



**United States
Department of
Agriculture**

**Agricultural
Marketing
Service**

**Fruit and
Vegetable
Division**

**Processed
Products
Branch**

United States Standards for Grades of Olive Oil

Effective date March 22, 1948

This is the first issue of the United States standards for Grades of Olive Oil published in the **FEDERAL REGISTER** of February 20, 1948, to become effective March 22, 1948.

Voluntary U.S. grade standards are issued under the authority of the Agricultural Marketing Act of 1946, which provides for the development of official U.S. grades to designate different levels of quality. These grade standards are available for use by producers, suppliers, buyers, and consumers. As in the case of other standards for grades of processed fruits and vegetables, these standards are designed to facilitate orderly marketing by providing a convenient basis for buying and selling, for establishing quality control programs, and for determining loan values.

The standards also serve as a basis for the inspection and grading of commodities by the Federal inspection service, the only activity authorized to approve the designation of U.S. grades as referenced in the standards, as provided under the Agricultural Marketing Act of 1946. This service, available as on-line (in-plant) or lot inspection and grading of all processed fruit and vegetable products, is offered to interested parties, upon application, on a fee-for-service basis. The verification of some specific recommendations, requirements, or tolerances contained in the standards can be accomplished only by the use of on-line inspection procedures. In all instances, a grade can be assigned based on final product factors or characteristics.

In addition to the U.S. grade standards, grading manuals or instructions for inspection of several processed fruits and vegetables are available upon request for a nominal fee. These manuals or instructions contain detailed interpretations of the grade standards and provide step-by-step procedures for grading the product.

Grade standards are issues by the Department after careful consideration of all data and views submitted, and the Department welcomes suggestions which might aid in improving the standards in future revisions. Comments may be submitted to, and copies of standards and grading manuals obtained from:

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Authority:	Agricultural Marketing Act of 1946, Secs. 203, 205, 60 Stat. 1087, as amended, 1090, as amended (7 U.S.C. 1622, 1624).

Note: 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.

§52.1531 Product description.

Olive oil is the edible oil obtained from the fruit of the olive tree (*Olea europaea* L.); is clarified, has a specific gravity of 0.910 to 0.915 at 25° C./25° C.; has an iodine number (Hanus) of 79 to 90; has a refractive index of 1.4668 to 1.4683 at 25° C.; and is packed in containers suitable for preservation of the product.

§52.1532 Grades of olive oil.

- (a) **U.S. Grade A or U.S. Fancy** is the quality of olive oil that possesses the typical greenish to light yellow color of olive oil; possesses a free fatty acid content, calculated as oleic, of not more than 1.4 percent; is free from defects; and is of such quality with respect to odor and flavor as to score not less than 90 points when scored in accordance with the scoring system outlined in this subpart.
- (b) **U.S. Grade B or U.S. Choice** is the quality of olive oil that possesses the typical greenish to light yellow color of olive oil; possesses a free fatty acid content, calculated as oleic, of not more than 2.5 percent; is reasonably free from defects; possesses a reasonably good typical odor; possesses a reasonably good typical flavor; and scores not less than 80 points when scored in accordance with the scoring system outlined in this subpart.
- (c) **U.S. Grade C or U.S. Standard** is the quality of olive oil that possesses the typical greenish to light yellow color of olive oil; possesses a free fatty acid content, calculated as oleic, of not more than 3.0 percent; is fairly free from defects; possesses a fairly good typical odor; possesses a fairly good typical flavor; and scores not less than 70 points when scored in accordance with the scoring system outlined in this subpart.
- (d) **U.S. Grade D or Substandard** is the quality of olive oil that fails to meet the requirements of U.S. Grade C or U.S. Standard.

§52.1533 Recommended fill of container.

The recommended fill of container is not incorporated in the grades of the finished product since fill of container, as such, is not a factor of quality for the purposes of these grades. It is recommended that each container of olive oil be filled with olive oil as full as practicable without impairment of quality.

§52.1534 Ascertaining the grade.

- (a) The grade of olive oil may be ascertained by considering, in addition to the requirements of the respective grade, the following factors: Free fatty acid content, absence of defects, odor, and flavor.

- (b) The relative importance of each factor is expressed numerically on a scale of 100. The maximum number of points that may be given for each factor is:

Factors	Points
Free fatty acid content	30
Absence of defects	30
Odor	20
Flavor	<u>20</u>
Total Score	100

§52.1535 Ascertaining the rating for each factor.

The essential variations within each factor are so described that the value may be ascertained for each factor and expressed numerically. The numerical range within each factor is inclusive (for example, **27 to 30 points** means 27, 28, 29, or 30 points).

§52.1536 Free fatty acid content.

- (a) **General.** The free fatty acid content shall be determined in accordance with the method described in the current **Official and Tentative Methods of Analysis of the Association of Official Agricultural Chemists**.
- (b) **"A" classification.** Olive oil that possesses a free fatty acid content of not more than 1.4 percent, calculated as oleic acid, may be given a score of 27 to 30 points.
- (c) **"B" classification.** If the olive oil possesses a free fatty acid content of more than 1.4 percent, but not more than 2.5 percent, calculated as oleic acid, a score of 24 to 26 points may be given. Olive oil that falls into this classification shall not be graded above U.S. Grade B or U.S. Choice, regardless of the total score for the product (this is a limiting rule).
- (d) **"C" classification.** If the olive oil possesses a free fatty acid content of more than 2.5 percent but not more than 3.0 percent, calculated as oleic acid, a score of 21 to 23 points may be given. Olive oil that falls into this classification shall not be graded above U.S. Grade C or U.S. Standard, regardless of the total score for the product (this is a limiting rule).
- (e) **"SStd" classification.** Olive oil that contains more than 3.0 percent free fatty acid, calculated as oleic, may be given a score of 0 to 20 points, and shall not be graded above U.S. Grade D or Substandard, regardless of the total score for the product (this is a limiting rule).

§52.1537 Absence of defects.

- (a) **General.** The factor of absence of defects refers to the degree of freedom from cloudiness at 60° F. due to stearin, and from sediment.
- (b) **"A" classification.** Olive oil that is free from defects may be given a score of 27 to 30 points. **Free from defects** means that the olive oil is entirely free from the defects mentioned and that no water or other liquid immiscible with the olive oil is present.
- (c) **"B" classification.** If the olive oil is reasonably free from defects, a score of 24 to 26 points may be given. Olive oil that falls into this classification shall not be graded above U.S. Grade B or U.S. Choice, regardless of the total score for the product (this is a limiting rule). **Reasonably free from defects** means that the olive oil is reasonably free from defects mentioned and that no water or other liquid immiscible with the olive oil is present.
- (d) **"C" classification.** If the olive oil is fairly free from defects, a score of 21 to 23 points may be given. Olive oil that falls into this classification shall not be graded above U.S. Grade C or U.S. Standard, regardless of the total score for the product (this is a limiting rule). **Fairly free from defects** means that the defects mentioned may be present but may not impair the quality of the olive oil and that no water or other liquid immiscible with the olive oil is present.
- (e) **"SStd" classification.** Olive oil that fails to meet the requirements of paragraph (d) of this section may be given a score of 0 to 20 points and shall not be graded above U.S. Grade D or Substandard, regardless of the total score for the product (this is a limiting rule).

§52.1538 Odor.

- (a) **General.** The factor of odor refers to a typical olive oil odor and the degree of freedom from strong green olive odor, from musty, moldy, butyric, zapatera, rancid, or any other off-odors.
- (b) **"A" classification.** Olive oil that possesses a good typical odor may be given a score of 18 to 20 points. **Good typical odor** means that the olive oil has a typical olive oil odor and is practically free from off-odors of any kind.
- (c) **"B" classification.** If the olive oil possesses a reasonably good typical odor, a score of 16 or 17 points may be given. **Reasonably good typical odor** means that the olive oil has a typical olive oil odor and is reasonably free from off-odors of any kind.

- (d) **"C" classification.** If the olive oil possesses a fairly good typical odor, a score of 14 or 15 points may be given. **Fairly good typical odor** means that the olive oil has a typical olive oil odor and is fairly free from off-odors of any kind. Olive oil that falls into this classification shall not be graded above U.S. Grade C or U.S. Standard, regardless of the total score for the product (this is a limiting rule).
- (e) **"SStd" classification.** Olive oil that fails to meet the requirements of paragraph (d) of this section and that possesses a definite musty, moldy, butyric, or zapatera odor or any other definitely objectionable odor may be given a score of 0 to 13 points and shall not be graded above U.S. Grade D or Substandard, regardless of the total score for the product (this is a limiting rule).

§52.1539 Flavor.

- (a) **General.** The factor of flavor refers to the typical olive oil flavor and the degree of freedom from strong green olive flavors, from musty, moldy, butyric, zapatera, rancid, or any other off-flavors.
- (b) **"A" classification.** Olive oil that possesses a good typical flavor may be given a score of 18 to 20 points. **Good typical flavor** means that the olive oil has a typical olive oil flavor and is practically free from off-flavors of any kind.
- (c) **"B" classification.** If the olive oil possesses a reasonably good typical flavor, a score of 16 or 17 points may be given. **Reasonably good typical flavor** means that the olive oil has a typical olive oil flavor and is reasonably free from off-flavors of any kind.
- (d) **"C" classification.** If the olive oil possesses a fairly good typical flavor, a score of 14 or 15 points may be given. **Fairly good flavor** means that the olive oil has a typical olive oil flavor and is fairly free from off-flavors of any kind. Olive oil that falls into this classification shall not be graded above U.S. Grade C or U.S. Standard, regardless of the total score for the product (this is a limiting rule).
- (e) **"SStd" classification.** Olive oil that fails to meet the requirements of paragraph (d) of this section and that possesses a definite musty, moldy, butyric, zapatera, or rancid flavor or any other definitely objectionable flavor may be given a score of 0 to 13 points and shall not be graded above U.S. Grade D or Substandard, regardless of the total score for the product (this is a limiting rule).

§52.1540 Ascertaining the grade of a lot.

The grade of a lot of olive oil covered by these standards is determined by the procedures set forth in the **Regulations Governing Inspection and Certification of Processed Fruits and Vegetables, Processed Products Thereof, and Certain Other Processed Food Products** (7 CFR 52.1 through 52.83).

§52.1541 Score sheet for olive oil.

The following score sheet may be used to summarize the factors determining the various grades:

Size and kind of container			
Container code or markings			
Label			
Contents (liquid measure)			
Factors		Score Points	
Free fatty acid content	30	"A" 27-30 "B" 24-26 <u>1/</u> "C" 21-23 <u>1/</u> "D" 0-20 <u>1/</u>	
Absence of defects	30	"A" 27-30 "B" 24-26 <u>1/</u> "C" 21-23 <u>1/</u> "D" 0-20 <u>1/</u>	
Odor	20	"A" 18-20 "B" 16-17 "C" 14-15 <u>1/</u> "D" 0-13 <u>1/</u>	
Flavor	<u>20</u>	"A" 18-20 "B" 16-17 "C" 14-15 <u>1/</u> "D" 0-13 <u>1/</u>	
Total Score	100		
U.S. Grade			

1/ Indicates limiting rule

Recodified in the Federal Register of December 9, 1953 (18 F.R. 8014)
Section 52.1540 amended May 22, 1957 (22 F.R. 3535)