

# ISO 16634-1:2008-11 (E)

## Food products - Determination of the total nitrogen content by combustion according to the Dumas principle and calculation of the crude protein content - Part 1: Oilseeds and animal feeding stuffs

---

<b>Contents</b>		<b>Page</b>
Foreword .....		iv
Introduction .....		v
1	Scope .....	1
2	Normative references .....	1
3	Terms and definitions .....	1
4	Principle .....	2
5	Reagents .....	2
6	Apparatus .....	3
7	Sampling .....	4
8	Preparation of test sample .....	4
9	Procedure .....	4
9.1	General .....	4
9.2	Test portion .....	4
9.3	Control of oxygen demand .....	5
9.4	Calibration .....	5
9.5	Determination .....	5
9.6	Detection and integration .....	6
10	Calculation and expression of results .....	6
10.1	Calculation .....	6
10.1.1	Nitrogen content .....	6
10.1.2	Crude protein content .....	6
10.2	Expression of results .....	7
11	Precision .....	7
11.1	Interlaboratory tests .....	7
11.2	Repeatability .....	7
11.3	Reproducibility .....	7
12	Test report .....	7
Annex A (informative) Flowchart for the basic design of a Dumas apparatus .....		8
Annex B (informative) Schemes of suitable types of Dumas apparatus .....		9
Annex C (informative) Equipment calibration .....		12
Annex D (informative) Examples of factors for converting nitrogen content to protein content .....		14
Annex E (informative) Result of collaborative studies .....		15

<b>Annex F (informative) Relationship between Dumas nitrogen and Kjeldahl nitrogen .....</b>	<b>24</b>
<b>Bibliography .....</b>	<b>28</b>