |
| $PAH_{16}$ | 6 |

COMPONENT MATERIAL CATEGORY 9. PYROLYSIS

A fertilising product may contain pyrolysis or gasification materials obtained through the thermochemical conversion under oxygen-limiting conditions of exclusively one or more of the input materials included in the list of ingredients maintained by the Finnish Food Safety Authority.

The thermochemical conversion process shall take place under oxygen-limiting conditions in such a way that a temperature of at least 180 °C for at least two seconds is reached in the reac-

tor using plant biomass. If sewage sludge is used as material in the process, the temperature in the reactor shall be raised to at least 500 °C for at least five minutes.

The molar ratio of materials formed in pyrolysis and gasification shall be such that the ratio of hydrogen to organic carbon is less than 0.7. They shall have no more than 6 mg/kg dry matter of $PAH_{16}$.

SUBSTANCE CLASS 11: INDUSTRIAL WASTE

A fertilising product may contain waste from industrial processes that can be used as a fertilising product as such and which are included in the list of ingredients maintained by the Finnish Food Safety Authority. In accordance with the Environmental Protection Act (527/2014), industrial waste and fertilising products made from it cannot be used without an environmental permit, with certain exceptions referred to in section 32 of that Act.

Maximum concentrations of harmful substances:

| **Substance or compound** | **Maximum content mg/kg DM.** |
|---|---:|
| Arsenic | 40 |
| Mercury | 1 |
| Cadmium | 1.5 |
| Chromium | 300 |
| Copper | 600 |
| Lead | 100 |
| Nickel | 70 |
| Zinc | 1 500 |
| $PAH_{16}$ | 6 |

~~P~~athogen maximum levels:

| **Pathogen** | **Maximum amount** |
|---|---|
| *Salmonella spp.* | Not present in 25 g or 25 ml |
| *Escherichia coli* or *Enterococcaceae* | 1 000 CFU in 1 g or 1 ml |

*Annex 3*

**Product category-specific labelling requirements**

## PRODUCT CATEGORY 1C3. FOREST ASH FERTILISER

The following information is mandatory:
a) the total potassium content, expressed as a percentage by mass;
b) the total phosphorus content, expressed as a percentage by mass;
c) humidity.

The label shall contain the following statement: *'The minimum application rate for potassium is 100 kilograms per hectare.'*

The label for forest ash to which boron has been added shall indicate the total content of boron as a percentage by mass and include the statement: *'Only to be used where there is a recognised need. Do not exceed the appropriate application rate.'*

## PRODUCT CATEGORY 2. LIMING MATERIAL

The following information is mandatory:
a) neutralising value;
b) granulometry 3.15, 1.0 and 0.5 mm, expressed as a percentage by mass of the product;
c) the total calcium content as a percentage by mass;
the total magnesium content as a percentage by mass;
e) reactivity and method of determination of reactivity, with the exception of oxide and hydroxide limes;
f) humidity;
g) total phosphorus content, expressed as a percentage by mass, if at least 0.3 %.

*Annex 5*

MAXIMUM PERMISSIBLE CONCENTRATIONS OF TOXIC METALS DUE TO THE USE OF SEWAGE SLUDGE

Maximum permissible concentrations of contaminants per mg/kg dry matter on arable land using a fertilising product containing sewage sludge in accordance with component material category 10:

| **Element** | **Maximum content mg/kg DM.** |
|---|---|
| Mercury (Hg) | 0.2 |
| Cadmium (Cd) | 0.5 |
| Chromium (Cr) | 100 |
| Copper (Cu) | 100 |
| Lead (Pb) | 60 |
| Nickel (Ni) | 50 |
| Zinc (Zn) | 200 |

Soil samples shall be analysed in a laboratory using standard methods or equally valid validated methods. The following parameters shall be determined of the samples:
– pH value;
– total concentrations of mercury, cadmium, chromium, copper, nickel, lead and zinc.

Each sample included in the study shall consist of at least seven incremental samples. Samples shall be taken at the depth of the topsoil on farmland. For research, at least one sample per land parcel shall be taken of samples included in the survey if the parcel is larger in area than 0.5 hectares. If the land parcel is greater than five hectares in area, one sample shall be taken for each of the five hectares or part thereof. In line sampling, where samples must be taken every three years, the frequency of sampling shall be one sample per ten hectares or part thereof.