
**Animal feeding stuffs — Determination
of phosphorus content — Spectrometric
method**

*Aliments des animaux — Détermination de la teneur en phosphore —
Méthode spectrométrique*



Foreword

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International Standard ISO 6491 was prepared by Technical Committee ISO/TC 34, *Agricultural food products*, Subcommittee SC 10, *Animal feeding stuffs*.

This second edition replaces the first edition (ISO 6491:1980), which has been technically revised.

Annexes A and B of this International Standard are for information only.

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Animal feeding stuffs — Determination of phosphorus content — Spectrometric method

1 Scope

This International Standard specifies a spectrometric method for the determination of the phosphorus content of animal feeding stuffs.

The method is applicable to animal feeding stuffs with a phosphorus content less than 50 g/kg. It is particularly appropriate for the analysis of products with low phosphorus content. For products with higher phosphorus content, application of a gravimetric method is advised, using for instance quinoline phosphomolybdate.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 3696:1987, *Water for analytical laboratory use — Specification and test methods*.

ISO 6498:1998, *Animal feeding stuffs — Preparation of test samples*.

3 Principle

A test portion of the sample is either ashed with lime and heated with acid (in the case of organic feeding stuffs) or wet oxidized with a mixture of sulfuric and nitric acids (in the case of mineral compounds and liquid feeding stuffs).

An aliquot portion of the acid solution is mixed with molybdovanadate reagent and the absorbance of the yellow solution obtained is measured at a wavelength of 430 nm.

4 Reagents

Use only reagents of recognized analytical grade.

4.1 Water, complying to at least grade 3 in accordance with ISO 3696.

4.2 Calcium carbonate.

4.3 Hydrochloric acid, $c(\text{HCl}) \approx 6 \text{ mol/l}$.

4.4 Nitric acid, $c(\text{HNO}_3) \approx 1 \text{ mol/l}$.

4.5 Nitric acid, $c(\text{HNO}_3) = 14 \text{ mol/l}$, $\rho(\text{HNO}_3) \approx 1,40 \text{ g/ml}$.