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R 542

OILSEEDS – SAMPLING

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BRIEF HISTORY

The ISO Recommendation R 542, *Oilseeds – Sampling*, was drawn up by Technical Committee ISO/TC 34, *Agricultural Food Products*, the Secretariat of which is held by the Office Hongrois de Normalisation (MSZH).

Work on this question by the Technical Committee began in 1960 and led, in 1963, to the adoption of a Draft ISO Recommendation.

In March 1964, this Draft ISO Recommendation (No. 685) was circulated to all the ISO Member Bodies for enquiry. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies:

Australia	Hungary	Romania
Canada	Ireland	Sweden
Chile	Korea, Rep. of	Switzerland
Colombia	Netherlands	Turkey
Czechoslovakia	Portugal	U.A.R.
France	Republic of South Africa	United Kingdom
Germany		U.S.S.R.

Two Member Bodies opposed the approval of the Draft:

Austria
India

The Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided, in January 1967, to accept it as an ISO RECOMMENDATION.

ISO Recommendation R 542 January 1967

OILSEEDS — SAMPLING

FOREWORD

Correct sampling is a difficult process which requires most careful attention. Emphasis cannot therefore be too strongly laid on the necessity of obtaining a properly representative sample of oilseeds for analysis.

Most oilseeds are sold on the basis of a sample and on the result of an analysis of the sample, and disputes are invariably settled by reference to the sample, so that careless or inaccurate sampling will lead to misunderstanding, delay and unnecessary financial adjustments.

The procedures given in this ISO Recommendation are recognized as good practice and it is strongly recommended that they be followed whenever practicable. It is recognized that it is difficult to lay down fixed rules to be followed in every case, and particular circumstances may render some modification of the method desirable.

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1. SCOPE

This ISO Recommendation describes methods for sampling consignments of oilseeds. It also describes apparatus in use for this purpose.

2. GENERAL

2.1 The purpose of this ISO Recommendation is to specify general conditions relating to sampling for the assessment of the quality of oilseeds purchased as industrial raw materials. Total consignments should be considered in lots of not more than 500 t* for large and medium-sized seeds and not more than 100 t for small seeds.

2.2 Samples should be fully representative of the lots from which they are drawn. For this purpose, starting from a lot limited to a maximum of 500 t (or 100 t, as appropriate), a number of primary samples should be drawn and carefully mixed, thus giving a bulk sample from which is obtained, by successive divisions, the contract sample for analysis.

2.3 Special care is necessary to ensure that all sampling apparatus is clean, dry and free from foreign odours.

Sampling should be carried out in such a manner as to protect the samples of oilseeds, the sampling apparatus and the containers in which the samples are placed from adventitious contamination such as rain, dust, etc.

Material adhering to the outside of the sampling apparatus should be removed before the contents are discharged.

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* Metric tonnes. 1 t = 1000 kg

3. DEFINITIONS

Terms relating to the lot and to the samples have the following definitions:

3.1 Consignment

The quantity of seed dispatched at one time and covered by a particular contract.

3.2 Lot

A stated proportion of the consignment which will allow the quality to be assessed.

3.3 Primary sample

A small quantity of seed taken from a single position in the lot.

A series of primary samples should be drawn, from different positions in the lot, which when bulked and mixed will be representative of the lot.

3.4 Bulk sample

The quantity of seed formed by combining and blending the primary samples.

3.5 Contract sample

A small sample representing the quality of the lot, obtained from the bulk sample and intended for analysis or other examination.

4. APPARATUS

The apparatus required falls under the following headings; examples are given under each heading (see also Figures 1 to 9 in Annex A, pages 10 and 11):

4.1 Sampling from bags

Sack-type spears or triers, cylindrical samplers, conical samplers and hand-scoops.

4.2 Sampling from bulk

Shovels, hand-scoops, cylindrical samplers, conical samplers, mechanical samplers and other apparatus for drawing small periodical samples from a flow of oilseeds.

4.3 Mixing and dividing

Shovels, quartering irons, riffles and other dividing apparatus.

5. LIMITATION OF THE SIZE OF LOT

5.1 Transport by ship

Most of the oilseeds are received from ocean-going vessels or from river transport. In both cases sampling normally takes place at transfer from the vessel. Each lot should be 500 (or 100) t or part thereof.

5.2 Transport by road or rail

In the case of transfer from vessel to road or rail wagons, sampling may take place prior to the loading of the wagons. Each lot should be 500 (or 100) t or part thereof.

If sampling is carried out from laden wagons, each lot should comprise a number of wagons containing a total of 500 (or 100) t or part thereof.

5.3 Silo or warehouse

Where seed is unloaded direct to silos or warehouses from a vessel the samples should be drawn as in clause 5.1. Where there is no provision for such sampling, this may take place as in clause 5.2 prior to, or during, transfer to silo or warehouse. Each lot should be 500 (or 100) t or part thereof.

6. METHOD OF DRAWING SAMPLES

6.1 General

Sampling should be carried out by sampling superintendents appointed by buyers and sellers.

As the composition of the lot is seldom or never uniform, a sufficient number of primary samples should be drawn to provide a representative bulk sample. Seed which is sea-damaged or otherwise damaged in transit or out of condition, as well as loose collected * and sweepings, should be sampled separately from the sound seed. The damaged material should not be blended with the sound material, but should be assessed separately.

6.2 Drawing of primary samples

According to circumstances, the primary samples should be drawn from products in bulk or in bags by means of sampling apparatus mentioned in section 4 and used in accordance with clauses 6.2.1 and 6.2.2.

6.2.1 *From bags*

Unless otherwise specified in the contract or unless the practice at a port requires otherwise, primary samples should be drawn from 2 per cent of the bags forming the lot.

When the bags are opened, the primary samples may be drawn by hand-scoop, cylindrical samplers or conical samplers.

When samples are drawn from the closed bags, sack-type sampling spears (or triers) may be used.

6.2.2 *From bulk*

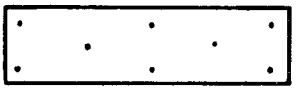
6.2.2.1 When sampling takes place while the product is in motion, primary samples should be drawn through the whole section of the seed and at time intervals depending on the rate of flow.

6.2.2.2 When bulk seed is sampled in the holds of craft during discharge, primary samples should be drawn from as many places as possible and at intervals determined by the rate of discharge.

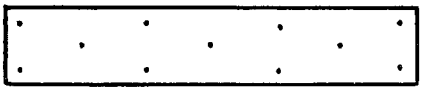
* This term is used to designate material which has leaked from its original container, but is not unduly contaminated.

6.2.2.3 If sampling takes place from laden wagons, primary samples should be drawn at three levels, with a cylindrical or conical sampler depending on the seeds, at the following number of points:

Wagons or lorries up to 15 t: 5 sampling points (middle and approximately 50 cm from sides).



Wagons from 15 to 30 t: 8 sampling points.



Wagons from 30 to 50 t: 11 sampling points.

NOTE. — If the type of wagon does not allow samples to be drawn in this manner, the method of sampling should be as described in clause 6.2.2.1.

6.2.2.4 If sampling takes place from weigh hoppers; primary samples should be drawn by means of cylindrical samplers, shovels or mechanical samplers, in accordance with the practice of the port.

6.2.2.5 The procedure for silos or warehouses is necessarily dependent on local conditions.

6.3 Contract samples

The bulk sample should be mixed and divided down to obtain the required number of contract samples by use of apparatus mentioned in section 4. The number of contract samples for analysis and arbitration should be specified in the contract or otherwise agreed between buyer and seller.

For some seeds (e.g. copra, groundnuts in shell), it is advisable to screen the bulk sample before dividing and then to add the fines to the contract samples in the correct proportion. This is to ensure that the samples contain the same percentage of low-quality fines.

6.4 Size of samples

The following sizes of samples are usually suitable. Larger or smaller samples may be required in some cases according to the tests to be carried out.

Seed	Lot	Primary sample	Bulk sample *	Contract sample
	t	kg	kg	kg
Large seeds (e.g. copra)	Up to 500	1	Up to 200	6
Medium-sized seeds (e.g. groundnut kernels)	Up to 500	0.5	Up to 100	5
Small seeds (e.g. poppy seeds)	Up to 100	0.1	Up to 20	2

* Whatever the size of the bulk sample, it should be representative of the lot.

7. PACKAGING AND LABELLING OF SAMPLES

7.1 Packaging of samples

The contract samples should be packed in bags of closely woven cloth or strong paper, or in paperboard containers, polyethylene bags, sheet metal boxes, glass bottles or glass jars.

Samples for the determination of moisture or for any analysis that may be influenced by a change of moisture content should be packed in moisture-proof containers fitted with air-tight closures. The containers should be completely filled and the closures should be sealed to prevent a change of the original moisture content.

7.2 Labels for samples

If paper labels are used for oilseed samples, it is recommended that their quality and size should be suitable for the purpose. The eyelet hole on the label should be reinforced.

The information on the labels should include at least the following:

(1) Ship or wagon
(2) From
(3) To
(4) Arrived
(5) Quantity
(6) Bulk/bags
(7) Designation of product
(8) Mark * or lot number
(9) Bill of lading number and date, or contract number and date
(10) Date of sampling
(11) Place and point of sampling
(12) Sampled conjointly by...

The recorded information on the label should be permanent.

8. DESPATCH OF SAMPLES

Contract samples should be despatched as soon as possible, and only in exceptional circumstances later than 48 hours after sampling has been completed, non-business days excluded.

9. SAMPLING REPORT

If a sampling report is prepared, it should indicate:

- the condition of the seed sampled,
- the technique applied if this is different from that described in this ISO Recommendation, and
- all circumstances that may have influenced sampling.

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* For identification.