# BUSINESS PLAN

## CEN/TC 260
## FERTILIZERS AND LIMING MATERIALS

## 1 BUSINESS ENVIRONMENT OF THE CEN/TC

CEN/TC 260 sets up European Standards for all kinds of fertilizers[1] and liming materials. Standardization in this Committee consists of methods of analysis, sampling and harmonized terminology. Actually the most important task of CEN/TC 260 is the elaboration of standards within EC-Mandates supporting Regulation (EC) No 2003/2003 of the European Parliament and of the Council of 13 October 2003 relating to fertilizers. The elaborated standards within Mandates M/335, M/418 and M/454 will be considered as official methods of sampling and analysis to be used as reference for official controls if they are as such referenced in Community law. The establishment of European Standards for methods of sampling and analysis is of utmost importance to guarantee a uniform application and control of the European legislation in all Member States. Standardized methods of sampling and analysis are an indispensible element in guaranteeing a high level of quality and safety of EC fertilizers. Since March 2016 the draft of a new future Regulation on fertilizing materials (*Proposal for a Regulation of the European Parliament and of the Council laying down rules on the making available on the market of CE-marked fertilizing products*) is under consideration. CEN/TC 260 awaits an appropriate standardization request from the EC within the framework of this future new Regulation in the near future.

The elaboration of the standards is undertaken in cooperation with the broadest possible range of interested groups, including international and European level associations, including the main industrial associations concerned and regulatory bodies. Cooperation with Fertilizers Europe, EFBA (European Fertilizers Blenders Association), EUROSLAG and IMA (Industrial Minerals Association) is regarded as essential and can be realized by circulation of the relevant documents and by participation of observers in meetings of working groups and plenary meetings. In addition CEN/TC 260 maintains a close relationship to the EC's DG GROW-Fertilizers Working Group (FWG) and is registered in the EC's Transparency Register. Within this framework CEN/TC 260 delegates two observers regularly to the meetings of the FWG.

### 1.1 Description of the Business Environment

The following political, economic, technical, regulatory, legal, societal and/or international dynamics describe the business environment of the industry sector, products, materials, disciplines or practices related to the scope of CEN/TC 260, and they may significantly influence how the relevant standards development processes are conducted and the content of the resulting standards:

- All forms of life need energy, food and water, and plants are no exception. Of the minerals plants need comparatively large amounts of nitrogen, phosphorus, potassium, calcium, magnesium and sulphur. These are called major or macro-nutrients. Numerous other elements, called micro-nutrients (boron, cobalt, copper, iron, manganese, molybdenum and zinc) are also needed in much smaller amounts.

[1] **fertilizer:** material, the main function of which is to provide nutrients for plants (EN 12944-1).

- Rainfall supplies the water and part of the oxygen. The atmosphere supplies carbon –as carbon dioxide- as well as the rest of the oxygen. Plants can obtain part of their nitrogen from the atmosphere, but most plants must obtain almost all their nitrogen from the soil. All other plant nutrients must be obtained entirely from the soil – or from what is added to the soil by animals and man.

- It is inherently difficult to estimate the share of fertilizers in increasing agricultural output: so many interactive factors are involved. But in Western Europe, after 150 years of increasing fertilizer use, it is thought that roughly half of the present agricultural output may be attributed to fertilizers. Obviously, this would not have been possible without the contribution of improved plant varieties and animal breeds, pesticides, modern farm equipment and many other agricultural advances. Conversely, the benefits of these improvements would not have been realized without fertilizers.

- Agricultural plant production plays a very important role in all Member States of the European Community. Fertilizers and liming materials are essential products to ensure an efficient production process in this field.

- The fertilizer industry is a very sensitive area due to its contribution in agricultural production but also due to possible environmental impacts.

- Environment is a highly sensitive matter within the agricultural sector and it has been decided that this will be handled by the TC with the utmost discretion only when absolutely necessary since it concerns product use.

- In accordance with Regulation (EC) No 2003/2003 of the European Parliament and of the Council of 13 October 2003 relating to fertilizers, the establishment of European Standards for methods of sampling and analysis is of utmost importance to guarantee a uniform application and control of the European legislation in the field of fertilizers in all Member States.

- Based on Regulation (EC) No 2003/2003, the European Commission assigned to CEN/TC 260 the Standardization Mandates M/335, M/418 and M/454 concerning the modernisation of the methods of analysis of fertilizers.

- The establishment of European Standards and the adaptation and adjustment of existing European Standards to the requirements of the future new Regulation on fertilizing materials will be an important goal for CEN/TC 260 within the next years.

Application sectors: Fertilizers industry (production of mineral, organic and organo-mineral products), chemical industry, agricultural production, transport, public authorities, official control authorities, international and European level associations, regulatory bodies, consumers.

### 1.2 Quantitative Indicators of the Business Environment

- Since 1995, about 132 European Standards and Technical Specifications and 6 CEN-Reports were published.

- Harmonization of methods of sampling and analysis of fertilizers and liming materials, necessary for a European and worldwide market regarding these products.

- The need of the European Commission to modernise and harmonise methods of sampling and analysis, reinforced by regulation (EC) No 2003/2003.

- The need of the European Commission to establish harmonised European Standards, reinforced by the future new Regulation on Fertilizing products.

### 1.3 Priorities

To make European Standards available related to:

- Methods of sampling and analysis of EC-fertilizers and liming materials (Mandates M/335, M/418 and M/454) regarding the following main aspects:
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  - Quality and composition,
  - instrumental methods for the determination of heavy metals,
  - tolerances on analytical methods,
  - methods on new types of fertilizers,

### 1.4 Quantitative Indicators of the Business Environment

#### 1.4.1 General

The following political, economic, technical, regulatory, legal and social dynamics describe the quantitative business environment of the industry sector, products, materials, disciplines or practices related to the scope of CEN/TC 260:

#### 1.4.2 Mineral fertilizers

The world mineral fertilizer industry is extremely heterogeneous. Among the largest producers, one finds giants of the chemical industry in all parts of the world – companies with sales measured in billions of dollars. Producers of the main raw materials for fertilizer production form an important part of the petrochemical and mining industries. At the other extreme, there are many small enterprises which have no primary chemical production at all: they buy all their materials to make mixtures or blends, which are often, termed “compound” fertilizers.

Mineral fertilizers are mainly produced from a small number of distinctly different raw materials and intermediate products. Some of these are also used directly as fertilizers. The main raw materials are air, hydrocarbons, mineral phosphate, potassium salts and sulfur.

Using these raw materials, the number of chemical process routes to the finished products is relatively small. But at the end of the production chain a great diversity of final products appears.

Each product has its own advantages for a particular crop, soil and climate. It may be solid or fluid. Solids may be either chemically homogeneous particles or mixtures (blends) of different products. Fluids may be salt solutions or suspensions of solid particles. They may even take a gaseous

form, as in the case of the injection of anhydrous ammonia directly into the soil – a widespread practice in the USA and a few other countries.

The content of nitrogen, phosphorus pentoxide ($P_2O_5$) and potassium oxide ($K_2O$) in a fertilizer forms the main basis of its commercial value. It may also contain other macro-nutrients such as calcium, sulfur and magnesium, as well as micro-nutrients and these also affect its value.

### 1.4.3 Organic and organo-mineral fertilizers

The raw materials for the production of organic fertilizers[2] are the natural sources of secondary raw materials of vegetable and/or animal origin from agriculture and/or industrial production processes. Organic fertilizers can be combined with mineral products to create organo-mineral fertilizers[3].

In March 2016, the EC put forward a legislative proposal on fertilizing products, as announced in the circular economy action plan. The proposal covers a wider range of fertilizing products (including products manufactured from secondary raw materials). In consequence organic and organo-mineral fertilizer products are covered.

In accordance with the future new Regulation which covers also the organic and organo-mineral fertilizers, the appropriate stakeholders from companies, agricultural producers, associations and scientific institutions have been incorporated already in the pre-normative work of CEN/TC 260.

### 1.4.4 Liming materials

The raw materials for the production of liming materials[4] are the natural sources of limestone, dolomite and chalk which contain different amounts of calcium carbonate and magnesium carbonate

## 2 BENEFITS EXPECTED FROM THE WORK OF THE CEN/TC

The availability of European Standards elaborated by CEN/TC 260 takes into account the view of the members and the interested parties concerned. That means, that a European harmonized terminology and a comprehensive list of methods exist, which give repeatable and reproducible results. Time consuming duplication of research to choose an appropriate method may be avoided.

The harmonized methods can be an effective tool for the industry to check whether internal and different legal requirements which exist in different countries are fulfilled.

Since 2013 the cooperation with ISO/TC 134 "Fertilizers and soil conditioners" has been intensified. In consequence a number of European standards (methods on sampling and sample preparation and analytical methods on determination of primary and secondary plant nutrients in fertilizers) were proposed to be adopted as International Standards and a part of them has been published as ISO-Standards without any technical changes.

In accordance with Regulation (EC) No 2003/2003 of the European Parliament and of the Council of 13 October 2003 relating to fertilizers the establishment of European Standards for methods of sampling and analysis in the frame of Mandates M/335, M/418 and M/454 is of utmost importance

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[2] **organic fertilizer:** fertilizer which consists mainly of carbonaceous materials of vegetable and/or animal origin (EN 12944-1).

[3] **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 (EN 12944-1).

[4] **liming material (agricultural lime)**: inorganic material containing one or both of the elements calcium and magnesium, mainly in the form of oxide, hydroxide, carbonate, or silicate, principally intended to maintain or raise the pH in soil and water and to improve plant nutrition and to modify physical properties of soil (EN 12944-3)

to guarantee a uniform application and control of the European legislation in the field of fertilizers in all Member State

## 3 PARTICIPATION IN THE CEN/TC

All the CEN national members are entitled to nominate delegates to CEN Technical Committees and experts to Working Groups, ensuring a balance of all interested parties. Participation as observers of recognized European or International organizations is also possible under certain conditions. Since 2008 CEN/TC 260 has a liaison with ISO/TC 134 "Fertilizers and soil conditioners". Within the frame of the Vienna Agreement ISO/TC 134 intends to adopt European Standards as International Standards. To participate in the activities of CEN/TC 260, please contact the national standards organization in your country.

## 4 OBJECTIVES OF THE CEN/TC AND STRATEGIES FOR THEIR ACHIEVEMENT

### 4.1 Defined objectives of the CEN/TC

#### 4.1.1 General objectives

The availability of standardized horizontal methods is of utmost importance to fulfil the requirements of a free movement of goods in the common market. The basis for a uniform judgment of fertilizers in the common market is set up by standardized methods of sampling and analysis.

Scope of CEN/TC 260:

Harmonization of denominations, specifications, marking, methods of test (physical and/or chemical) and safety conditions, related to fertilizers and liming materials. Work on items covered by EEC directives currently existing should only be undertaken at the invitation of the Commission. CEN/TC 260 sets up European Standards for all kinds of fertilizers and liming materials. Standardization in this Committee consists of methods of analysis, sampling and harmonized terminology.

#### 4.1.2 Mandate M/335

CEN/TC 260 elaborates a set of Technical Specifications and European Standards in the field of "EC fertilizers" according to Annex IV of Regulation (EC) No 2003/2003 assigned to the CEN concerning the modernisation of the methods of analysis of fertilizers. As it is necessary also to facilitate the future adaptation to technical progress of these analytical methods, their updated version delivered by CEN will not be annexed to community law but will exist in the form of separate standards to which the community law will refer.

#### 4.1.3 Mandate M/418

This extention of Mandate M/335 falls within the framework of the Regulation (EC) No 2003/2003. The Mandate requests the elaboration of European Standards on the determination of heavy metals and on the analytical methods regarding new types of fertilizers which have been introduced in national markets and are now deemed to become "EC fertilizers". Therefore, competent authorities require, whenever possible, the development of robust and flexible standardized methods adapted to the control of any straight or compound "EC fertilizers" by national approved laboratories. The third requested item is the suggestion of tolerances values (as mentioned in Annex II of Regulation (EC) 2003/2003 for the fertilizers listed in Annex IV) wherever

required in order to make the tolerances compatible with the accuracy of the analysis methods and these can be taken up in future adaptations of the Regulation.

### 4.1.4 Mandate M/454

CEN/TC 260 *Fertilizers and liming materials* has been very active in responding to mandate M/335 on the "Modernization of the methods of analysis of fertilizers", and its first amendment M/418. A second amendment to mandate M/335 (mandate M/454) has been issued by the European Commission in 2010. In the framework of mandate M/335 CEN/TC 260 developed EN 1482-1 which specifies that the sampling of static heaps shall be done when the material is in motion.

Competent authorities have limited resources for conformity assessment, and these are most efficiently deployed at the downstream end of the supply chain. The purpose of Regulation (EC) No 2003/2003 is to ensure that the fertilizer meets European requirements and complies with the declaration of the required characteristics applied to it when delivered to a purchaser. EN 1482-1:2007 might not fully satisfy the needs of Member States, when a large quantity of fertilizer is stored in a static heap which cannot be realistically put into motion. An evaluation was carried out by CEN to see what, if any, fertilizer heaps could be representatively sampled at affordable costs.

The fundamental principle of representative sampling is that every particle has an equal chance of being sampled. This principle cannot easily be complied with in the case of bulk static heaps of solid fertilizers as the majority of the material cannot be reached by any sampling device. Wherever possible this fertilizer should be sampled during transfer, during the building up of the heap, during dispatch or where it can practically be moved solely for sampling purposes. However, in some cases the sampling in the way described is not practicable. The European Commission asked CEN/TC 260/WG 1 to draft a European Standard in response to mandate M/454, which requires the development of a method of sampling static heaps that could not be sampled according to EN 1482-1:2007 which states that the sampling of static heaps should only be carried out when the product is in motion. The work regarding this project is finished (EN 1482-3 published in 2016).

### 4.1.5 Liming materials

CEN/TC 260 elaborates a set of European Standards in the field of liming materials. As liming materials are covered by national regulations in many European Countries and covered by harmonized regulations on EC-level since June 2014, the establishment of one common set of standards (terms and definitions, analytical methods, specifications) will be most beneficial for trade. The EC established the application of liming materials by the Regulation (EC) No 2003/2003 with the Regulation (EC) No 463/2013 of 17$^{th}$ May 2013.

### 4.1.6 Organic and organo-mineral fertilizers

In the framework of the future new EC-Regulation on fertilizing materials European Standards are going to get a more significant value within the TC 260 work programme than before. The respective consideration between CEN/TC 260, the CEN Management Centre and the EC is ongoing.

### 4.1.7 Future new EC-Regulation on fertilizing materials

In the framework of a future new EC-Regulation on fertilizing materials with an expanded scope which will include besides mineral fertilizers and liming materials also organic fertilizers, soil improvers, biostimulants and other products intended for fertilizing purposes, CEN/TC 260 will

consider in cooperation with the Commission new fields of standardization in order to elaborate the necessary standards in a similar way as performed in the frame of the existing EC-Regulation. Cooperation with other CEN-Committees, for example CEN/TC 223 and CEN/TC 444 have to be considered carefully.

## 4.2 Identified strategies to achieve the defined objectives of the CEN/TC

### 4.2.1 General objectives

Based on the considerations above, the CEN/TC 260 has the following objectives and strategic directions for its future work:

Elaboration of standards on sampling, sample preparation and test methods for EC-fertilizers within the frame of Mandates M/335, M/418 and M/454.

These European Standards shall provide means to check whether requirements of Regulation (EC) No 2003/2003 for EC-fertilizers are met. Furthermore, quotable reference documents for legislation and a reliable basis for labelling fertilizers and liming materials and appropriate consumer information shall be provided.

Finally global trade and market access shall be facilitated.

### 4.2.2 Identified strategies

In order to reach these objectives CEN/TC 260 realizes the following strategy:

- The committee uses the possibility of meetings of experts in Working Groups (see Table 1).
- Project leaders are appointed for the different projects.
- The committee makes use of electronic means of communication by electronic document circulation using the Livelink document server.
- The committee makes use of the possibility to adopt step new work items in the status "preliminary" in cases where methods shall be validated and time consuming ring tests have to be organised or in cases where experimental work has to be performed before technical standard working documents can be drafted.
- Only projects which were identified to be of high priority are covered by the work programme.
- Only projects which were identified to be financed by respective partners or funded by the EC and EFTA may be covered by the work programme.

An action plan has been agreed covering the ring tests which have to be performed in order to validate the methods of Annex IV of the EC-Regulation.

**Table 1**

| Working Groups | Name | Secretariat | Convenor | Secretary |
|---|---|---|---|---|
| WG 1 | Sampling | DIN, Germany | John Cheetham (UK) | Birgit Zöllner |
| WG 3 | Liming materials | DIN, Germany | Reinhard Müller | Birgit Zöllner |
| WG 5 | Micro-nutrient analysis | AENOR; Spain | Juan José Lucena | Tania Marcos |
| WG 7 | Chemical analysis | NEN, The Netherlands | Jan Chys supported by: Fabian Janssens (co-convenor/co-secretary) | Hieke Reijnhoudt supported by: Fabian Janssens (co-convenor/co-secretary) |
| WG 8 | Organic and organo-mineral fertilizers | BNFerti (on behalf of AFNOR, France) | Laure Thevenin-Metzger | Florence Catrycke |
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To ensure full cooperation, CEN/TC 260 is in cooperation/liaison with the following international bodies:

- EC (European Commission), DG GROW-FWG
- Euroslag
- IMA-Europe (Industrial Minerals Association)
- Fertilizers Europe
- EFBA (European Fertilizers Blenders Association)

To ensure full cooperation between Technical Committees of CEN and ISO, CEN/TC 260 is in liaison with the following Technical Committees:

- ISO/TC 134 "Fertilizers and soil conditioners"
- CEN/TC 144 "Tractors and machinery for agriculture and forestry"
- CEN/TC 223 "Soil improvers and growing media"
- CEN/TC 308 "Characterization of sludges"
- CEN/TC 444 "Environmental characterization

### 4.3 Environmental aspects

CEN/TC 260 does not elaborate standards which are definitely addressed to environmental issues. However, some of the analytical methods for fertilizers analysis, the aspect of hazardous materials can appear. Furthermore, it has been stated at several meetings that the attendees and experts within Working Groups of CEN/TC 260 are very much aware of environmental aspects.

The secretariat informs its members on all environmental topics of CEN, e.g. information on SABE-activities, training courses as well as the environmental checklist and important items of the CEN-Environmental approach.

If new work items are proposed who would encounter the use of hazardous material or reagents, the environmental aspects have to be considered by the experts of the working groups. The use of processes, practices, techniques, materials and substances to avoid, reduce or at least control the creation, emission or discharcge of any type of pollutant or waste in order to reduce adverse environmental impact has to be taken into account. The use of hazardous reagents has to be avoided when ever possible.

Some of the methods of analysis elaborated by CEN/TC 260 are instruments for controlling special quality parameters of fertilizers like heavy metals contents. Products like fertilizers are intended to be spreaded on the agricultural land and therefore they have an impact on the environment. There is an urgent need to reduce any potential adverse influence by taking into account environmental issues. The main goal for CEN/TC 260 is the elaboration of analytical methods as the basis for an effective controle of the content of harzardous contaminants in fertilizers and liming materials.

## 5 FACTORS AFFECTING COMPLETION AND IMPLEMENTATION OF THE CEN/TC WORK PROGRAMME

The factors that could put constraints on the completion of the work programme include the following:

- Initiation of new work items when they are insufficiently developed by a national standards body or a body in liaison for the production of a first working draft (e. g. missing precision data of test methods or precision data were not subjected to statistical analysis in accordance with ISO 5725-1 and ISO 5725-2).

- To exceed available resources by adoption of new work items with the bare minimum of member bodies prepared to undertake active participation.

- Difficulties in finding enough laboratories willing to participate in interlaboratory trials in order to validate test methods that are studied (lack of laboratories, time and funds).

To receive the necessary financial budget for the standardization support within working groups elaborating standards which are not mandated and not funded by the European Commission and EFTA.