UNECE sampling plan for tree nuts and dried produce and guidelines for inspections of dry and dried produce
The following document is submitted to the Working Party for adoption as a new sampling plan for tree nuts and dried produce and guidelines for inspections of dry and dried produce [ECE/CTCS/WP.7/2021/14]. This document is submitted according to ECE/CTCS/2019/10 section IV, ECE/CTCS/2019/2 decision 2019-8.6, and A/75/6 (Sect.20) and supplementary information. The proposed draft sampling plan for tree nuts and dried produce is based on the OECD Operating Rules for Conformity Checks as well as definitions and a specimen of a conformity certificate provided by OECD.¹

On the following pages, the official text of the Sampling Plan for Tree Nuts and Dried Produce [UNECE, version 2021] is indicated in blue bold; the UNECE interpretative text is indicated in black italic.

¹ For more information on the Scheme, see http://www.oecd.org/agriculture/fruit-vegetables
Pour plus d’informations sur le Régime, consulter le site http://www.oecd.org/agriculture/fruit-vegetables
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METHODS OF CONFORMITY CHECKS

1 Definitions

1.1 Authorized control service
The authorized control service has been formally approved or recognized by the government or a government agency having jurisdiction. The authorized control service should have clearly defined responsibilities and authority.

1.2 Inspector
The inspector is the person entrusted by the authorized control service who has appropriate and regular training enabling him/her to undertake conformity checks.

1.3 Signatory
The signatory is the person entitled by the authorized control service for carrying out the inspection and for signing the conformity certificates.

1.4 Trader
Trader means any natural or legal person who holds fruit and vegetables subject to standards with the purpose of displaying or offering them for sale, selling them, or marketing them in any other manner. Such activities shall cover distance selling whether by internet or otherwise. The trader can own the produce or held them on behalf of a third party. When an authorized control service carries out a conformity check, the trader may be represented by an appointed staff member (representative / person of the company) or an agent.

1.5 Standard
The standard defines the minimum requirements for produce (tree nuts and dried produce) intended to be sold or delivered in its original condition to the consumer. The standard also puts down basic provisions for packaging, marking and labelling.

1.6 Conformity check
The conformity check is the examination carried out by an inspector to verify that the produce conforms to the standard.
This conformity check includes:

- An identity and documentary inspection: an inspection of the documents or certificates accompanying the lot and an inspection of the goods and the particulars in these documents, to check that they match.

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1 The Section entitled “Method of Conformity Checks” and the definitions and implementation of conformity check contained therein have been extracted and adapted from the OECD Guidelines on Conformity Checks of Fruits and Vegetables, Section II 1. Definitions and 2. Implementation of conformity check until Section 2.6.
– A physical inspection carried out by sampling to ensure that the produce in the lot satisfies all the conditions laid down by the standard, including the provisions on the presentation and marking of packages and packaging.

1.7 Consignment

The consignment is the quantity of produce to be sold by a given trader found at the time of inspection and defined by a document. The consignment may consist of one or several types and lots of produce and may be split on several means of transport.

1.8 Lot

The lot is the quantity of produce which, at the time of inspection at one place, has similar characteristics with regard to:

– Packer, dispatcher and/or shipper or (if available) producer;
– Country of origin;
– Nature of produce;
– Class of produce;
– Size (if the produce is graded according to size);
– Variety or commercial type (according to the relevant provisions of the standard);
– Date of picking or packaging if available;
– Lot number (if available);
– Type of packaging and presentation.

However, if during the conformity check of consignments, it is difficult to distinguish between different lots and/or presentation of individual lots is not possible, all lots of a specific consignment may be treated as one lot if they are similar in regard to type of produce, packer/dispatcher/shipper/producer, country of origin, class and variety or commercial type, if this is provided for in the standard.

The decision on the lot is taken by the inspector.

1.9 Package

Packages are individually packaged part of a lot, including contents. The packaging facilitates handling and transport of a number of sales packages or of produce loose or arranged in rows or layers and it should prevent damage that could be caused by physical handling and transport. The package may constitute a sales package. Road, rail, ship and air containers are not considered as packages.
1.10 Sales package

Sales packages are individually packaged part of a lot, including contents. The packaging of sales packages is conceived so as to constitute a sales unit to the final user or consumer at the point of purchase.

1.11 Pre-package

Pre-packages are a type of sales packages where the packaging encloses the foodstuff completely or only partially, but in such a way that the contents cannot be altered without opening or changing the packaging.

1.12 Unit

The unit is a single produce.

1.13 Primary sample

The primary sample is the package taken at random from the lot.

1.14 Bulk sample

The bulk sample is a number of primary samples supposed to be representative for the lot and whose quantity should be sufficient to allow the assessment of the lot with regard to all criteria of the relevant standard.

1.15 Secondary sample

The secondary sample is a quantity of units or sales packages taken at random from the primary samples.

1.16 Composite sample

The composite sample is the mix of all the secondary samples from the primary samples constituting the bulk sample.

1.17 Reduced sample (analytical sample)

The reduced sample is the quantity of produce taken at random from the bulk or composite sample whose size is restricted to the minimum quantity necessary but sufficient to allow the assessment of certain individual criteria. Several reduced samples may be taken from a bulk or composite sample in order to check the conformity of the lot against different criteria.

1.18 Risk analysis

The risk analysis is the evaluation of the likelihood and severity of adverse effects on the quality of tree nuts and dried produce. It determines the quantitative and qualitative value of risk related to a concrete situation and a recognized hazard, i.e. the non-conformity tree nuts and dried produce with the relevant standard.
2. Implementation of conformity check

2.1 Notification
The trader applying for conformity certificate has to make sure that the authorized control service is informed whenever a consignment is to be exported or imported.

2.2 Decision on conformity checks
The authorized control service may decide to inspect the produce:
– Systematically, or
– Selectively, based on a risk analysis, and with appropriate frequency, so as to ensure appropriate compliance with the standard.

Where inspection is based on risk analysis, the rules laid down to this end in the OECD Guidelines on Risk Analysis [AGR/CA/FVS (2006)1] should be used.

2.3 Place of inspection
A conformity check may be carried out during the packing operation at the point of dispatch, during transport, at the point of destination. In cases where the authorized service does not carry out the conformity check in their own premises, the trader shall provide facilities enabling the conduct of a conformity check.

2.4 Inspector’s equipment
With respect to the range of produce covered by conformity checks, the inspector must be provided with adequate equipment.

2.5 Presentation of produce
The presentation of the lot is made by the trader as well as the supply of all information deemed necessary for the identification of the consignment or lot and for the inspection.

Sampling of produce at arrival or import. The produce is presented in the transport vehicle.

In order to allow at random sampling, the transport vehicle must be unloaded – at least to a degree that it is possible to take primary samples from each part of the lot. This means, at the arrival point the produce must have been unloaded and at dispatch point the produce must be inspected before it is loaded onto the transport vehicle.

The trader may assist in taking the primary samples, however, they must be selected by the inspector.

2.6 Identity check

The identification of lots shall be carried out on the basis of their marking or other criteria. In the case of consignments which are made up of several lots it is necessary for the inspector to get a general impression of the consignment with the aid of accompanying documents or declarations concerning the consignments. The inspector shall then determine how far the lots presented comply with the information in these documents.

If the produce is to be, or has been, loaded onto a means of transport, the registration number of the latter shall also be used for identification of the consignment.

3. Sampling in dry and dried produce

A conformity check shall be made by assessing bulk or composite samples. It is based on the principle that the quality of the randomly taken samples is representative of the quality of the lot. The sample sizes mentioned below are minimum sizes; inspectors may increase the size of samples if more products need to be examined for adequate assessment especially of heterogeneous lots. Increased sample sizes may be applied if so specified in the private contract or at export and/or dispatch level based on the decision of a country or a company.

The inspector selects at random the primary samples to be inspected. If secondary or reduced samples are required, these shall be identified at random by the inspector from the bulk sample.

Care should be taken to ensure that the removal of samples does not adversely affect the quality of the produce.

Damaged packages should not be used as part of the bulk sample unless a specific damage inspection is requested and/or being undertaken. Otherwise, damaged packages are set aside and may, if necessary, be subject to a separate examination and report.

3.1 Bulk sample in case of initial sampling

The inspector shall determine the size of the bulk sample in such a way as to be able to assess the lot.

The inspector shall select a minimum of 5 samples for lots up to 1,000 packages and a minimum of 10 samples for lots over 1,000 packages to test conformity. However, at the discretion of the inspector, table 3.2 can be applied.

If the result shows conformity, then a conformity certificate is issued.

If the result indicates non-conformity, the inspection is continued in accordance with 3.2.
3.2 Bulk sample in case of non-conformity

The bulk sample shall comprise the following minimum quantities whenever a lot is declared unsatisfactory:

<table>
<thead>
<tr>
<th>Number of packages in the lot</th>
<th>Number of packages (primary samples) to be taken to constitute the bulk sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>up to 100</td>
<td>5</td>
</tr>
<tr>
<td>101 to 300</td>
<td>7</td>
</tr>
<tr>
<td>301 to 500</td>
<td>9</td>
</tr>
<tr>
<td>501 to 1,000</td>
<td>10</td>
</tr>
<tr>
<td>1,001 to 3,000</td>
<td>13</td>
</tr>
<tr>
<td>Over 3,000</td>
<td>Minimum 15</td>
</tr>
</tbody>
</table>

In case the lot size is equal to or below the minimum bulk sample to be taken the whole lot must be inspected.³

3.3 Size of the secondary sample

In the case of packed produce, secondary samples have to be taken from each primary sample to constitute the composite sample. The minimum size of the secondary sample taken from each primary sample shall be

- between 300 g and 1,000 g (1 kg), in case the produce is packed loose in the package or
- 1 or more sales packages in case of produce packed in packages containing sales packages.

3.4 Size of the composite sample

The composite sample should be at least

- 3,000 g (3 kg) in case of produce of a hundred-units-weight of 1 kg or less
- 6,000 g (6 kg) in case of produce of a hundred-units-weight of more than 1 kg

Produce in the composite sample must be evenly mixed.

3.5 Size of the reduced sample (analytical sample)⁴

The reduced sample is taken from the composite sample and must comprise at least:

- 2 x 100 nuts in case of nuts in shell

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³ It is recommended that very large lots (e.g., over 5,000 packages) be divided into sub lots.
⁴ The size of the reduced sample for checking the size is defined in 3.6.4.
– 100 g for dried grapes and other products of equivalent size and smaller (i.e. 100 g contain more than 100 units)

– 1,000 g for dried apricots and other products of equivalent size (i.e. 1,000 g contain more than 100 units)

– 2,000 g for dried peaches and other products of equivalent size and larger (i.e. 2,000 g contain more than 100 units).

The reduced sample mentioned above is the equivalent for 1,000 packages per lot. This means in case of lot sizes exceeding 1,000 packages the reduced sample is multiplied accordingly.

However, a deviation of +/-1 per cent from the defined sample size is allowed.

3.6 Physical check

3.6.1 Verification of packaging and presentation

The packaging, including the material used within the package, shall be checked for suitability and cleanliness according to the provisions of the relevant standard. This shall be done on the basis of primary samples, in case of packed produce. If only certain types of packaging or presentation are permitted, the inspector checks whether these are being used. Moreover, this check is used to get a general impression of the lot.

3.6.2 Verification of marking

The marking shall be checked for correctness, completeness and readability according to the provisions of the standard. This shall be done on the basis of primary samples, in case of packed produce. When produce is presented in sales packages presented in packages, the check should verify that the marking of the sales packages (if they are marked) and that of the packages is not misleading.

3.6.3 Verification of foreign material in the package

The foreign material being loose in the package shall be checked on the basis of the composite sample.

3.6.4 Verification of the size

The size indicated on the package may be checked by one of the following methods. If size is by count:

a) From the composite sample, 100 units are counted. The hundred-units-weight is determined. From the hundred-units-weight, the number of units per 1 kg is calculated and the result is given as a rounded integer without decimal places.

b) From the composite sample, the reduced sample as determined in section 3.5 is

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The section entitled “Physical check” under “Method of Conformity Checks” has been extracted from the OECD Guidelines on Conformity Checks of Fruits and Vegetables, Section II 2. Implementation of conformity, 2.8 Physical check.
taken and the number of units making this reduced sample are counted. The result is – when necessary – given as an equivalent to 1,000 g (1 kg).

If size is by size range, from the composite sample the triple amount of the reduced sample is taken and sieved in accordance with the size range indicated.

3.6.5 Verification of characteristics of the produce

The general appearance of the produce shall be checked for conformity with the minimum requirements, classification and uniformity according to the provisions of the standard. This shall be done on the basis of the reduced sample.

The explanatory brochures published by the OECD Scheme for the Application of International Standards for Fruit and Vegetables⁶ or by the UNECE⁷ are taken into account when assessing the produce.

For tree nuts and dried produce, the criteria on the degree of development and/or moisture content can be checked using the instruments and methods laid down in the standard.

If during inspection it becomes obvious that the lot is heterogeneous, the lot should be separated – if possible – in homogenous lots. If this is not possible, the report of non-conformity should mention the heterogeneous character of the lot.

3.6.6 Determination of inspection result

The result of inspection is representative for the lot, as all samples (primary, secondary and reduced sample) are taken at random.

In the case where defects are detected, the inspector shall determine the respective percentage of the produce not in conformity with the standard by number or weight – as specified in the standard.

If the percentage of defects found is close +/- 10 percent to the tolerance another reduced sample, equal in number to the first sample, may be checked. The overall result is reported as an average of the two checks.

The inspector may decide to inspect a second bulk sample, especially if the lot appears as being heterogeneous. The overall result is reported as an average of the two checks.

The final result is given as a rounded integer.

Example: If the calculated result is 2.01 % to 2.44 % the result is indicated as 2 %. If the calculated result is 2.49 % to 2.99 % the result is indicated as 3 %.

3.7 Report of control results

According to the respective legal provisions of the individual countries and depending on the results of control, a report on the findings may be made in the form of a

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conformity certificate or a report of non-conformity.

3.7.1 Conformity certificate

The authorized control service may issue a certificate of conformity as set out in Appendix I, if the produce is in conformity with the relevant standard.

Several lots may be listed on the same conformity certificate if these are uniform with respect to the key criteria such as packer/dispatcher/shipper, receiver and/or means of transport.

3.7.2 Report of non-conformity

If defects are found leading to non-conformity, the trader must be informed about these defects and the percentage found as well as the reasons of complaint. This information must be made according to the legal provisions of the individual countries. If compliance of produce with the standard is possible by a change in marking or by re-grading, the trader must be informed.

3.8 Stop-notice

A lot for which a report of non-conformity has been issued may not be moved without the authorization of the authorized control service that issued that non-conformity report. This authorization can be subject to the conditions laid down by the authorized control service.

3.9 Re-inspection

The trader may decide to bring all or part of the lot into conformity. A lot brought into conformity may not be marketed before the authorized control service has ensured by all appropriate means that the lot has actually been brought into conformity. The inspector may issue a conformity certificate for the lot or part of it only once the lot has been brought into conformity.

3.10 Record of control results

The authorized control service shall develop and maintain a system of recording the inspection results.

3.11 Notification of non-conformity

When defects or deterioration which could have been detected at the time of packaging are found at destination, the authorized control service competent at export/dispatch has to be informed. To facilitate this notification, the notification form and codes laid down to this end in Document to Facilitate the Exchange of Information between National Control Services of Exporting and Importing Countries on Non-Conformity of Fruit and Vegetables⁸ should be used.

3.12 Decline in value by conformity checks

After the conformity check, the bulk/composite sample shall be given to the disposal of the trader.

The authorized control service shall not be obliged to return produce of the bulk/composite sample that have been damaged or destroyed during the conformity check, unless this is stated in national legal provisions.

No compensation can be claimed from the authorized control service if the commercial value of the produce has suffered a loss, unless this is stated in national legal provisions.

3.13 Communication

It is recommended that the authorized control service develops and cultivates regular communication with the industry as well as with other authorized control services.
APPENDIX II – EXPLANATORY NOTES ON THE USE OF THE MODEL CONFORMITY CERTIFICATE

The following notes are intended to help inspectors in the use of the conformity certificate.

Box No. 1 – Exporter/Trader

Name and physical address (e.g. street/city/region/postal code and, if different from the country of origin, the country) of the exporter or exporting firm or trader. The name and address may be substituted by an identification code issued or approved by the authorized control if this is accepted pursuant to national legal provisions.

Box No. 2 – Packer as indicated on packing (if other than exporter/trader)

Name and address or identification code indicated on the packages if they differ from those given in Box No. 1. It is not necessary to complete this box when the exporter/shipper and packer are the same person. The entry "various" may be used if there are several packers, but in that case Box no. 1 must be completed.

Box No. 3 – Control service

Title or acronym of the authorized control service.

Box No. 4 – Country of origin

Name of the producing country when the produce is inspected in that country. When the produce is re-exported or is of various origins (national and foreign), the country of origin must be indicated in Box No. 9 immediately after specification of the nature of the produce. Box No. 4 must then remain empty or be deleted.

Box No. 5 – Country of destination

Name of country to which the produce is being sent. However, if the country of final destination is not yet known at the time of inspection – particularly in the case of transport by sea or air – this entry may be replaced by the indication "unknown".

Box No. 6 – Identification of means of transport

Number of wagon, registration number of lorry, number of container, name of vessel (possibly indicating "by sea" or "by air").

Box No. 7 – Space reserved for national regulations

Specify any national regulations relating to the export of the produce in question, or any specific information related to national provisions.

Box No. 8 – Packages (number and type)

Number and type of packages of each produce (e.g. boxes, trays, cartons, etc.). Specification of the type of packaging material or the size of the package is optional.

Box No. 9 – Nature of produce (variety when specified by the standard)

Type of produce (inshell walnuts, almond kernels, dried apricots, etc.) for each lot.
followed by the name of the country of origin where produce is re-exported or is of various origins (national and foreign). Name of the variety (Chandler, Franquette, etc.) when specified by the standard. The entry "various" or "mixed produce" is not allowed as this combines several lots. The term "mixture of name of produce" is allowed for packages containing mixtures of varieties and/or commercial types as specified in the standard.

Box No. 10 – Quality class
Specify the class: EXTRA, I or II.

Box No. 11 – Total weight in kg gross/net
Specify the net or gross weight of each lot indicated on the consignment note; specifying the total net weight of the consignment is optional.

Boxes Nos. 8, 9, 10 and 11 – Lots
Several lots from the same exporter/dispatcher/shipper/packer constituting a shipment or part of a shipment can be subjects of a single certificate, as long as each lot is checked. In this case, boxes 8 to 11 can be divided in lines, each line giving the concerned information for a lot in the shipment (or the part of shipment).

Box No. 12 – The consignment referred to above conforms, at issue time, to the standards
– Customs office of departure: specify the place where the consignment must be cleared. This entry is optional.
– Duration of validity: The expiring date is fixed by the inspector on the basis of criteria specific to the nature of produce and their destination.
– Signatory: authorized by the authorized control service
– Place and date of issue: place where the goods are inspected and date on which the certificate is issued.

Box No. 13 – Observations
Reserved for any additional observations. The inspector shall leave this box blank when no observations are made.
Example 1 – Walnuts in shell
Inspection of Inshell Walnuts

Produce presented lose in packages of up to 25 kg
Size of the lot: 100 bags à 10 kg = 1,100 kg net weight

The lot is checked for conformity with
UNECE STANDARD DDP-01 (2014) FOR INSHELL WALNUTS

**Workflow of sampling a lot**

- **Primary samples**: 5 packages; lot size 100 packages
- **Secondary samples**: 300-1,000 g per package
- **Composite sample**: minimum 3 kg
- **Reduced sample**: minimum 2 x 100 inshell nuts
Example 1
Walnuts in shell

Photo 01: 2.3 Place of inspection

The place of inspection must guarantee safety at work and should be equipped with an inspection table suitable for the inspection of foodstuffs, sufficient natural lighting or artificial light of daylight quality.

Photo 02: 2.5 Presentation of produce

Arrival at inspection place. The lots should be presented unloaded.
Example 1
Walnuts in shell

Photo 03: 2.5 Presentation of the produce
Unloading the transport vehicle.

Photo 04: 2.5 Presentation of produce
The lot consisting of 20 packages is presented. The inspector selects the primary samples making the bulk sample.

DDP SAMPLING © UNECE 2021
Example 1
Walnuts in shell

Photo 05: 3.1 Bulk sampling in case of initial sampling
Primary samples making the bulk sample must be selected at random from the lot and they must be taken from different pallets and the lot and/or from different parts of the same pallet. When opening the primary sample and progressive, apparent defects are evident the inspector takes care to select more primary samples from the same pallet.

Photo 06: 3.1 Bulk sampling in case of initial sampling
Bulk sample consisting of 5 primary samples (packages); i.e. the recommended minimum for lot sizes up to 1,000 packages.
Example 1
Walnuts in shell

Photo 07: 3.3 Size of secondary sample
A secondary sample of 300 g to 1,000 g is taken from one bag (primary sample).

Photo 08: 3.4 Size of composite sample
This carton contains the composite samples made of the five secondary samples. The size of the composite sample is about 5 kg (minimum required 3 kg).
Example 1
Walnuts in shell

Photo 09: 3.4 Composite sample
The composite sample is mixed by means of a laboratory tray.

Photo 10: 3.5 Size of reduced sample (analytical sample)
The reduced sample is taken from the composite sample and must comprise at least: 2 x 100 units in case of nuts in shell placed in 2 trays with 100 depressions / indentations each.
Photo 11: 3.6.2 Verification of marking
Marking printed on a package (bag) provides the obligatory indications such as name and address of the dispatcher, the country of origin and the nature of produce and on a voluntary basis the net weight and the information “of controlled production”.

Photo 12: 3.6.2 Verification of marking
Marking printed on the label attached on the bag provides obligatory indications (red underline) such as name and address of the dispatcher, the country of origin, the nature of produce, the class, the size range and optional indications (green underline) such as crop year and best before date.
**Example 1**

*Walnuts in shell*

**Photo 13: 3.6.4 Verification of the size**

The indicated size is 32 to 34 mm. A set of sieves for checking the size by means of round-hole sieves of 32, 33, 34, 35 and 36 mm stacked one on top of the other.

**Photo 14: 3.6.4 Verification of the size**

600 nuts (triple amount of reduced size) is shaken and the number of nuts meeting the size of the respective sieve is determined.
Example 1
Walnuts in shell

Photo 15: 3.6.4 Verification of the size
Determination of the number of nuts that do not pass a given sieve.

Photo 16: 3.6.6 Determination of inspection results
Example of an inspection sheet. 15% of the nuts are larger than 34 mm. The indicated size range (32-34 mm) is not met and the tolerance of 10% is exceeded.
Example 1
Walnuts in shell

Photo 17: 3.6.5 Verification of the characteristics of the produce – external defects
In the left tray 8 and in the right tray 5 inshell nuts show defects exceeding the limits for shell defects defined in the minimum requirements.

Photo 18: 3.6.5 Verification of characteristics of the produce – external defects
The defects found are misshapen, dirty, cracked and blemished nuts. The sticker notes are used to indicate the different defects and the kernels are placed according to the defects named.
Example 1
Walnuts in shell

**Photo 19: 3.6.5 Verification of characteristics of the produce – internal defects**

The reduced sample is cracked to assess the quality of the edible part. Care must be taken, that the kernel remains more or less intact. It is recommended to crack the nuts with a hammer and to strike on the convex side of the nut.

**Photo 20: 3.6.5 Verification of characteristics of the produce – internal defects**

A cracked nut with a kernel largely unbroken.
Example 1
Walnuts in shell

Photo 21: 3.6.5 Verification of characteristics of the produce – internal defects
First step: The cracked nuts (kernel and shells) are placed in the tray. Second step: one by one, the shells are eliminated and the kernels are checked. Kernels are placed in an empty tray – the kernels without any defect are placed in the tray from the bottom line to the top, the defective kernels are placed from the top row to the bottom.

Photo 22: 3.6.5 Verification of characteristics of the produce – internal defects
The defects found are mouldy and shrivelled kernels.
DETERMINATION OF INSPECTION RESULTS

Marking (based on the bulk sample): obligatory indications complete.

Size range (based on the triple amount of reduced sample):
15 % exceeding the indicated size range

External defects (based on reduced sample):
- 4 walnuts misshapen
- 6 walnuts adhering foreign matter exceeding 10 % of the surface area
- 1 walnut cracked;
  - missing portion of the shell exceeding in aggregate an area of a circle-
    one fourth inch (6 mm)
- 2 walnuts blemished;
  - exceeding in aggregate 25 per cent of the surface area of the shell

In total: 13 out of 200 nuts are affected by external defects = 6.5 % (rounded 7 %)

Internal defects (based on reduced sample):
- 8 walnuts mouldy = 4 %
- 11 walnuts shrivelled = 5.5 %
  - i.e. dried tough portions affecting more than 25 per cent of the kernel

FINAL CONTROL RESULTS

The result is given as a rounded integer without decimal places.

100 % correct marking
15 % larger size than indicated      10 % tolerance in Class I
7 % external defects               10 % tolerance in Class I
4 % mouldy kernels                 4 % tolerance in Class I
6 % shrivelled kernels             10 % tolerance in Class I

Due to infringements against the sizing provisions the lot is not in conformity with
the UNECE standard for inshell walnuts. As the lot size is 100 packages the bulk
sample of 5 packages is sufficient to issue a non-conformity report.

POSSIBLE FOLLOW-UP

- The lot is re-sized to eliminate the oversizes or
- The indication of the size is changed to “32 mm and above”.

DDP SAMPLING © UNECE 2021
Example 2 – Almond kernels
Inspection of Almond Kernels

Produce presented lose in big bags or pallet bins
Size of the lot: 20 big bags (or pallet bins) à 998 kg = 19,960 kg net weight

The lot is checked for conformity with
UNECE STANDARD DDP-06 (2016) FOR ALMOND KERNELS

Workflow of sampling a lot

Primary samples

Secondary samples

Composite sample

Reduced sample

5 packages; lot size 20 packages
300-1,000 g per package
minimum 3 kg
minimum 2 x 1,000 g almond kernels
**Example 2**

**Almond kernels**

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**Photo 01: 2.3 Place of inspection**

The place of inspection must guarantee safety at work and should be equipped with an inspection table suitable for the inspection of foodstuffs, sufficient natural lighting or artificial light of daylight quality.

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**Photo 02: 2.4 Inspectors equipment**

Equipment to take secondary samples from a big bag: prickers, sampling shovel and sampling well.
Photo 03: 3.1 Bulk sampling
5 out of the 20 big bags making the lot are selected as bulk sample (sum of primary samples).

Photo 04: 3.6.1 Verification of packaging and presentation
The overall appearance of the content of the primary samples is checked.
Example 2
Almond kernels

Photo 05: 3.6.2 Verification of marking
One label on the big bag provides handling advice. The country of origin “China” does not refer to the produce contained in the bag, but to the bag or material of the bag.

Photo 06: 3.6.2 Verification of marking
Marking printed on the label attached on the big bag provides obligatory indications (red underline) such as name and address of the dispatcher, the country of origin, the nature of produce, the size range and optional indications (green underline) such as crop year and best before date. The indication of the class is missing.
Photo 07: 1.13 / 3.3 Secondary sample

Taking the secondary sample randomly from the primary sample, i.e. from different parts of the big bag. Here from the middle of the big bag using a pricker.

Photo 08: 1.13 / 3.3 Secondary sample

A certain amount of almond kernels is taken from one big bag (primary sample), i.e. the secondary sample of a minimum of 300 g.
**Photo 09: 1.13 / 3.3 Secondary sample**

The big bag has to be carefully sealed after the secondary sample has been taken.

Note: In some countries, food control requires the puncture hole to be sealed with a label that is suitable for direct food contact and is detectable. In addition, the label must bear the information who took the sample and the date taken.
Photo 10: 1.13 / 3.3 Secondary sample

Taking the secondary samples at random, i.e. from different parts of the big bag.
Here from top using a pricker or zonal pricker to get samples from different parts of the big bag.
Example 2
Almond kernels

Photo 11: 3.4 Size of the composite sample
The composite sample must comprise at least 3,000 g. Produce in the composite sample is evenly mixed – here by shaking the sample in a bag. After mixing it is filled in the sampling well.

Photo 12: 3.5 Size of the reduced sample
A reduced sample of 2 x 1,000 g almond kernels is weighed to determine external and internal defects.
Photo 13: 3.6.4 Verification of the size

The indicated size is 23/25; i.e. minimum of 23 kernels per ounce and maximum of 25 kernels per ounce.

To check compliance with the size specification, a reduced sample of at least 100 g is required. Here 29 g (1 ounce = 28.35 g) are weighed four times (= 116 g) and the number of kernels contained in each case is counted.

Result: 2 samples of 24 kernels each and 2 samples of 25 kernels each. The specified size is met.
Example 2
Almond kernels

Photo 14: 3.6.5 Verification of characteristics of the produce – external defects
The reduced sample of 1,000 g almond kernels is checked for external defects. The defective almond kernels are set aside – defect by defect.

Photo 15: 3.6.5 Verification of characteristics of the produce – external defects
The defects found are doubles/twins, shrivelled kernels, pieces, dark kernels, scratched kernels, mechanically damaged kernels. The sticker notes are used to indicate the different defects and the kernels are placed according to the defects named.
Photo 16: 3.6.5 Verification of characteristics of the produce: internal defects
A reduced sample of 100 almond kernels is cut and checked for internal defects – no defects found.

Photo 17: 3.6.6 Determination of inspection results
Example of inspection protocol, developed and used by a company.
Example 2
Almond kernels

DETERMINATION OF INSPECTION RESULTS

Marking (based on the bulk sample): class indication is missing; size indication not in conformity of the provisions of the standard.

Size range (based on the reduced sample of 100 g): size in conformity with indication.

External defects (based on reduced sample):

<table>
<thead>
<tr>
<th>Defect</th>
<th>Reduced sample 1 (1,000 g)</th>
<th>Reduced sample 2 (1,000 g)</th>
<th>Total</th>
<th>Percentage based on 2,000 g</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doubles, twins</td>
<td>20 g</td>
<td>28 g</td>
<td>48 g</td>
<td>2.4 %</td>
</tr>
<tr>
<td>Splits, broken</td>
<td>2 g</td>
<td>5 g</td>
<td>7 g</td>
<td>0.6 %</td>
</tr>
<tr>
<td>Shrivelled</td>
<td>3 g</td>
<td>2 g</td>
<td>5 g</td>
<td>0.4 %</td>
</tr>
<tr>
<td>Dark colour</td>
<td>6 g</td>
<td>9 g</td>
<td>15 g</td>
<td>1.2 %</td>
</tr>
<tr>
<td>Mechanical damage</td>
<td>6 g</td>
<td>5 g</td>
<td>11 g</td>
<td>0.6 %</td>
</tr>
<tr>
<td>Scratched</td>
<td>45 g</td>
<td>38 g</td>
<td>83 g</td>
<td>4.2 %</td>
</tr>
</tbody>
</table>

Internal defects (based on reduced sample): no defects

FINAL CONTROL RESULT

The result is given as a rounded integer without decimal places.

- 2 % doubles and twins; 15 % tolerance in Class I
- 1 % splits and broken; 3 % tolerance in Class I
- 0 % shrivelled almond kernels; 2 % tolerance in Class I
- 1 % dark almond kernels; i.e. discolouration exceeding 20 % of the surface; 3 % tolerance in Class I
- 1 % mechanically damage almond kernels; i.e. less than 1/8 missing = no defect
- 4 % scratched almond kernels; i.e. less than 1/8 missing = no defect

100 % incomplete labelling (class missing; type of size specification not correct)

Due to infringements against the marking provisions the lot is not in conformity with the UNECE standard for almond kernels. As the lot size is 20 big bags the bulk sample of 5 packages is sufficient (see table 3.2) to issue a non-conformity report.

POSSIBLE FOLLOW-UP

- Correction of the labelling – add class and correct size indication.
Photo 18: 3.9 Re-inspection

The trader decided to bring the labelling into conformity. The class has been added and the size has been corrected to read “25 and less”. After verification, the inspector issues a conformity certificate.
Example 3 – Dried grapes
Inspection of Dried Grapes

Produce presented lose in packages of up to 25 kg
Size of the lot: 480 cartons à 12.5 kg = 6,000 kg net weight

The lot is checked for conformity with
UNECE STANDARD DDP-11 (2016) FOR DRIED GRAPES
Example 3
Dried grapes

Photo 01: 2.5 Presentation of produce
The lot is presented by the trader.

Photo 02: 2.6 Identity check
After fixing the tare weight, the net weight of each primary sample is checked. As the indication of the net weight is not a mandatory indication according to the marketing standard, this is an optional check by the company but useful to check the identity of the lot.
Example 3

Dried grapes

Sampling Plan for the inspection of dry and dried produce

Photo 03: 3. Sampling in dry and dried produce
The inspector selects at random and marks the packages (cartons) to be taken as primary samples. The primary samples are taken from different pallets of the lot and/or different parts of the pallet.

Photo 04: 3. Sampling in dry and dried produce
Cartons are re-stacked to take the primary samples from different parts of the pallet – as selected by the inspector.

DDP SAMPLING © UNECE 2021
Example 3
Dried grapes

Photo 05: 3.1 Bulk samples in case of initial sampling
Due to the size of the lot (480 cartons), the inspector decides to select 9 primary samples.

Photo 06: 3.6.2 Verification of marking
Marking printed on the label attached on the carton provides obligatory indications (red underline) such as name and address of the dispatcher (given as official code mark, see UNECE Code Mark Registry¹; should be preceded by "exporter"), the country of origin (given as "Turkish Sultanas"; recommended "Origin: Turkey"), the nature of produce, the class and optional indications (green underline) such as size, crop year and best before date. Result of inspection: mandatory marking complete and correct.

¹ https://unece.org/trade/wp7/code-mark-registry
Photo 07: 3.6.1 Verification of packaging and presentation

This check is used to get a general impression of the lot. After opening the primary samples making the bulk sample the overall appearance of the produce is checked.

Photo 08: 3.6.5 Verification of characteristics of the produce

In case of sticky produce such as dried grapes, the produce must be loosened before the secondary sample can be taken. Here, the primary sample is completely emptied and loosened.

An alternative method for obtaining the secondary samples is shown in photos 19 through 23.
Example 3

Dried grapes

**Photo 09: 3.6.3 Verification of foreign material in the package**
The content is checked for loose foreign material in the package.

**Photo 10: 3.3 Size of secondary sample**
From each of the first two primary samples a secondary sample of about 1 kg has already been taken and placed in the corner of the inspection table. The inspector is taking the next secondary sample from the third primary sample.
Example 3

Dried grapes

Photo 11: 3.4 Size of the composite sample
The composite sample consisting of 9 secondary samples is evenly mixed.

Photo 12: 3.5 Size of the reduced sample
In order to ensure good mixing of the reduced sample, smaller quantities are taken from the composite sample, which together amount to approximately 1,000 g.

DDP SAMPLING © UNECE 2021
Example 3
Dried grapes

Photo 13: 3.5 Size of the reduced sample
    From the 1,000 g sub-sample, the reduced sample of 2 x 100 g is taken.

Photo 14: 3.5 Size of the reduced sample
    The weight of the reduced sample taken is checked.
Sizing is optional for dried grapes. The indicated size is "Medium" (= 320-380 units per 100 g). The number of berries per unit of 100 g is assessed. Result: 348 units per 100 g; the size is in conformity.

The reduced sample of 100 g dried raisins is checked for quality defects. The defective berries are set aside – defect by defect.
Example 3
Dried grapes

Photo 17: Verification of characteristics of the produce
Defect by defect the dried raisins are weighed. Here 0.2 g mouldy berries. The mould is checked by spreading the suspected berry on a white sheet of paper.

Photo 18: 3.6.6 Determination of inspection result
The result is presented in the inspection protocol; here an example developed and used by an inspection service.
DETERMINATION OF INSPECTION RESULTS

Marking (based on the bulk sample): obligatory indications complete and correct.

Size (based on the reduced sample): indicated size correct.

Quality defects (based on reduced sample of 2 x 100 g):

<table>
<thead>
<tr>
<th>Defect</th>
<th>Reduced sample 1 100 g</th>
<th>Reduced sample 2 100 g</th>
<th>Total</th>
<th>Percentage based on 200 g</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mouldy</td>
<td>2 g</td>
<td>1.9 g</td>
<td>3.9 g</td>
<td>1.9 %</td>
</tr>
<tr>
<td>Damaged</td>
<td>1.4 g</td>
<td>1.2 g</td>
<td>2.6 g</td>
<td>1.3 %</td>
</tr>
<tr>
<td>Capstems attached</td>
<td>1 piece</td>
<td>3 pieces</td>
<td>4 pieces</td>
<td>2 %</td>
</tr>
</tbody>
</table>

FINAL CONTROL RESULT

The result is given as a rounded integer without decimal places.

- 2 % mouldy berries                          3 % tolerance in Class I
- 1 % damaged berries                        3 % tolerance in Class I
- 2 % capstems attached                      4 % tolerance in Class I

The lot is in conformity with the standard. A conformity certificate may be issued.
Photo 19: 3.3 Size of the secondary sample – Alternative for taking the secondary samples
The secondary sample has to be taken at random from the primary sample. In case of sticky produce such as dried grapes, the produce must be loosened before the secondary sample can be taken.

Photo 20: 3.3 Size of the secondary sample – Alternative for taking the secondary samples
The content of the primary sample has been loosened. The secondary sample can be taken.
Example 3
Dried grapes

Photo 21: 3.3 Size of the secondary sample – Alternative for taking the secondary samples
The size of the secondary sample must be such that all secondary samples taken from all primary samples, finally make a composite sample of at least 3 kg.

Photo 22: 3.4 Size of the composite sample – Alternative for taking the composite sample
Produce in the composite sample must be evenly mixed.

DDP SAMPLING © UNECE 2021
Example 3
Dried grapes

Photo 23: 3.5 Size of the reduced sample (analytical sample)

Two sample vessels are filled with 100 g of dried grapes making the reduced sample of 2 x 100 g.
Example 4 – Dried apricots
Inspection of Dried Apricots

Produce presented lose in packages of up to 25 kg
Size of the lot: 200 cartons à 12.7 kg = 2,540 kg net weight

The lot is checked for conformity with
UNECE STANDARD DDP-15 (2016) FOR DRIED APRICOTS
Example 4
Dried apricots

Photo 01: 2.3 Place of inspection
The place of inspection must guarantee safety at work and should be equipped with an inspection table suitable for the inspection of foodstuffs, sufficient natural lighting or artificial light of daylight quality.

Photo 02: 2.5 Presentation of produce
The lot is presented by the trader for inspection.
Example 4
Dried apricots

Photo 03: 2.6 Identity check
After fixing the tare weight, the net weight of each primary sample is checked. As the indication of the net weight is not a mandatory indication according to the marketing standard, this is an optional check by the company but useful to check the identity of the lot.

Photo 04: 3. Sampling in dry and dried produce
Cartons are re-stacked to take the primary samples from different parts of the pallet – as selected by the inspector from different pallets of the lot and/or different parts of the pallet.
Due to the size of the lot (200 cartons), the inspector decides to select 7 primary samples. Thus, in case of non-conformity an additional sampling will not be necessary.
Example 4
Dried apricots

Photo 06: 3.6.2 Verification of marking

Marking printed on the label attached on the carton provides obligatory indications (red underline) such as name and address of the dispatcher (given as official code mark, see UNECE Code Mark Registry); should be preceded by "exporter", country of origin, nature of produce, style, class and optional indications (green underline) such as size, crop year and best before date. Result: mandatory marking complete and correct.

1  https://unece.org/trade/wp7/code-mark-registry

Photo 07: 3.6.1 Verification of packaging and presentation

This check is used to get a general impression of the lot. After opening the primary samples making the bulk sample the overall appearance of the produce is checked.
Photo 08: 3.6.3 Verification of foreign material in the package
Each primary sample is completely emptied. The content is loosened and checked for loose foreign material.

Photo 09: 3.3 Size of secondary sample
From each primary sample a secondary sample of about 2,000 g is taken and set aside in the corner of the inspection table.
Example 4
Dried apricots

Photo 10: 3.4 Size of composite sample
The composite sample is made of the secondary samples (here about 2,000 g each) of 7 primary samples, i.e. the composite sample is about 14,000 g.

Photo 11: 3.5 Size of reduced sample (analytical sample)
The reduced sample for dried apricots is taken from the composite sample. The weight of the reduced sample is balanced as close as possible to 1,000 g (here 997 g).
Example 4
Dried apricots

Photo 12: 3.6.4 Verification of the size
The indicated size is “4” (= 141 – 160 units per 1,000 g in case of pitted dried apricots). Verifying the size by counting the number of dried apricots in the reduced sample of 997 g.
Result: 155 units per 997 g = 160 units per 1,000 g. The indicated size is met.

Photo 13: 3.6.5 Verification of characteristics of the produce
The reduced sample of 967 g (nominal 1,000 g) dried apricots is checked for quality defects. The defective dried apricots are set aside – defect by defect.
Photo 14: 3.6.5 Verification of characteristics of the product

Defective dried apricots found in 967 g (nominal 1,000 g) are weighed; here 41 g with serious sunburn.
DETERMINATION OF INSPECTION RESULTS

Marking (based on the bulk sample): mandatory indications complete and correct.
Size (based on the reduced sample of 1,000 g): size in conformity with indication.
Quality defects (based on reduced sample of 2 x 1,000 g):

Tolerances determined by weight

<table>
<thead>
<tr>
<th>Defect</th>
<th>Reduced sample 1 997 g</th>
<th>Reduced sample 2 1,000 g</th>
<th>Total</th>
<th>Percentage based on 1,997 g</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sunburnt</td>
<td>42 g</td>
<td>48 g</td>
<td>90 g</td>
<td>4.5 %</td>
</tr>
<tr>
<td>Spotted</td>
<td>17 g</td>
<td>15 g</td>
<td>32 g</td>
<td>1.6 %</td>
</tr>
<tr>
<td>Lesion and calluses</td>
<td>8 g</td>
<td>10 g</td>
<td>18 g</td>
<td>0.9 %</td>
</tr>
</tbody>
</table>

The result is given as a rounded integer without decimal places.

5 % sunburnt apricots 8 % tolerance in Class I
2 % spotted apricots 5 % tolerance in Class I
1 % lesions and calluses 6 % tolerance in Class I

Tolerances determined by number

<table>
<thead>
<tr>
<th>Defect</th>
<th>Reduced sample 1 155 units</th>
<th>Reduced sample 2 160 units</th>
<th>Total</th>
<th>Percentage based on 315 units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sunburnt</td>
<td>7 units</td>
<td>10 units</td>
<td>17 units</td>
<td>5.3 %</td>
</tr>
<tr>
<td>Spotted</td>
<td>3 units</td>
<td>6 units</td>
<td>9 units</td>
<td>2.8 %</td>
</tr>
<tr>
<td>Lesion and calluses</td>
<td>1 unit</td>
<td>3 units</td>
<td>4 units</td>
<td>1.2%</td>
</tr>
</tbody>
</table>

The result is given as a rounded integer without decimal places.

5 % sunburnt apricots 8 % tolerance in Class I
3 % spotted apricots 5 % tolerance in Class I
1 % lesions and calluses 6 % tolerance in Class I

Final Result

The lot is in conformity with the UNECE standard. A conformity certificate may be issued.