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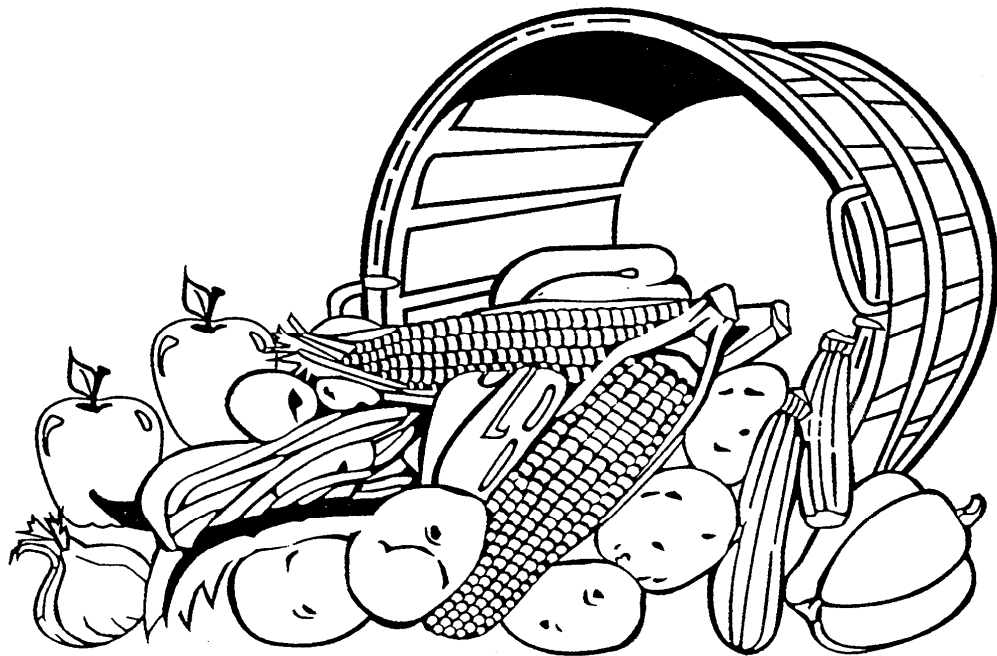
Fruit and  
Vegetable  
Programs

Fresh Products  
Branch

January 2008

# Filbert/Hazelnut Kernels And Filberts In The Shell

## Inspection Instructions



# Inspection Instructions for Filberts/Hazelnuts Kernels and Filberts in the Shell

These inspection instructions are specifically developed by the Fresh Products Branch to assist officially licensed inspectors in the interpretation and application of the Oregon Grade Standards for Filbert (Hazelnut) Kernels and Filberts in Shell and the U.S. Standards for Grades of Filberts in the Shell, Section 51.1995, to imported and domestically produced filberts. There are no U.S. Standards for shelled filberts.

These instructions do not establish any substantial rule not legally authorized by the official grade standards. This publication supersedes any previously issued inspection instructions.

Refer to the General Inspection Instructions for additional information pertaining to date, inspection point, carrier, condition of carrier, lading, etc. that is not covered in this handbook. Reference to "General Inspection Instructions" in all Fresh Products Branch publications refers to any one or all of the following - General Shipping Point Inspection Instructions, General Market Inspection Instructions, or Fresh Fruit and Vegetable Certificate Writing Handbooks.

Any portion of these instructions beginning with the section number §51.--- and followed by **bold** print are sections or portions of sections copied directly from U.S. standards. The U.S. Standards for Grades of Filberts in the Shell are printed in the appendix of this handbook. All U.S. standards are available on the Internet under the USDA homepage.

**January 2008**

**This publication may be duplicated without authorization from USDA.**

*This replaces Inspection Instructions for Filbert/Hazelnut Kernels, dated June 1985, and the Filberts in the Shell, dated September 1983.*

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# FILBERT/HAZELNUT KERNELS

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## GENERAL

These instructions are to be used by inspection program personnel when applying the Oregon Grade Standards for Filbert (Hazelnut) Kernels to imported and domestically produced kernels. There are no U.S. Standards for shelled filberts. All shelled filberts shall be of a quality equal to or better than the requirements prescribed in exhibit A of the Marketing Order No. 982, as amended. These instructions provide guidelines not covered by the grade standards, general inspection instructions, marketing order or import regulations and do not establish any new or substantive rules.

The standards are based on the metric system of weights and measures.

Therefore, application requires use of sizers and scales calibrated in metric terms. Scales should have the capability of recording tenths of grams. All weights shall be reported in tenths of a gram and percentages in hundredths of a percent.

The designations "Filberts" and "Hazelnuts" are used interchangeably for nuts of the same genus. Domestically, the designation "Filbert" is used for nuts from European species of trees and "Hazelnut" for American. For the purpose of these instructions the designation "Filbert" will be used for both species.

Filberts are grown on a commercial basis in many parts of the world with Turkey being a major source of supply. Oregon and Washington account for the major portion of domestic production.

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## REPRESENTATIVE SAMPLING

The importance of obtaining representative samples cannot be over emphasized. Accurate certification is possible only if the samples examined are truly representative of the entire lot or accessible portion. All portions of a lot or load should receive the same attention in sampling regardless of the difficulty involved in reaching all layers or parts of a lot or load.

Inspections of export lots and lots being imported shall be **unrestricted**. Only officially licensed inspectors shall draw samples representing lots intended for inspection. Submitted samples may be analyzed and certified as to quality, size, etc.; as long as the certificate clearly indicates the certification covers only the samples submitted.

## **Check Samples**

Market inspectors shall draw enough kernels to provide for a sample for analysis and a check sample. The check sample, equal in size to the sample for analysis, will be retained at the inspection office for at least 30 days. Shipping point inspectors are not required to draw “check” samples during in-line inspection unless specifically instructed by supervisors. When requested, kernels not destroyed during inspections and all check samples will be returned to the applicant at their expense. Otherwise, dispose of samples in accordance with section 51.22 of the Regulations Governing Inspection, Certification and Standards for Fresh Fruits, Vegetables, and Other Products.

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## **In-line Inspections**

This type of inspection provides a means of quality control for the packer. Samples are usually taken during packing at the end of the sizing and grading line. The samples are drawn and analyzed in order to monitor the quality throughout the packing process. In-line inspections are also a way of keeping the applicant informed as to compliance with the intended grade throughout the packing process.

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## **Carrier or Lot Inspections**

The standards provide for inspection on the basis of a composite sample. This will consist of kernels drawn from containers representative of the lot. Any container or groups of containers in which the kernels are obviously of a quality, type, or size materially different from that in the majority of containers, shall be considered a separate lot and shall be sampled and certified separately.

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## **Other than Consumer Size Containers**

Select from at least 10% of the containers (representative) in the lot for sampling, except lots of less than 50 containers at least 5 containers shall be selected. Sample approximately the same amount of kernels from each container, varying the location in the container where the sample is drawn.

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## **Consumer Size Containers**

Master containers shall be sampled representatively at the rate of 1 for every 25 containers in the lot with a minimum of 20 master containers sampled when in one pound consumer packages and 15 when in two pound packages. Remove one consumer size package from each master container sampled and use in the composite sample. The location the package is taken from should vary in each master container.

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## Sample Size

The official sample size will vary in relation to the size of the lot. Inspectors working a packing line (in-line inspections) should draw a minimum of 200 grams for each 2,000 pounds packed. The sample size for other than in-line inspections shall be drawn as a composite sample using the following chart as a guideline.

LOT SIZE	GRAMS DRAWN*	GRAMS ANALYZED*
Up to 10,000 lbs. (4,545 kg.)	2,000	1,000
Over 10,000 lbs. (4,545) to 40,000 lbs. (18,181 kg.)	4,000	2,000
Over 40,000 lbs. (18,181 kg.)	6,000	3,000

\* Whole and broken kernel lots may be reduced to one-half these amounts.

For both in-line and other than in-line inspections, the minimum amount of grams analyzed should correspond to those listed for each weight category.

The approximate weight of the grams sampled and the weight of the grams analyzed shall be reported on the notesheet.

*A "Notice of Sampling," Form FV-187, must accompany samples sent to another office for analysis.*

## Sample for Cutting to Determine Internal Defects

All kernels not affected by external defects shall be thoroughly mixed and a randomly drawn 200 gram sample shall be cut for internal defects. The percentage of internal defects, based on the cut sample, shall be added to the average percentage of external defects which will be the average of total defects for the lot.

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## TOLERANCES AND APPLICATION OF TOLERANCES

Filbert kernels are inspected utilizing the Oregon grade standards, as outlined in the USDA, AMS, Fruit and Vegetable Programs, Import Requirements for Hazelnuts (Marketing Order 982).

**Summary of Tolerances and 8e Import Requirements**

	<b>Oregon No. 1</b>	<b>8e Import Requirements</b>
Foreign Material	.02 of 1%	.02 of 1%
Total Defects	10%	5%
	Provided, that 5% serious damage caused by serious shriveling and broken kernels	
<i>Including</i> moldy, rancidity, decay, or insect injury	1%	2%
	N/A	Provided, that not more than 1% shall be for mold, rancidity, or insect injury
Off-size	15% for kernels which fail to meet the req. for the size classifications specified,	N/A
	But, not more than 10% shall consist of undersize kernels.	N/A

Note: There is no application of tolerances in the standards for filbert kernels.

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**NOTESHEET AND CERTIFICATE**

Entries on the notesheet and certificate must be kept in a legible and accurate manner. It is mandatory that all information that appears on the certificate be supported by information on the notesheet. It is the responsibility of the inspector to ensure that all information is properly recorded. Notations shall be recorded so that anyone familiar with inspection procedures can interpret them and write a certificate. Also remember that notesheets and certificates are prima facie evidence and must be able to withstand legal scrutiny.

Detailed instructions pertaining to date, inspection point, place of inspection, type of carrier, lading, etc., which are not covered by these instructions may be found in the General Inspection Instructions. Your supervisor may give you additional information and instructions.



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**Time and Date**

Inspectors shall report the date and time that the sample was drawn and analyzed. When a sample is analyzed on a day other than when it was drawn, the date that the sample was analyzed shall be reported on the certificate, and the “sample drawn” time and date shall be reported in the remarks section.

For samples drawn at one inspection location or market and analyzed at another, enter the information in the remarks section of the certificate. For example: Sample drawn on 01/01/07 in Washington, D.C., 10:30 a.m. and analyzed on 01/03/07, in Newark, N.J., 11:00 a.m.

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**Product**

The common name “Shelled Filberts,” shall be used to describe this commodity in the product heading. A descriptive term such as “blanched” may be reported in the “Product/Variety” section on the shipping point notesheet and certificate or in the “Lot ID” section on market notesheets and certificates.

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**Number/Type of Containers**

The number of containers shall always be reported. In the market and at shipping point locations for stationary lot certification, the inspector shall always verify the container count provided by the applicant for each lot and report it as the “inspector’s count.” If the number of containers available for inspection does not match the application it is the inspector’s responsibility to confirm that the amount presented for inspection constitutes the lot. If an accurate count cannot be determined the inspector may report the count at someone else’s authority. However, the reason for doing so must be reported on the notesheet (e.g., numerous pallets with mixed product).

At shipping point locations for “days-run” certification, the applicant generally provides a manifest for count and it is acceptable to use this for the number of containers.

Shelled filberts are generally packed and shipped in sacks, vacuum sealed cartons, or bulk bins. Shelled filberts marketed in consumer size packages such as film bags and shrink-wrap trays are generally packed in master cartons.

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**Brands/Markings**

At shipping point, the brand, size, PLI, and other important information appearing on the container shall be reported on the notesheet and certificate in the appropriate section.

At market, the brand, variety, size, PLI, grade, weight, point of origin, and other important information appearing on the container shall be reported on the notesheet in the "BRANDS/MARKINGS" section. Only the brand name and other pertinent information shall appear in this section on the certificate.

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## **Origin**

The inspectors should not make a positive statement on their own authority, but when container markings list the State or country of origin, it should be quoted in the appropriate space on the notesheet and the certificate. If origin is not marked, it is the inspector's responsibility to make an effort to obtain this information from the applicant. This policy is necessary because some firms may use one mark on the same product packed in several States. The inspector can certify only to the marks and has no means of verifying in what State or country the filberts were grown.

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## **SIZE**

When determined, the sizing shall take place before analyzing the sample for possible defects. Use a sizer with round openings calibrated in millimeters and pass the kernels through the opening at any angle. The size shall be reported in connection with the grade according to the requirements of the standards. The size heading shall be blocked out for inspections based on the whole and broken grade.

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## **REMARKS**

A statement as to whether a lot meets or fails a marketing order agreement or import requirement shall be shown under "Remarks." Any other pertinent information that concerns the quality or disposition of the lot, shall be reported in this section.

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## **DEFECTS**

After percentages of any off size have been determined, the kernels shall be returned to the sample for analysis of defective kernels.

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### **Broken Kernels**

During shelling and processing, the machinery sometimes chips filbert kernels. These chips shall not be scored unless 1/4 or more of the original whole kernel is broken off. This defect is scored against the restricted tolerance for broken kernels.

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## **Chafing or Scraping**

Filbert kernels are normally covered with a brown skin. During the shelling or sorting process the kernels may come into contact with each other or with the machinery with enough force to remove the skin and affect the kernel.

This shall be scored as damage when it extends into the meat and affects more than 1/8 of the surface area. Serious damage is scored when exceeding 1/4 of the surface area.

**Note:** Do not score as damage when only the skin is scraped off and the meat is smooth.

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## **Cleanness**

Clean is defined as practically free from plainly visible adhering dirt or other foreign material. Plainly visible dirt adhering to the kernel is scored against the general lot tolerance. Other foreign material means any substance other than kernels or portions of kernels not adhering to the kernel and is scored against the tolerance for foreign material.

Loose skins, pellicles or corky tissue in the sample are not scored against the tolerance for foreign material until they exceed .02% (2/100<sup>th</sup> of 1%), by weight, of the sample. Whole (uncracked) in-shell filberts in the sample are scored against the tolerance for foreign material. Allow one of these in any sample, provided the average for the entire lot is within the tolerance specified for the grade.

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## **External Discoloration**

Although not a significant issue, external discoloration may affect shelled filberts during certain years. External discoloration must be black and materially affecting the appearance to be scored. Kernels affected by dark brown color shall not be scored as a defect.

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## **Insect Injury**

Worm injury is a serious defect of filberts. All wormy kernels and those showing any evidence of worm injury, frass, webbing, etc., are scored against the restricted tolerance for insect injury. Close examination is important when inspecting kernels for worm injury because, during hulling, drying and shelling, the webbing and frass may be separated from the kernel and the only evidence of injury is a very small clean round hole.

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## Internal Flesh Discoloration

A representative sample of the lot shall be cut to determine the percent of kernels affected by internal discoloration. Only those kernels showing black discoloration within the kernel cavity are scored. The brown stain found within the internal cavity of some types of filberts is not scored as it occurs naturally.

Refer to the “Sample for Cutting to Determine Internal Defects” section in this handbook for additional guidance.

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## Moisture Content

The Oregon Grade Standards for Filbert (Hazelnut) Kernels and Marketing Order Exhibit A, Grade Requirements for Shelled Filberts define well dried as meaning the kernels are firm and crisp with moisture content not more than 6 percent. There is no rounding. The exact moisture content (i.e., 6.01) will be reported.

To determine moisture content, a randomly drawn sample, usually drawn after the kernels have been sized and graded (consistent with the needs of the testing machinery), should be analyzed; or, should be submitted (if office pulling samples for analysis does not have the equipment, find out how much sample/weight of kernels are needed to perform the entire analysis along with moisture content), in an airtight container, to the nearest Federal or Federal/State office equipped with the proper instruments to perform an analysis.

**Note:** If the sample must be sent away for moisture testing and analysis, use “Notice of Sampling” form FV-187. Write the word “Filberts” in the space marked “Type.” Under “Remarks” section, state: “Sample is submitted for determination of moisture content and analysis.” Place the original copy of the sampling certificate in an envelope inside an airtight package, containing the sample, and retain other copies for billing purposes and office files.

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## Mold

Mold often occurs on the tips of kernels that have been exposed to moisture entering through a split shell. However, mold may only be evident within the inner cavity. A representative sample shall always be cut to determine the amount of cavity mold present in a lot.

Refer to section: “Sample for Cutting to Determine Internal Defects.”

See Visual Aid FIL-3-IDENT, February 1990, illustrating mold.

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**Rancidity**

Kernels shall be scored as rancid only if they are noticeably rancid tasting. A stale flavor or an oily appearance of the kernel does not necessarily indicate rancidity.

See Visual Aid FIL-4-IDENT, February 1990, illustrating rancidity.

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**Shape**

All grades, except the Oregon No. 1 Whole and Broken, require the kernels to be free from damage caused by deformity. Deformed kernels in which the appearance is materially affected and double kernels that have become separated are both considered damaged.

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**Shriveling**

Kernels may shrivel as a result of moisture loss. This defect shall be scored as damage when the kernel is materially shrunken, wrinkled and tough. The kernel is considered seriously damaged when it is seriously affected by shriveling.

See Visual Aid FIL-CP-3, March 1993, illustrating shriveling.

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**Decay**

Kernels or portions of kernels showing decomposed areas are scored as decay against all grades.

See Visual Aid FIL-2-IDENT, February 1990, illustrating decay.

# FILBERTS IN THE SHELL

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## GENERAL

These instructions are to be used by inspection program personnel when applying the Oregon Grade Standards for Filberts (Hazelnuts) in the Shell to imported and domestically produced filberts. There are U.S. Standards for Filberts in the Shell. All in-shell filberts shall be of a quality equal to or better than the requirements prescribed in Marketing Order No. 982, as amended as follows:

**§999.400 Regulation governing the importation of filberts: Inshell filberts. All inshell filberts shall be of a quality equal to or better than the requirements of U.S. No. 1 grade and medium size as defined in the U.S. Standards for Filberts in the Shell, except that the tolerance for insect injury shall be two percent. With this modification, the U.S. No. 1 grade, medium size is identical to the Oregon No. 1 grade, medium size (as defined in the Oregon Grade Standards Filberts in Shell) and prescribed for inshell filberts under Order No. 982, as amended.**

These instructions provide guidelines covered by the grade standards, general inspection instructions, marketing order or import regulations and do not establish any new or substantive rules.

The words "Filberts" and "Hazelnuts" are often used interchangeably. In the United States the word Filbert is commonly used for nuts derived from European species of trees, while nuts from American trees are called Hazelnuts. Filberts for home use have been grown in this country for more than 110 years and in commercial orchards about 90 years. The main commercial filbert producing area is located in the Willamette Valley in Oregon and in Clark County, Washington, just across the Columbia River.

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## REPRESENTATIVE SAMPLING

The importance of obtaining representative samples cannot be over emphasized. Accurate certification is possible only if the samples examined are truly representative of the entire lot or accessible portion. All portions of a lot or load should receive the same attention in sampling regardless of the difficulty involved in reaching all layers or parts of a lot or load.

Inspections of export lots and lots being imported shall be **unrestricted**. Only officially licensed inspectors shall draw samples representing lots intended for

inspection. Submitted samples may be analyzed and certified as to quality, size, etc.; as long as the certificate clearly indicates the certification covers only the samples submitted.

### **Composite Sample**

The standards provide for inspection on the basis of a composite sample. Nuts from all containers sampled in the lot are put together in one large sample instead of being graded separately. This procedure is based on the assumption that all containers in a lot have the same markings and the nuts are similar in quality, type and size.

### **Mixed Quality Lots**

When sampling, observe the general external appearance of the nuts in each container sampled. If the filberts in any single container or number of containers are obviously of a different quality, type or size materially different from nuts in the majority of containers, the different containers should be considered a separate lot. If the number of such containers in the lot can be determined, the count should be shown. Otherwise, they should be reported in general terms, such as: "many sacks," "some sacks," or "few sacks."

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### **Carrier or Lot Inspections**

The standards provide for inspection on the basis of a composite sample. This will consist of kernels drawn from containers representative of the lot. Any container or groups of containers in which the kernels are obviously of a quality, type, or size materially different from that in the majority of containers, shall be considered a separate lot and shall be sampled and certified separately.

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### **Number of Containers to Sample for Lots Other than Consumer Size Containers**

Select from at least 10% of the containers (representative) in the lot for sampling, except lots of less than 50 containers at least 5 containers shall be selected. Sample approximately the same amount of kernels from each container, varying the location in the container where the sample is drawn.

### **Quantity Taken for Sample**

When sampling from bulk containers take a large cupful (or handful) of filberts from each container selected for sampling. Take about the same amount of nuts from each container sampled. Open the top of a sack or carton and draw the sample from

the central portion of some containers, from the bottom portion of some and from the top portion of others.

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### **Consumer Size Containers**

Master containers shall be sampled representatively at the rate of 1 for every 25 containers in the lot with a minimum of 20 master containers sampled when in one pound consumer packages and 15 when in two pound packages (when less containers are in the lot, pull one sample from each). Remove one consumer size package from each master container sampled and use in the composite sample. The location the package is taken from should vary in each master container.

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### **Size of Sample**

The official sample size will vary in relation to the size of the lot. For in-line inspections a minimum of 100 filberts for up to each 15,000 pounds packed shall be analyzed.

The sample size for other than in-line inspections shall be drawn as a composite sample using the following chart as a guideline.

<b>Lot Size</b>	<b>Filberts Sampled</b>	<b>Filberts Analyzed</b>
15,000 lbs. and under	200	100
Over 15,000 lbs. to 30,000 lbs.	400	200
30,001 lbs. to 60,000 lbs.	600	300

### **Check Samples**

Market inspectors shall draw enough filberts to provide for a sample for analysis and a check sample. The check sample, equal in size to the sample for analysis, shall be retained at the inspection office for at least 30 days. The container holding this sample should be plainly marked with the date of sampling and inspection, the number of containers in the lot, and the certificate number issued on the lot.

Shipping point inspectors are not required to draw “check” samples during in-line inspection unless specifically instructed by supervisors.



When requested, filberts not destroyed during inspections and all check samples shall be returned to the applicant at their expense. Otherwise, dispose of samples in accordance with section 51.22 of the Regulations Governing Inspection, Certification and Standards for Fresh Fruits, Vegetables, and Other Products.

*A "Notice of Sampling," Form FV-187, must accompany samples sent to another office for analysis.*

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## **INSPECTION EQUIPMENT**

The following equipment is needed for inspecting filberts in the shell:

1. Nut cracker - a hand sheller equipped with sharp jaws, which snip off the shell in two operations is the most satisfactory cracker. This type of cracker enables the inspector to readily detect blank nuts and kernels, which are not reasonably well developed.
2. Adequate light - a fluorescent light is preferable to natural daylight because it will provide about the same intensity of light at all times, permitting more uniform interpretation of grade factors. Inspectors should not proceed with an inspection unless adequate lighting is available.
3. Sizer – a sizer with the following round hole openings shall be used: 34/64, 35/64, 44/64, 45/64, 47/64, 48/64, 49/64, 56/64, and 58/64 inch in diameter. These sizes correspond to minimum and maximum diameters specified for size classifications of the standards.

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## **TOLERANCES AND APPLICATION OF TOLERANCES**

§51.1995 U.S. No. 1...

**(f) Tolerances:** In order to allow for variations incident to proper grading and handling, the following tolerances, by count, are permitted as specified:

**(1) For mixed types.** 20 percent for filberts which are of a different type.

**(2) For defects.** 10 percent for filberts which are below the requirements of this grade: Provided, That not more than one-half of this amount or 5 percent shall consist of blanks, and not more than 5

percent shall consist of filberts with rancid, decayed, moldy or insect injured kernels, including not more than 3 percent for insect injury.

(3) For off-size. 15 percent for filberts which fail to meet the requirements for the size specified, but not more than two-thirds of this amount, or 10 percent shall consist of undersize filberts.

**Summary of Tolerances**

	<b>U.S. No. 1</b>
Mixed Types	20%
Total Defects	10%
<i>Including</i> Blanks	5%
<i>And including</i> rancid, decayed, moldy, or insect injured kernels	5%
<i>Including</i> insect injury	3%
Off-size	15%
<i>Including</i> undersize	10%

**Note:** There is no application of tolerances in the standards for filberts in the shell.

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## **NOTESHEET AND CERTIFICATE**

Entries on the notesheet and certificate must be kept in a legible and accurate manner. It is mandatory that all information that appears on the certificate be supported by information on the notesheet. It is the responsibility of the inspector to ensure that all information is properly recorded. Notations shall be recorded so that anyone familiar with inspection procedures can interpret them and write a certificate. Also remember that notesheets and certificates are prima facie evidence and must be able to withstand legal scrutiny.

Detailed instructions pertaining to date, inspection point, place of inspection, type of carrier, lading, etc., which are not covered by these instructions may be found in the General Inspection Instructions. Your supervisor may give you additional information and instructions.

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**Time and Date**

Report the date and time that the sample was drawn and analyzed. When a sample is analyzed on a day other than when it was drawn, the date that the sample was analyzed shall be reported on the certificate, and the “sample drawn” time and date shall be reported in the remarks section.

For samples drawn at one inspection location or market and analyzed at another, enter the information in the remarks section of the certificate. For example: Sample drawn on 01/01/07, in Washington, D.C., 10:30 a.m. and analyzed on 01/03/07, in Newark, N.J., 11:00 a.m.

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**Product**

The common name “Filberts” shall be used to describe this commodity in the product heading. Type (round or long) may be reported in conjunction with Filberts or may be reported in the “Product/Variety” section on the shipping point inspection certificates or in the “Lot ID” section on market notesheets and certificates.

**Type of Filbert**

As a general policy filberts should be described as round type or long type. It is extremely difficult to definitely identify some of the filbert varieties. Consequently, no attempt should be made to name the variety.

Intermediate varieties such as the Royal are classified as round type even though the length of the shells is between the Barcelona (typical round type) and the DuChilly (typical long type). The following table shows the type of the more common filbert varieties:

<u>Round Type</u>	<u>Long Type</u>
Barcelona	Daviana
Brixnut	DuChilly
Ennis	Nooksack
Royal	

Nuts that are distinctly different types, round mixed with long, shall be scored against the tolerance for mixed types. Inspectors shall not score a mixture of varieties. It is permitted to mix varieties, provided they are of the same type.

Refer to visual aid FIL-1-IDENT identifying round types and long types.

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### **Number/Type of Containers**

The number of containers shall always be reported. In the market and at shipping point locations for stationary lot certification, the inspector shall always verify the container count provided by the applicant for each lot and report it as the “inspector’s count.” If the number of containers available for inspection does not match the application it is the inspector’s responsibility to confirm that the amount presented for inspection constitutes the lot. If an accurate count cannot be determined the inspector may report the count at someone else’s authority. However, the reason for doing so must be reported on the notesheet (e.g., numerous pallets with mixed product).

At shipping point locations for “days-run” certification the applicant generally provides a manifest for count and it is acceptable to use this for the number of containers.

Filberts in the shell are generally packed and shipped in sacks, vacuum sealed cartons, or bulk bins. Filberts in the shell are marketed in consumer size packages such as film bags and shrink-wrap trays generally packed in master cartons.

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### **Brands/Markings**

At shipping point, the brand, size, PLI, and other important information appearing on the container shall be reported on the notesheet and certificate in the appropriate section.

At market, the brand, variety, size, grade, weight, point of origin, and other important information appearing on the container shall be reported on the notesheet in the “BRANDS/MARKINGS” section. Only the brand name and other pertinent information shall appear in this section on the certificate.

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### **Origin**

The inspectors should not make a positive statement on their own authority, but when container markings list the State or country of origin, it should be quoted in the appropriate space on the notesheet and the certificate. If origin is not marked, it is the inspector’s responsibility to make an effort to obtain this information from the applicant. This policy is necessary because some firms may use one mark on the same product packed in several States. The inspector can certify only to the marks and has no means of verifying in what State or country the filberts were grown.

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## SIZE

Filberts are commercially sized on machines with rotating cylinders having successive sections, which contain round openings of certain sizes. The round openings are graduated in sixty-fourths of an inch.

Size is the first factor to be determined when grading a sample of filberts. Usually the size is specified by the applicant or is marked on the container. The size for each lot inspected must be determined and shown on the certificate in connection with the grade. It may be shown as a size classification - Jumbo, Large, Medium or Small - or in terms of a minimum diameter or minimum and maximum diameters. Size is not a requirement of the grade. A lot may meet grade requirements, but fail size requirements; or fail grade requirements, but meet size requirements. No lot may fail to grade U.S. No. 1 account of excessive off-size.

When a lot is certified as No. 1, the usual "Within tolerance" statement shall be made in reporting off-size unless the applicant requests that actual percentages be reported. Whenever a lot fails to meet the specified size, the percentage of off-size (undersize and oversize) must be reported on the certificate. The standards provide a lot tolerance of 15 percent for off-size, but only two-thirds of this amount or 10 percent may be undersize.

Size should be determined before grading the sample for external and internal defects. Follow the sampling guide and procedures to obtain the composite sample. Then thoroughly mix the composite sample and randomly obtain a minimum of 100 nuts for sizing and grading. Pick out all nuts which pass through the specified minimum size opening and those that will not pass through the specified maximum size opening and record the number of each on a notesheet. Never exert pressure to force nuts through the minimum size opening. (See the size classification section in the standards for a breakdown of sizes.)

When determining maximum size, it may be necessary to turn the nut at various angles in order to get it through the opening. If it will go through at any angle do not score the nut as oversize.

Examples of "SIZE" Statements:

1. Nuts conform to size as marked. Off-size within tolerance.
2. Nuts generally range from 49/64 to 56/64 inch in diameter. 10% off-size including 6% undersize, 4% oversize.

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## DEFECTS

After the percentage of off-size is determined, segregate all nuts with external defects from the sample. These segregated nuts should be cracked separately to avoid scoring an individual nut twice against the tolerance for defects. A nut having an external and an internal defect should be scored only once against the most serious defect. However, an individual nut which is defective, off-size, and of a different type should be scored against each of the separate tolerances, that is, scored three times.

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### Blanks

**§51.2001 Blank. “Blank” means a filbert containing no kernel or a kernel filling less than one-fourth the capacity of the shell.**

All filberts (without kernels or those which have small undeveloped kernels), which fill less than an estimated one-fourth of the capacity of the shell, shall be scored against the 5 percent tolerance for blanks.

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### Cleanness and Brightness

Filberts are required to be “clean and bright.”

**§51.2000 “Clean and bright” means that the individual filbert and the lot as a whole are practically free from adhering dirt and other foreign material, and that the shells have characteristic color.**

Filberts are generally washed and/or bleached before packing. Individual nuts with noticeable adhering dirt or foreign matter shall be scored against the 10 percent total defect tolerance. If the lot as a whole is materially affected with adhering dirt or foreign matter, it shall be described in general terms. The following terms or combination of terms may be used to describe cleanness and brightness:

- Clean and Bright
- Fairly Clean and Fairly Bright
- Slightly Dirty and Slightly Dull

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### Development (Developed/Undeveloped Kernels)

Filbert kernels are required to be “reasonably well-developed.”

**§51.2004 “Reasonably well developed” means that the kernel fills one-half or more of the capacity of the shell.**

A kernel which fills one-fourth or more but less than one-half of the capacity of a shell is considered undeveloped and is scored against the tolerance for defects.

**Note:** The term well developed should not be used. See “Blanks” for kernels filling less than one-fourth the capacity of a shell.

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## **Dryness/Moisture Content**

Filberts are required to be “dry.”

**§51.1998 “Dry” means that the shell is free from surface moisture, and that the shells and kernels combined do not contain more than 10 percent moisture.**

Individual shells, with surface moisture are scored against the total defect tolerance and if a sample contains more than the amount of moisture allowed, the lot will fail.

To determine moisture content, a randomly drawn sample, usually drawn after the hazelnuts have been sized and graded (consistent with the needs of the testing machinery), of shells and kernels combined should be analyzed; or, should be submitted (if office pulling samples for analysis does not have the equipment, find out how much sample/weight of inshell hazelnuts are needed to perform the entire analysis along with moisture content), in an airtight container, to the nearest Federal or Federal/State office equipped with the proper instruments to perform an analysis.

**Note:** If the sample must be sent away for moisture testing and analysis, use “Notice of Sampling” forms FV-187. Write the word “filberts” in the space marked “Type.” Under “Remarks” section, state: “Sample is submitted for determination of moisture content and analysis.” Place the original copy of the sampling certificate in an envelope inside an airtight package, containing the sample, and retain other copies for billing purposes and office files.

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## **Insect Injury**

**§51.2008 Insect injury. “Insect injury” means that the insect, frass or web is present inside the nut or the kernel shows definite evidence of insect feeding.**

Worm injury is the most serious defect of filberts and small percentages may be found in practically all orchards. Worm injury can generally be detected by a small hole at the center of the stem scar where the small larvae enter the nut. In most cases, the larvae grow and eventually leave the nut by going through the same hole used for entry. All wormy kernels and those showing any evidence of worm injury, frass, webbing, etc., are scored against the restrictive tolerance for insect injury.

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## **Kernel Discoloration**

Although not a significant issue, discoloration may affect filbert kernels during certain years. Kernel discoloration must be black and materially affect the kernel's appearance. Kernels showing dark brown color should be disregarded. It is important that each kernel in the sample be cut in half to check for internal discoloration.

**§51.2003 Damage...(d) Discoloration when the appearance of the kernel is materially affected by black color.**

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## **Mixed Types**

Filberts are required to be "similar types."

**§51.1997 "Similar type" means that the filberts in each container are of the same general type and appearance. For example, nuts of the round type shall not be mixed with those of the long type in the same container.**

Nuts that are distinctly of a different type, round with long or vice versa, shall be scored against the 20 percent tolerance for mixed types. Inspectors are cautioned against scoring a mixture of varieties since it is permissible to mix varieties provided they are of the same type.

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## **Rancidity**

Filberts may be held in common storage for at least a year and for longer periods in cold storage without rancidity developing.

**§51.2006 "Rancidity" means that the kernel is noticeably rancid to the taste. An oily appearance of the flesh does not necessarily indicate a rancid condition.**



Score a nut as rancid only if it is distinctly rancid to the taste. Do not confuse a stale flavor with rancidity.

See Visual Aid FIL-4-IDENT, February 1990, illustrating rancidity.

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## Shape

Filbert shells are required to be well formed.

**§51.1999 “Well formed” means that the filbert shell is not materially misshapen.**

The shape of individual nuts of one variety will vary and when two or more varieties of the same type are mixed together there may be a wide variation in shape. Inspectors should avoid becoming too technical in scoring individual nuts as misshapen unless the shell is materially deformed as in the case of doubles.

Filberts kernels are required to be “not badly misshapen.”

**§51.2005 “Badly misshapen” means that the kernel is so malformed that the appearance is materially affected.**

Kernels, which are badly misshapen, are scored against the 10 percent tolerance for defects. A badly misshapen kernel will generally fill less than one-half the capacity of a shell (See “**Blanks**” for kernels filling less than one-fourth capacity of a shell).

See Visual Aid FIL-CP-4, March 1993, illustrating shape.

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## Shriveling

Normally, shriveling is not a problem in the Barcelona (round type) but it may be a serious factor in the DuChilly (long type). Shriveling is characteristic of the DuChilly variety and is to be expected. Inspectors should not become too technical in scoring shriveling, especially on long type filberts.

**§51.2003 Damage...(c) Shriveling when the kernel is materially shrunken, wrinkled, leathery or tough.**

See Visual Aid FIL-CP-3, March 1993, illustrating shriveling.

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## Split or Broken Shells

Filberts are required to be free from broken or split shells.

**§51.2002 “Split shell” means a shell having any crack which is open and conspicuous for a distance of more than one-fourth the circumference of the shell, measured in the direction of the crack.**

If a shell has two or more cracks, those portions of the cracks that are open and conspicuous are to be aggregated to determine whether the combined length is greater than one-fourth the circumference. Do not apply pressure to the shell in determining whether a crack is scorable.

A broken shell is one that has a portion of the shell missing.

See Visual Aid FIL-CP-1, April 1991, illustrating split shells.

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## Staining of Shells

Usually staining is not a factor in the grading of filberts. However, occasional lots may have sufficient staining or black discoloration on the individual nut to materially affect the appearance. Inspectors should score only those nuts that show a dark or black discoloration that materially detracts from the appearance of the individual nut. Slight discolorations should be disregarded.

**§51.2003 Damage...(a) Stains which are dark and materially affect the appearance of the individual shell.**

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## Decay and Mold

Generally decay and mold will occur as a secondary defect following worm injury. Kernels, which are decayed, or moldy following worm injury shall be scored as worm injury since the tolerance for it is less than the tolerance for mold or decay. Always cut the kernel to check for mold in the inner cavity.

**§51.2007 “Moldy” means that there is a visible growth of mold either on the outside or the inside of the kernel.**

See Visual Aid FIL-3-IDENT, February 1990, illustrating mold.

See Visual Aid FIL-2-IDENT, February 1990, illustrating decay.

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# APPENDIX I U.S. GRADE STANDARDS

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## United States Standards for Grades of Filberts in the Shell<sup>1</sup>

Effective September 1, 1970

### GRADES

51.1995 U.S. No. 1.

### APPLICATION OF STANDARDS

51.1996 Application of standards.

### DEFINITIONS

51.1997 Similar type.

51.1998 Dry.

51.1999 Well formed.

51.2000 Clean and bright.

51.2001 Blank.

51.2002 Split shell.

51.2003 Damage.

51.2004 Reasonably well developed.

51.2005 Badly misshapen.

51.2006 Rancidity.

51.2007 Moldy.

51.2008 Insect injury.

### METRIC CONVERSION TABLE

51.2009 Metric conversion table.

### GRADE

#### §51.1995 U.S. No. 1.

“U.S. No. 1” consists of filberts in the shell which meet the following requirements:

- (a) Similar type; and,
- (b) Dry.
- (c) Shells:
  - (1) Well formed; and,
  - (2) Clean and bright.
- (3) Free from:
  - (i) Blanks; and,
  - (ii) Broken or split shells.
- (4) Free from damage caused by:
  - (i) Stains; and,
  - (ii) Adhering husk; or,
  - (iii) Other means.

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<sup>1</sup>Compliance with the provisions of these standards shall not excuse failure to comply with the provisions of the Federal Food, Drug and Cosmetic Act, or with applicable State laws and regulations.

- (d) Kernels:
- (1) Reasonably well developed; and,
  - (2) Not badly misshapen.
  - (3) Free from:
    - (i) Rancidity;
    - (ii) Decay;
    - (iii) Mold; and,
    - (iv) Insect injury.
  - (4) Free from damage caused by:
    - (i) Shriveling; and,
    - (ii) Discoloration; or,
    - (iii) Other means.
- (e) Size: The size shall be specified in connection with the grade in terms of minimum diameter, minimum and maximum diameters, or in accordance with one of the size classifications in Table I.

**TABLE I**

	<u>Maximum size</u>	<u>Minimum size</u>
<b>Size classifications</b>	Will pass through a round opening of the following size	Will not pass through a round opening of the following size
<b>Round type varieties:</b>		
Jumbo-----	No maximum-----	56/64 inch.
Large-----	56/64 inch-----	49/64 inch.
Medium-----	49/64 inch-----	45/64 inch.
Small-----	45/64 inch-----	No minimum.
<b>Long type varieties:</b>		
Jumbo-----	No maximum-----	47/64 inch.
Large-----	48/64 inch-----	44/64 inch.
Medium-----	45/64 inch-----	34/64 inch.
Small-----	35/64 inch-----	No minimum.

(f) Tolerances: In order to allow for variations incident to proper grading and handling, the following tolerances, by count, are permitted as specified:

- (1) **For mixed types.** 20 percent for filberts which are of a different type.

(2) **For defects.** 10 percent for filberts which are below the requirements of this grade: **Provided**, That not more than one-half of this amount or 5 percent shall consist of blanks, and not more than 5 percent shall consist of filberts with rancid, decayed, moldy or insect injured kernels, including not more than 3 percent for insect injury.

(3) **For off-size.** 15 percent for filberts which fail to meet the requirements for the size specified, but not more than two-thirds of this amount, or 10 percent shall consist of undersize filberts.

#### **APPLICATION OF STANDARDS**

##### **§51.1996 Application of standards.**

(a) The grade of a lot of filberts shall be determined on the basis of a composite sample drawn from containers in various locations in the lot. However, any container or group of containers in which the filberts are obviously of a quality, type or size materially different from that in the majority of containers shall be considered a separate lot, and shall be sampled separately.

(b) In grading the sample, each filbert shall be examined for defects of the shell before being cracked for kernel examination. A filbert shall be classed as only one defective nut even though it may be defective externally and internally.

#### **DEFINITIONS**

##### **§51.1997 Similar type.**

“Similar type” means that the filberts in each container are of the same general type and appearance. For example, nuts of the round type shall not be mixed with those of the long type in the same container.

##### **§51.1998 Dry.**

“Dry” means that the shell is free from surface moisture, and that the shells and kernels combined do not contain more than 10 percent moisture.

##### **§51.1999 Well formed.**

“Well formed” means that the filbert shell is not materially misshapen.

##### **§51.2000 Clean and bright.**

“Clean and bright” means that the individual filbert and the lot as a whole are practically free from adhering dirt and other foreign material, and that the shells have characteristic color.

##### **§51.2001 Blank.**

“Blank” means a filbert containing no kernel or a kernel filling less than one-fourth the capacity of the shell.

##### **§51.2002 Split shell.**

“Split shell” means a shell having any crack which is open and conspicuous for a distance of more than one-fourth the circumference of the shell, measured in the direction of the crack.

##### **§51.2003 Damage.**

“Damage” means any specific defect described in this section; or an equally objectionable variation of any one of these defects, any other defect, or any combination of defects which materially detracts from the appearance, or the edible or marketing quality of the filberts. The following specific defects shall be considered as damage:

(a) Stains which are dark and materially affect the appearance of the individual shell.

(b) Adhering husk when covering more than 5 percent of the surface of the shell in the aggregate.

(c) Shriveling when the kernel is materially shrunken, wrinkled, leathery or tough.

(d) Discoloration when the appearance of the kernel is materially affected by black color.

**§51.2004 Reasonably well developed.**

“Reasonably well developed” means that the kernel fills one-half or more of the capacity of the shell.

**§51.2005 Badly misshapen.**

“Badly misshapen” means that the kernel is so malformed that the appearance is materially affected.

**§51.2006 Rancidity.**

“Rancidity” means that the kernel is noticeably rancid to the taste. An oily appearance of the flesh does not necessarily indicate a rancid condition.

**§51.2007 Moldy.**

“Moldy” means that there is a visible growth of mold either on the outside or the inside of the kernel.

**§51.2008 Insect injury.**

“Insect injury” means that the insect, frass or web is present inside the nut or the kernel shows definite evidence of insect feeding.

**METRIC CONVERSION TABLE**

**§51.2009 Metric conversion table.**

**Inches    Millimeters (mm)**

62/64.....	24.6
59/64.....	23.4
56/64.....	22.2
49/64.....	19.4
48/64.....	19.0
47/64.....	18.6
45/64.....	17.9
44/64.....	17.5
42/64.....	16.7
35/64.....	13.9
34/64.....	13.5