



BSI Standards Publication

Plant biostimulants — Sampling and sample preparation

Part 2: Sample preparation

Currently in preview, click buy full version

National foreword

This Published Document is the UK implementation of CEN/TS 17702-2:2022.

The UK participation in its preparation was entrusted to Technical Committee EH/4/-/7, Plant Biostimulants.

A list of organizations represented on this committee can be obtained on request to its committee manager.

Contractual and legal considerations

This publication has been prepared in good faith, however no representation, warranty, assurance or undertaking (express or implied) is or will be made, and no responsibility or liability is or will be accepted by BSI in relation to the adequacy, accuracy, completeness or reasonableness of this publication. All and any such responsibility and liability is expressly disclaimed to the full extent permitted by the law.

This publication is provided as is, and is to be used at the recipient's own risk.

The recipient is advised to consider seeking professional guidance with respect to its use of this publication.

This publication is not intended to constitute a contract. Users are responsible for its correct application.

This publication is not to be regarded as a British Standard.

© The British Standards Institution 2022
Published by BSI Standards Limited 2022

ISBN 978 0 55 17295 9

ICS 65.080

Compliance with a Published Document cannot confer immunity from legal obligations.

This Published Document was published under the authority of the Standards Policy and Strategy Committee on 30 June 2022.

Amendments/corrigenda issued since publication

Date	Text affected
------	---------------

ICS 65.080

English Version

Plant biostimulants - Sampling and sample preparation -
Part 2: Sample preparation

Biostimulants des végétaux - Échantillonnage
et préparation des échantillons - Partie
2 : Préparation des échantillons

Biostimulanzien für die pflanzliche Anwendung
- Probenahme und Probenvorbereitung
- Teil 2: Probenvorbereitung

This Technical Specification (CEN/TS) was approved by CEN on 3 January 2022 for provisional application.

The period of validity of this CEN/TS is limited initially to three years. After two years the members of CEN will be requested to submit their comments, particularly on the question whether the CEN/TS can be converted into a European Standard.

CEN members are required to announce the existence of this CEN/TS in the same way as for an EN and to make the CEN/TS available promptly at national level in an appropriate form. It is not possible to keep conflicting national standards in force (in parallel to the CEN/TS) until the final decision about the possible conversion of the CEN/TS into an EN is reached.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Currently in preview, click buy full version

Contents

Page

European foreword	iii
Introduction	iv
1 Scope	6
2 Normative references	6
3 Terms and definitions	6
4 Principle	7
5 Apparatus	7
5.1 General.....	7
6 Procedure	7
6.1 General.....	7
6.2 Preparation of test samples in their original condition.....	8
6.3 Further preparation of test samples which are to remain in their original condition.....	8
6.3.1 General.....	8
6.3.2 Preparation of test portions for physical testing.....	8
6.3.3 Preparation of test portions for moisture analysis.....	8
6.3.4 Preparation of test portions for other chemical analysis.....	9
6.4 Further preparation of test samples for chemical and biological analysis.....	9
6.4.1 General.....	9
6.4.2 Use of sample grinder.....	9
6.4.3 Use of mortar and pestle.....	9
6.5 Products which are difficult to grind mechanically.....	9
6.6 Organic matter.....	9
6.7 Plant biostimulants comprising several different materials.....	10
6.8 Fluid plant biostimulants.....	10
6.9 Foreign matter.....	10
6.10 Storage.....	10
6.11 Taking test portions.....	10
6.11.1 Solid plant biostimulants.....	10
6.11.2 Fluid plant biostimulants.....	10
7 Labelling	10
8 Sample preparation report	10
Bibliography	12

European foreword

This document (CEN/TS 17702-2:2022) has been prepared by Technical Committee CEN/TC 455 “Plant Biostimulants”, the secretariat of which is held by AFNOR.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document has been prepared under a Standardization Request given to CEN by the European Commission and the European Free Trade Association.

The CEN/TS 17702 series, *Plant biostimulants — Sampling and sample preparation*, consists of the following parts:

- *Part 1: Sampling;*
- *Part 2: Sample preparation.*

Any feedback and questions on this document should be directed to the users' national standards body. A complete listing of these bodies can be found on the CEN website.

According to the CEN/CENELEC Internal Regulations, the national standards organisations of the following countries are bound to announce this Technical Specification: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

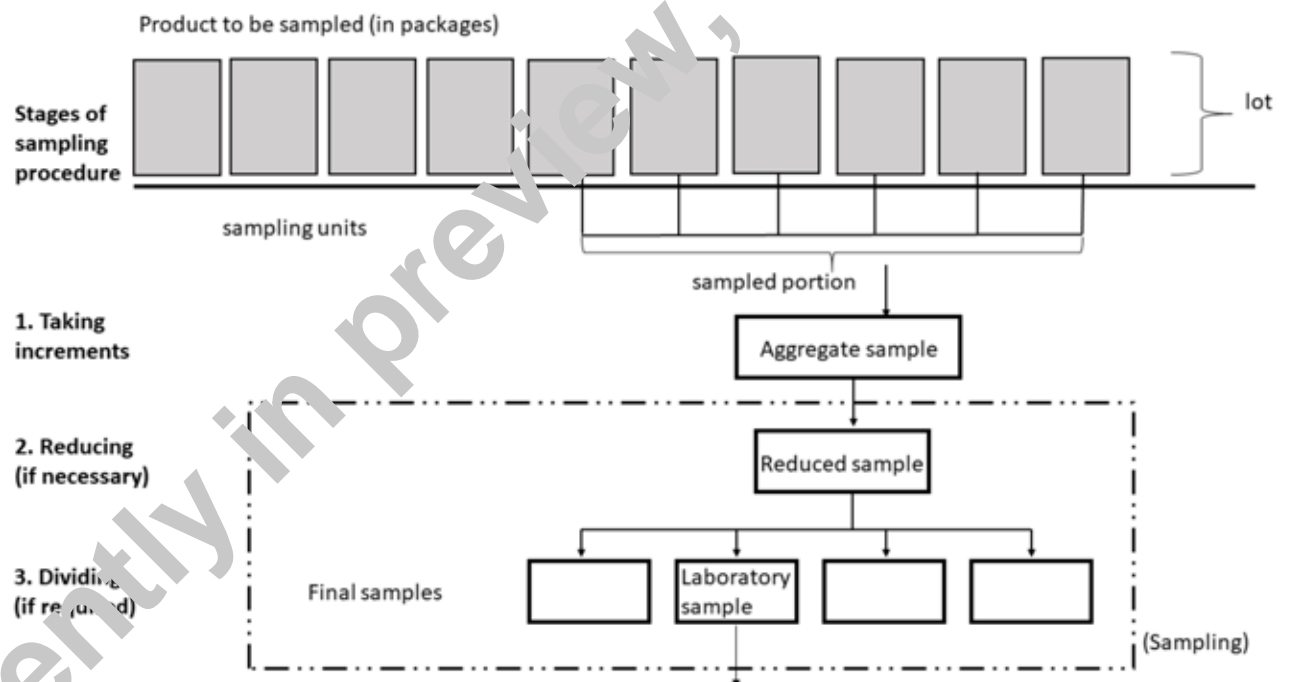
This document was prepared by the experts of CEN/TC 455 “Plant Biostimulants”. The European Committee for Standardization (CEN) was requested by the European Commission (EC) to draft European standards or European standardization deliverables to support the implementation of Regulation (EU) 2019/1009 of 5 June 2019 laying down rules on the making available on the market of EU fertilizing products (“FPR” or “Fertilising Products Regulation”).

This standardization request, presented as M/564, also contributes to the Communication on “Innovating for Sustainable Growth: A Bio economy for Europe”. The Working Group 1 “Sampling”, was created to develop a work program as part of this request. The technical committee CEN/TC 455 “Plant Biostimulants” was established to carry out the work program that will prepare a series of standards. The interest in biostimulants has increased significantly in Europe as a valuable tool to use in agriculture. Standardization was identified as having an important role in order to promote the use of biostimulants. The work of CEN/TC 455 seeks to improve the reliability of the supply chain, thereby improving the confidence of farmers, industry, and consumers in biostimulants, and will promote and support commercialisation of the European biostimulant industry.

This document covers the following aspects of sample preparation, derived from EN 1482-2:2007, *Fertilizers and liming materials — Sampling and sample preparation — Part 2: Sample preparation*. This document is presented in a form adapted to the specificity of plant biostimulants. The title of the standard is given in the Bibliography.

This document is addressed mainly to official laboratories which intend to perform analysis for quality and safety control of non-microbial plant biostimulants. The laboratories will have a reference document on how to properly prepare sample for analysis.

[Figure 1](#) gives a schematic diagram of the sampling and sample preparation process.



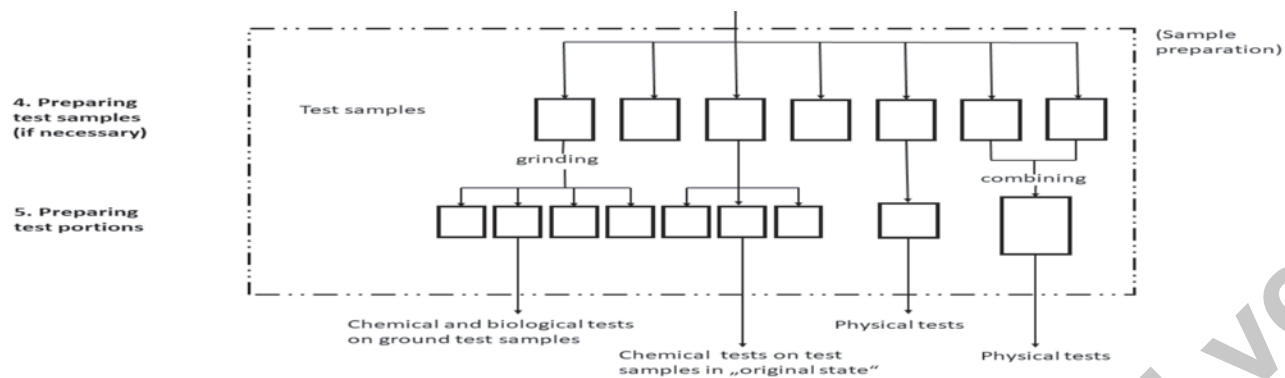


Figure 1 — Schematic diagram of sampling and sample preparation process for solid plant biostimulants

1 Scope

This document specifies methods for the reduction and preparation of samples of non-microbial plant biostimulants including those intended for determination of microbial pathogens and sets out the requirements for sample preparation reports. It specifies methods for the preparation of test samples and test portions from laboratory samples of plant biostimulants for subsequent chemical, biological or physical analysis.

It is also applicable to the sample preparation of blends of fertilizing products where plant biostimulants are main part of the blend. Otherwise, deliverables of sample preparation relevant for the main part of the blend apply.

This document does not include methods for the reduction and preparation of samples of microbial plant biostimulants, which will be covered by a different Technical Specification.

NOTE This document is applicable to the category of EU fertilizing product (plant biostimulants) in the meaning of the Regulation (EU) 2019/1009.

2 Normative references

The following document is referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

CEN/TS 17702-1:2022, *Plant biostimulants — Sampling and sample preparation — Part 1: Sampling*

ISO 3310-1, *Test sieves — Technical requirements and testing — Part 1: Test sieves of metal wire cloth*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1 division

process of producing a number of representative smaller portions, approximately equal in mass to each other, from a larger mass

3.2 final sample

representative part of the reduced sample or, where no intermediate reduction is required, of the aggregate sample

NOTE Often, more than one sample is prepared, at the same time, from the reduced sample (or from the aggregate sample). One or more of these final samples will be used as a laboratory sample or as laboratory samples, while others may be stored for reference purposes.

3.3 laboratory sample

final sample intended for laboratory inspection or testing

3.4 reduction

process of producing a representative smaller mass of product from a larger mass, with the remainder being discarded

3.5 test portion

quantity of material taken from the test sample (or if both are the same, from the laboratory sample) and on which the test or observation is carried out