

ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION

R 951

PULSES

SAMPLING

1st EDITION

January 1969

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Printed in Switzerland

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BRIEF HISTORY

The ISO Recommendation R 951, *Pulses – Sampling*, was drawn up by Technical Committee ISO/TC 34, *Agricultural food products*, the Secretariat of which is held by the Magyar Szabványügyi Hivatal (MSZH).

Work on this question led, in 1966, to the adoption of a Draft ISO Recommendation.

In September 1967, this Draft ISO Recommendation (No. 1235) 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	Portugal
Brazil	India	Romania
Chile	Iran	Thailand
Czechoslovakia	Israel	Turkey
France	Netherlands	U.A.R.
Germany	Poland	United Kingdom

One Member Body opposed the approval of the Draft :

U.S.S.R.

The Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided, in January 1969, to accept it as an ISO RECOMMENDATION.

PULSES

SAMPLING

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 pulse. 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.

Pulses are usually transported in bags, and this document does not cover sampling from bulk consignments, for which the general rules given in ISO Recommendation R 950, *Cereals. Sampling (as grain)*, are applicable.

1. SCOPE

1.1 This ISO Recommendation specifies general conditions relating to sampling for assessment of the quality of pulses transported in bags.

1.2 Field of application

This ISO Recommendation does not apply to pulses intended for sowing.

2. DEFINITIONS

Terms used in this document have the following definitions.

2.1 *Consignment*. The quantity of pulse 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 pulse 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 pulse 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 pulse which is sea-damaged or otherwise damaged in transit or out of condition should be kept separate from sound pulse and sampled separately. Samples of 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 7 of Annex A.)

4.1 Sampling

Sack-type spears or triers.

4.2 Mixing and dividing

Shovels and dividing apparatus, preferably of wood or plastics material.

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 of the bags are given below.

5.1 Loading

It is important that pulse which is to be dispatched by vessel should be sampled during loading of the bags, or immediately before, at the place of loading.

5.2 Discharge

Most pulses are received from ocean-going vessels or river transport. In both cases, sampling should be carried out during discharge of the bags from the vessel.

6. METHOD OF DRAWING SAMPLES

6.1 Size of lot

Consignments should be considered in lots of 200 tonnes*, or such part thereof as constitutes a single consignment or balance.

* Metric tonnes. 1 t = 1000 kg

6.2 Primary samples

Unless otherwise specified in the contract or unless the practice at a port requires otherwise, primary samples should be drawn from different parts of the bag (e.g. top, middle and bottom) by means of a sack-type spear from the following numbers of bags :

Number of bags	
in consignment	to be sampled
Up to 10	Each bag
10 to 100	10, drawn at random
More than 100	Square root (approximately) of total number, drawn according to a suitable sampling scheme*

6.3 Bulk sample

The bulk sample should be formed by bringing together the primary samples and mixing them well.

6.4 Final lot samples

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

6.5 Size of samples

The following sizes of samples are usually suitable :

Pulses	Lot	Primary sample	Bulk sample	Final lot sample
All types	Up to 200 tonnes	1.5 kg (max.)	150 kg (max.)	2.5 kg

Larger samples may be necessary in certain cases, for example, if it is necessary to examine the pulse for infestation.

7. PACKAGING AND LABELLING OF SAMPLES

7.1 Packaging of samples

- 7.1.1 The final lot samples should be packed in unglazed, unbleached, insewn, cotton bags of very close texture.**

* See, for example, Annex B.

** It is recognized that jute, though not as satisfactory as cotton, is sometimes used.

7.1.2 Samples for the determination of moisture, or for other tests in which it is important to avoid the loss of volatile matter (for example, examination for evidence of chemical treatment) should be packed in air-tight and moisture-tight containers fitted with air-tight and moisture-tight closures. The containers should be completely filled and the closures should be sealed to prevent loosening or tampering.

7.1.3 The bags and other containers should carry the seal of each sampler.

7.2 Labels for samples

If paper labels are used for the samples, they should be of a suitably high quality for the purpose. The eyelet hole on the label should be reinforced. The label should be sealed to the container holding the sample and should carry the seal of each sampler; these seals should be arranged in such a way as to guarantee the inviolability of the sample.

The information on the label should include such of the following items as are required by the terms of the contract :

1. Ship or wagon
2. From
3. To
4. Arrived
5. Quantity
6. No. of bags
7. Goods
8. Identification mark or Lot No.
9. Name of seller
10. Name of buyer
11. Contract No. and Date
12. Date of sampling
13. Date of final discharge
14. Place and point of sampling
15. Sampled by {

The information recorded on the label should be permanent.

By agreement between seller and buyer, a duplicate label may be included inside the sample container, unless the sample is intended for moisture determination. Also by agreement between seller and buyer, the above information may also be recorded indelibly on the bags containing the samples.

8. DISPATCH OF SAMPLES

Final lot samples should be dispatched as soon as possible, and only in exceptional circumstances more than 48 hours after sampling has been completed, non-business days excluded.

9. SAMPLING REPORT

If a sampling report is prepared, besides giving the usual information it should make reference to the condition of the pulse sampled, including signs of insect infestation visible in the warehouse or silo, or during working the vessel or other carrier. This infestation is not always readily apparent in the sample except on close inspection or sieving. The report should also refer to the technique applied, if this is other than that described in this ISO Recommendation, and all the circumstances that may have influenced sampling.

ANNEX A

EXAMPLES OF SAMPLING APPARATUS

NOTE. — Many different types and variations of apparatus are available : the diagrams and dimensions are included solely as a guide.

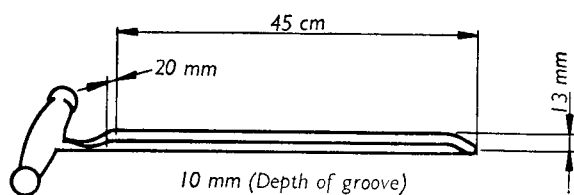


FIG. 1 — Sampling spear (open trier)

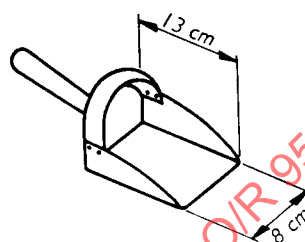


FIG. 2 — Hand-scoop

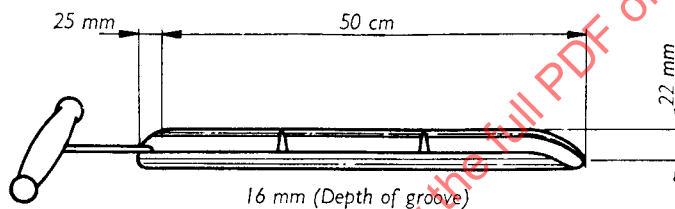


FIG. 3 — Divided sampling spear (open trier)

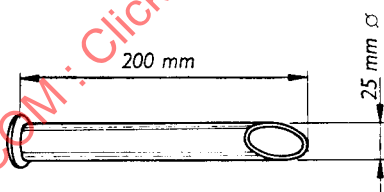


FIG. 4 — Running iron (sack-type trier)

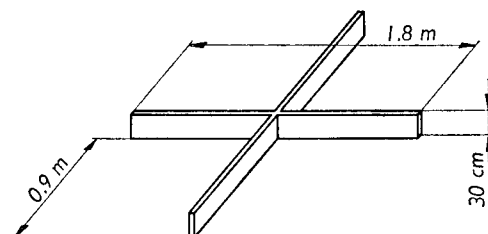


FIG. 5 — Quartering irons

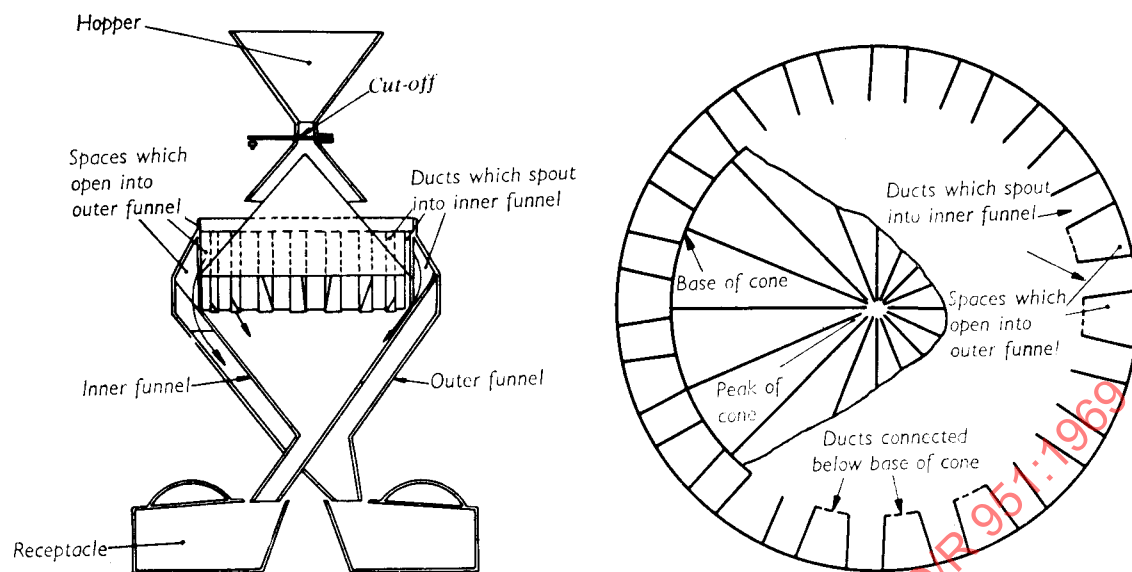


FIG. 6 — Conical divider (Boerner type)

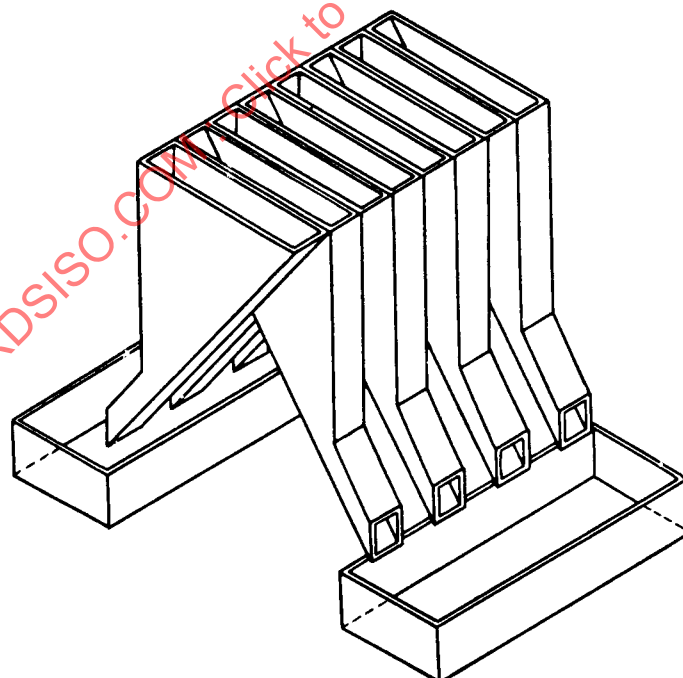


FIG. 7 — Multiple-slot divider