

ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION R 950

CEREALS

SAMPLING (AS GRAIN)

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INTRODUCTION

Correct sampling is an operation that requires most careful attention. Emphasis cannot therefore be too strongly laid on the necessity of obtaining a properly representative sample of grain. Careless or inaccurate sampling could lead to misunderstanding and unwarranted 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, for example if it is desired to check the uniformity of a consignment by the examination of individual primary samples.

In certain areas there are widely recognized trade associations which prescribe rules for the sampling procedures to be used in contracts under their auspices. In no case will this ISO Recommendation override the rules laid down in such contracts.

1. SCOPE

1.1 This ISO Recommendation specifies general conditions relating to sampling for the assessment of the quality of cereal grains.

1.2 Field of application

This ISO Recommendation does not apply to seed grain.

2. DEFINITIONS

Terms used in this ISO Recommendation have the following definitions.

2.1 *Consignment.* The quantity of grain dispatched or received at one time and covered by a particular contract or shipping document.

2.2 *Lot.* A stated portion of the consignment which will allow the quality to be assessed.

2.3 *Primary sample.* A small quantity of grain 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 will be representative of the lot.

2.4 *Bulk sample.* The quantity of grain formed by combining and mixing the primary samples drawn from any one particular lot.

2.5 *Final lot sample (laboratory sample).* A sample representing the quality of the lot, obtained by reduction of the bulk sample and intended for analysis or other examination.

3. GENERAL

- 3.1 Samples should be drawn jointly by sampling superintendents appointed by buyers and sellers or by a sampling superintendent appointed jointly.
- 3.2 Samples should be fully representative of the lots from which they are drawn. Therefore, as the composition of the lot is seldom uniform, a sufficient number of primary samples should be drawn and carefully mixed, thus giving a bulk sample from which are obtained, by successive divisions, the final lot samples.
- 3.3 It is essential that grain which is sea-damaged or otherwise damaged in transit or out of condition should be kept separate from the sound grain and sampled separately. Samples of the unsound material should not be mixed with samples of the sound material.
- 3.4 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, the sampling instruments and the containers in which the samples are placed from adventitious contamination such as rain, dust, etc.

4. APPARATUS

The apparatus required falls under the following headings. Examples are given under each heading. (See also Fig. 1 to 9 in Annex A.)

- 4.1 **Sampling from bulk**
Shovels, hand-scoops, cylindrical samplers and apparatus for drawing primary samples periodically from a flow of grain.
- 4.2 **Sampling from bags**
Sack-type spears or triers.
- 4.3 **Mixing and dividing**
Shovels and dividing apparatus.

5. LOCATION OF SAMPLING

The location and time of sampling should be determined by the agreements between the parties concerned. Particular recommendations applying to loading and discharge are given below.

- 5.1 **Loading**
It is important that grain which is to be dispatched by vessel should be sampled during loading, or immediately before, at the place of loading.
- 5.2 **Discharge**
Most grain is received from ocean-going vessels or river transport. In both cases, sampling should be carried out during discharge from the vessel.

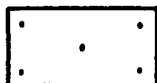
6. METHOD OF DRAWING SAMPLES FROM CEREALS CARRIED IN BULK

6.1 Carriage by sea or inland waterway

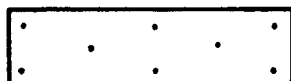
- 6.1.1 Unless otherwise specified in the contract, consignments should be considered in lots of 500 tonnes* or such part thereof as constitutes a single consignment or balance.
- 6.1.2 When sampling takes place while the product is in motion, primary samples should be drawn at time intervals dependent on the rate of flow.
- 6.1.3 When bulk grain is sampled in the hold during discharge, primary samples should be drawn from as many places as possible, excluding the run, and at intervals determined by the rate of discharge.
- 6.1.4 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.
- 6.1.5 The procedure for silos or warehouses is necessarily dependent on local conditions.

6.2 Carriage by rail or road

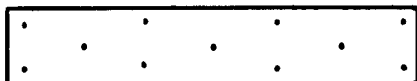
- 6.2.1 Unless otherwise specified in the contract, each laden wagon or lorry should be sampled.
- 6.2.2 If sampling takes place from laden wagons or lorries, the primary samples should be drawn throughout the whole depth of the layer, by means of a cylindrical sampler and at the following points :



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



Wagons from 15 to 30 tonnes :
eight sampling points.



Wagons from 30 to 50 tonnes :
eleven sampling points.

- 6.2.3 If the type of wagon does not allow samples to be drawn in this manner, or by agreement between buyer and seller, the method of sampling should be as described in clause 6.1.2.

* Metric tonnes. 1t = 1000 kg.