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Fertilizers and liming materials and soil improvers - Vocabulary - Part 1: General terms

Düngemittel und Calcium-/Magnesium-Bodenverbesserungsmittel - Wörterbuch - Teil 1: Allgemeine Begriffe

Engrais et amendements calciques et/ou magnésiens - Vocabulaire - Partie 1: Termes généraux

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 12944-1

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ICS 01.040.65; 65.080

English version

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This European Standard was approved by CEN on 5 September 1999.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

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Foreword

This European Standard has been prepared by Technical Committee CEN/TC 260 "Fertilizers and liming materials", the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by May 2000, and conflicting national standards shall be withdrawn at the latest by May 2000.

This Standard is in 3 parts :

- *Part 1 : General terms*
- *Part 2 : Terms relating to fertilizers*
- *Part 3 : Terms relating to liming materials*

These definitions may not necessarily correspond with those used in national legislation.

NOTE 1 Attention is drawn to EN 13535 , Fertilisers and liming materials - Classification.

NOTE 2 A general index is incorporated in part 3.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This European Standard defines general terms, relating to fertilizers, liming materials and soil improvers.

This European Standard also provides an alphabetical list of equivalent English, French and German terms; some of them, the meaning of which is self-evident, are not defined here.

2 Definitions

2.1
fertilizer
material, the main function of which is to provide nutrients for plants

NOTE The spelling "fertiliser" is also used but "fertilizer" is preferred.

2.2
inorganic fertilizer
fertilizer in which the declared nutrients are in the form of inorganic salts obtained by extraction and/or by physical and/or chemical industrial processes

NOTE 1 Calcium cyanamide, sulfur, urea and its condensation and association products and bone superphosphate may, by convention, be classed as inorganic fertilizers.

NOTE 2 The terms "mineral fertilizer" and "chemical fertilizer" are also used but "inorganic fertilizer" is preferred.

2.3
chelated fertilizer
fertilizer in which one or more micro-nutrients are held by organic molecules (chelating or complexing agents)

2.4
organic fertilizer
fertilizer which consists mainly of carbonaceous materials of vegetable and/or animal origin

2.5
organic nitrogenous fertilizer
organic fertiliser in which the nitrogen is bonded directly to carbon and which may contain other elements but which does not have declarable phosphorus or potassium contents

2.6
synthetic organic nitrogenous fertilizer
nitrogenous fertilizer in which the nitrogen is combined with carbon by industrial organic synthesis

2.7
organo-mineral fertilizer
fertilizer in which declared nutrients include those of both organic and inorganic origin obtained by mixing and/or chemical combination of organic and inorganic fertilizers or products

NOTE 1 The term "semi-organic fertilizer" is used in some countries but "organo-mineral fertilizer" is preferred.

NOTE 2 Some countries do not allow mixtures of synthetic organic fertilizers with mineral and/or organic fertilizers.

NOTE 3 The term "organic-based fertilizer" is reserved for mixtures of inorganic fertilizers and organic matter such as peat or lignite.

2.8
slow-release fertilizer
fertilizer in which the nutrients are present as a chemical compound or in a physical state such that their availability to plants is spread over a period of time

2.9
soil improver
material added to soils, the main function of which is to improve their physical and/or chemical properties and/or their biological activity

NOTE The term "soil conditioner" is also used but "soil improver" is preferred.

2.10
straight fertilizer
qualification generally given to a nitrogenous, phosphatic or potassic fertilizer having a declarable content of only one of the primary nutrients

2.11
compound fertilizer
fertilizer, obtained chemically or by blending or both, having a declarable content of at least two of the primary nutrients

NOTE 1 Fertilizers having a declarable content of two to the primary nutrients are known as binary fertilizers.

NOTE 2 Fertilizers having a declarable amount of nitrogen, phosphorus and potassium are known as NPK compound fertilizers.

2.12
complex fertilizer
compound fertilizer, obtained by chemical reaction, having a declarable content of at least two of the primary nutrients

2.13
blended fertilizer
fertilizer obtained by dry mixing of several fertilizer materials, with no chemical reaction

2.14
bulk blend
blended fertilizer transported or supplied in bulk

2.15
foliar fertilizer
fertilizer designed for application to, and nutrient uptake by, the foliage of a crop

2.16
soil fertility
ability of a soil to ensure plant growth

2.17
fertilization
use of fertilizers and soil improvers

NOTE The English term “fertilization” and the German term “Düngung” have a more restricted meaning than the French term “fertilisation” which means all the techniques of management of fertilizers and soil improvers.

2.18
application
general term for all processes of administering fertilizers, liming materials and soil improvers to a crop or soil or both

NOTE This term embraces broadcasting, spreading/spraying or dusting, as well as more specific placement methods including injection into the soil and the combined drilling of seed and fertilizer. It may be broadened to cover nutrient film techniques (foliar application) and the addition of fertilizers to irrigation water (fertigation).

2.19
application rate
mass or volume of a fertilizer, liming material or soil improver or nutrient applied to unit area of cultivated land or unit mass or unit volume of growth medium

NOTE In English the term “dose rate” is also used but the term “application rate” is preferred.

2.20
plant nutrient
chemical element essential for plant growth

2.21
primary nutrient
the elements nitrogen, phosphorus and potassium only

NOTE The term “macro-nutrient” is also used but “primary nutrient” is preferred.

2.22
secondary nutrient
the elements calcium, magnesium, sodium and sulfur

2.23
micro-nutrient
element, such as boron, cobalt, copper, iron, manganese, molybdenum or zinc, essential for plant growth in relatively small quantities

NOTE In English the term "trace element" is in common use but the term "micro-nutrient" is considered to be more accurate and is preferred.

2.24
non-nutrient element
chemical element not essential for plant growth

NOTE The term "non-essential element" is also used but "non-nutrient element" is preferred.

2.25
solubility of a fertilizer nutrient
quantity of a given nutrient which will be extracted by a specific medium under specified conditions, expressed as a percentage by mass of the fertilizer

2.26
fertilizer unit
unit mass of a fertilizer nutrient expressed in the form of the element or an oxide

NOTE The unit is generally the kilogram.

2.27
formula
mass fraction expressed as a percentage as element or oxide, in the order nitrogen : phosphorus : potassium: secondary nutrients and micro-nutrients, of the respective content of these nutrients in a compound fertilizer

NOTE A zero may be used to indicate the absence of an element.

2.28
declarable content
that content of an element (or an oxide) which, according to legislation, may be given on a label or document associated with a fertilizer

2.29
declaration
statement of the amount of nutrients, including their forms and solubilities, guaranteed within specified tolerances

2.30
guarantee (of composition)
quantitative and/or qualitative characteristics with which a marketed product must comply to satisfy contractual and/or legal requirements

2.31
plant nutrient ratio
ratio by mass of the primary nutrients in the fertilizer, expressed in the form of the element or an oxide, in the order nitrogen: phosphorus: potassium

NOTE The ratio may be based on nitrogen as unity or on the nutrient with the lowest proportion.

2.32
coated fertilizer
fertilizer, the particles of which are covered with a layer of a different material in order to improve the behaviour and/or modify the characteristics of the fertilizer

2.33
granular fertilizer
solid fertilizer formed into particles of a predetermined mean size by granulation

2.34
granulation
technique using processes such as agglomeration, accretion, compaction, to modify the particle size

2.35
particle size
dimension which corresponds to the smallest sieve aperture size through which a particle will pass if presented in the most favourable attitude

2.36
prilled fertilizer
product obtained by solidification of droplets of molten fertilizer in a fluid cooling medium

2.37
pelletized fertilizer
product obtained by the extrusion of fertilizer mixtures

2.38
fluid fertilizer
general term for fertilizers in suspension or solution and for liquefied ammonia

NOTE The term "liquid fertilizer" is also used but the term "fluid fertilizer" is preferred because suspensions are not regarded as true liquids and, in some countries, the term "liquid fertilizer" is synonymous with "solution fertilizer".

2.39
solution fertilizer
fluid fertilizer free of solid particles

2.40
suspension fertilizer
two-phase fertilizer in which solid particles are maintained in suspension in the aqueous phase

2.41
additive
substance intended to improve the properties of a fertilizer or soil improver

2.42
filler
substance incorporated in a fertilizer solely to reduce the nutrient content and without any declarable fertilizer nutrients

2.43
big bag
flexible container, holding 250 kg to 1 500 kg

NOTE Individual countries may define the container size above which the product is considered to be "bulk" (see 2.44).

2.44
bulk
qualification given to fertilizer, liming material or soil improver not packed in a container

2.45
availability
extent to which fertilizer nutrients can be taken up by crops

2.46
inhibitor
substance, usually synthetic, which delays or stops the activity of specific groups of soil micro-organisms or enzymes produced by them

NOTE Example : nitrification inhibitors.

2.47
intermediate
chemical product used in a subsequent stage of fertilizer manufacture but often suitable for direct use as a fertilizer

NOTE Examples are : anhydrous ammonia, ammonium phosphates

2.48
mineralization
microbial breakdown in soil of organic material or fertilizer, releasing nutrients in available form

2.49
nitrophosphate fertilizer
compound fertilizer derived from the digestion of phosphate rock with nitric acid