

Irish Standard I.S. EN 17194:2019

Animal feeding stuffs: Methods of sampling and analysis - Determination of Deoxynivalenol, Aflatoxin B1, Fumonisin B1 & B2, T-2 & HT-2 toxins, Zearalenone and Ochratoxin A in feed materials and compound feed by LC-MS/MS

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I.S. EN 17194:2019

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This document is based on: Published:

EN 17194:2019 2019-11-06

This document was published ICS number:

under the authority of the NSAI and comes into effect on: 65.120

2019-11-24

NOTE: If blank see CEN/CENELEC cover page

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National Foreword

I.S. EN 17194:2019 is the adopted Irish version of the European Document EN 17194:2019, Animal feeding stuffs: Methods of sampling and analysis - Determination of Deoxynivalenol, Aflatoxin B1, Fumonisin B1 & B2, T-2 & HT-2 toxins, Zearalenone and Ochratoxin A in feed materials and compound feed by LC-MS/MS

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EUROPEAN STANDARD NORME EUROPÉENNE EN 17194

EUROPÄISCHE NORM

November 2019

ICS 65.120

English Version

Animal feeding stuffs: Methods of sampling and analysis - Determination of Deoxynivalenol, Aflatoxin B1, Fumonisin B1 & B2, T-2 & HT-2 toxins, Zearalenone and Ochratoxin A in feed materials and compound feed by LC-MS/MS

Aliments des animaux : Méthodes d'échantillonnage et d'analyse - Détermination du déoxynivalénol, de l'aflatoxine B1, de la fumonisine B1 et B2, des toxines T-2 et HT-2, de la zéaralénone et de l'ochratoxine A dans les matières premières pour aliments et les aliments composés pour animaux par CL-SM/SM

Futtermittel: Probenahme- und
Untersuchungsverfahren - Bestimmung von
Deoxynivalenol, Aflatoxin B1, Fumonisin B1 und B2, T2- und HT-2-Toxine, Zearalenon und Ochratoxin A in
Einzelfuttermitteln und Mischfuttermitteln mittels LCMS/MS

This European Standard was approved by CEN on 9 September 2019.

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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 CEN-CENELEC Management Centre has the same status as the official versions.

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EN 17194:2019 (E)

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European foreword

This document (EN 17194:2019) has been prepared by Technical Committee CEN/TC 327 "Animal feeding stuffs - Methods of sampling and analysis", the secretariat of which is held by NEN.

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 2020, and conflicting national standards shall be withdrawn at the latest by May 2020.

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.

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1 Scope

This document's method of analysis is applicable for the determination of:

- deoxynivalenol (DON) in the tested range of 100 μg/kg to 3 300 μg/kg,
- aflatoxin B1 (AfB1) in the tested range of 2,5 μg/kg to 440 μg/kg,
- fumonisin B1 (FB1) in the tested range of 690 µg/kg to 7 500 µg/kg,
- fumonisin B2 (FB2) in the tested range of 200 μ g/kg to 2 500 μ g/kg,
- T-2 toxin in the tested range of 7,5 μg/kg to 360 μg/kg,
- HT-2 toxin in the tested range of 14 μg/kg to 1 800 μg/kg,
- zearalenone (ZEN) in the tested range of 30 μg/kg to 600 μg/kg, and
- ochratoxin A (OTA) in the tested range of 10 μg/kg to 230 μg/kg

in cereals and cereal-based compound feed by liquid-chromatography tandem mass spectrometry (LC-MS/MS). The actual working ranges could extend beyond the tested ranges.

2 Normative references

The following documents are 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.

EN ISO 3696:1995, Water for analytical laboratory use — Specification and test methods (ISO 3696:1987)

EN ISO 6498, Animal feeding stuffs — Guidelines for sample preparation (ISO 6498)

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at https://www.iso.org/obp.

4 Principle

A test portion of finely ground and homogeneous material is extracted by shaking with a mixture of acetonitrile and aqueous formic acid solution. The extract is centrifuged and an aliquot of the supernatant extract is transferred to a deactivated glass vial, mixed with an appropriate amount of stable-isotope labelled analogues and evaporated to dryness. The reconstituted sample is filtered and quantified with a Liquid Chromatography - Mass Spectrometry (LC-MS) system. Laboratories using this method shall demonstrate the following limits of quantitation (LOQs) in order to be able to apply this method over the whole validation range: for DON \leq 100 $\mu g/kg$, for AfB1 \leq 2 $\mu g/kg$, for FB1 and FB2 \leq 500 $\mu g/kg$ (FB1 \leq 375 $\mu g/kg$ and FB2 \leq 125 $\mu g/kg$), for T-2 and HT-2 toxin \leq 10 $\mu g/kg$, for ZEN \leq 20 $\mu g/kg$ and for OTA \leq 10 $\mu g/kg$.



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