(COOC LETTERHEAD)

June 24, 2004

Mr. Terry Bane, Branch Chief
USDA, AMS, FV, PPB
STOP 0247
1400 Independence Avenue SW
Washington, D.C. 20250-0247

Subject: United States Standards for Grades of Olive Oil

Dear Mr. Bane:

The California Olive Oil Council, the leading representative of United States olive oil producers, hereby requests revisions to the United States Standards for Grades of Olive Oil (18 F.R.8014), effective March 22, 1948, to conform to current industry standards commonly accepted in the United States and internationally. This request has broad industry support, as detailed below. A copy of the proposed new standards is attached hereto.

I. The reason for the proposed revision

The existing United States standards for grades of olive oil, while appropriate in 1948, no longer reflect the terminology and criteria commonly accepted in today's olive oil industry. The 1948 standards established grades of "fancy," "choice," "standard" and "substandard," terms not currently employed in connection with olive oil.

The grades defined in the proposed new standards, such as "extra virgin olive oil" and "virgin olive oil," are those universally accepted today throughout the olive oil industry and among consumers. Virtually every other olive oil producing country in the world has adopted standards consistent with the proposed new U.S. standards.

Olive oil sold to consumers in the United States, whether imported or domestic, is labeled with terms set forth in the proposed new U.S. standards. In particular, the term "extra virgin olive oil" is used to designate the highest grade of olive oil. But because these terms have not been adopted by the USDA, they are widely misused, to the detriment of the industry and consumers alike.

It is therefore critical that the USDA standards recognize the terminology currently in use to define the grades of olive oil. The proposed standards include objective criteria to determine the authenticity, purity and quality of each grade of olive oil, to ensure truthful labeling.

Most of the olive oil produced in the United States comes from California, due to its special climate, although some other states such as Arizona and Texas produce relatively small amounts. The production of olive oil has grown steadily in California over the past few years, and promises continued expansion. Many years ago, the California Olive Oil Council was formed to support the domestic olive oil industry. We have approximately four hundred members, including most of the major United States olive growers and producers of olive oil, as well as others who share our commitment to enhancing the domestic olive oil industry. The California Olive Oil Council has already adopted voluntary standards for its own members consistent with the proposed new U.S. standards. It is important, however, that these standards be applied to all producers of olive oil who sell in the United States, whether the source of the oil is local or imported.

Furthermore, a United States standard that conforms to internationally accepted standards will enhance the ability of United States producers to compete with imported oils and to compete in the international market. Currently, producers in the United States are subject to a contention by our foreign competitors that the United States has no appropriate standards to ensure the quality of its olive oil. Adoption of the proposed standards would eliminate this contention, and thereby promote our ability to compete with foreign oil.

II. The public benefits to be gained by the proposed revision

Currently there is widespread concern about the mislabeling of olive oil sold in the United States, especially with respect to the grade. In particular, the use of the term "extra virgin," indicating the highest and therefore most expensive grade, has been widely applied to oils that are in fact not "extra virgin." Cheaper oils masquerading as extra virgin olive oil are not only a fraud on consumers but are also the source of unfair competition among producers and sellers.

The proposed new standards will allow inspectors to determine objectively whether a container of olive oil is in fact labeled in conformance with the standards. Monitoring and enforcement of these standards will promote truthful labeling. This will be of obvious benefit to consumers, who can purchase olive oil with some confidence that the label accurately describes the contents, and to producers and sellers, who will be able to compete fairly and honestly.

III. Technical and Marketing Information supports the proposed revision

Over the past several decades, olive oil has been the subject of extensive scientific studies which have generated a large body of scientific literature. The physical and chemical properties of olive oil are well understood. A variety of chemical tests can determine whether olive oil is 100% pure and free from adulteration by other cheaper oils, or whether it has undergone chemical refinement or degradation due to improper

processing, packaging and storage. In addition, the olive oil industry has developed teams of trained tasters who employ objective organoleptic standards to detect defects in olive oil as well as positive attributes that might escape chemical analysis.

In almost every respect, there is a consensus among olive oil producing countries regarding the appropriate definitions of grades and the criteria by which they should be analyzed. The proposed standards reflect that consensus. Pending the outcome of a review of the correct fatty acid limits for linolenic acid, in which the USDA is participating, no limits have been proposed for that value.

IV. The proposed standards are practical and objectively enforceable

The proposed standards were specifically developed to allow practical and objective enforcement. Both the chemical and organoleptic testing criteria have been designed to eliminate subjectivity, and to permit only consistent and verifiable results. Other countries with similar standards have successfully enforced these standards.

The California Olive Oil Council has consulted with a leading olive oil chemist to confirm that the attached proposed standards are consistent with international standards, and that the chemical testing required can be efficiently and economically conducted in United States laboratories. In addition, the California Olive Oil Council and its members have developed teams of tasters to perform the required organoleptic testing. These teams could provide training to others as necessary.

V. There is broad public support for the proposed revisions

The majority of domestic producers of olive oil are members of the California Olive Oil Council, and strongly support the proposed revisions. The North American Olive Oil Association, which represents producers of imported oil, has also stated a need for United States standards that conform to commonly accepted international standards in order to promote truth in labeling.

Conclusion

For the reasons stated above, we request that the existing 1948 United States Standards for Grades of Olive Oil be replaced with the proposed new standards attached hereto.

[PROPOSED]

UNITED STATES STANDARDS

FOR GRADES OF OLIVE OIL AND OLIVE-POMACE OIL

1. DESIGNATIONS AND DEFINITIONS

1.1. **Olive Oil** is the oil obtained solely from the fruit of the olive tree (*Olea europaea* L.), to the exclusion of oils obtained using solvents or re-esterification processes and of any mixture with oils of other kinds. It is marketed in accordance with the following designations and definitions:

1.1.1. Virgin olive oils are the oils obtained from the fruit of the olive tree solely by mechanical or other physical means under conditions, particularly thermal conditions, that do not lead to alterations in the oil, and which have not undergone any treatment other than washing, decantation, centrifugation and filtration.

1.1.1.1. Virgin olive oils fit for consumption as they are include:

(i) Extra virgin olive oil: virgin olive oil which has a free acidity, expressed as oleic acid, of not more than 0.8 grams per 100 grams, and the other characteristics of which correspond to those fixed for this category in this standard.

(ii) Virgin olive oil: virgin olive oil which has a free acidity, expressed as oleic acid, of not more than 2 grams per 100 grams, and the other characteristics of which correspond to those fixed for this category in this standard.

(iii) Ordinary virgin olive oil: virgin olive oil which has a free acidity expressed as oleic acid, of not more than 3.3 grams per 100 grams and the other characteristics of which correspond to those fixed for this category in this standard.

1.1.1.2. Virgin olive oil not fit for consumption as it is, designated lampante virgin olive oil is virgin olive oil which has a free acidity, expressed as oleic acid, of more than 3.3 grams per 100 grams and/or the organoleptic characteristics and other characteristics of which correspond to those fixed for this category in this standard. It is intended for refining or for technical use.

1.1.2. Refined olive oil is the olive oil obtained from virgin olive oils by refining methods that do not lead to alterations in the initial glyceridic structure. It has a free acidity, expressed as oleic acid, of not more than 0.3 grams per 100 grams and its other characteristics correspond to those fixed for this category in this standard.

1.1.3. Olive oil is the oil consisting of a blend of refined olive oil and virgin olive oils fit for consumption as they are. It has a free acidity, expressed as oleic acid, of not more than 1 gram per 100 grams and its other characteristics correspond to those fixed for this category in this standard.

1.2. **Olive-pomace oil** is the oil obtained by treating olive pomace with solvents or other physical treatments, to the exclusion of oils obtained by re-esterification processes and of any mixture with oils of other kinds. It is marketed in accordance with the following designations and definitions:

1.2.1. Crude olive-pomace oil is olive-pomace oil whose characteristics correspond to those fixed for this category in this standard. It is intended for refining for use for human consumption, or it is intended for technical use.

1.2.2. Refined olive-pomace oil is the oil obtained from crude olive-pomace oil by refining methods that do not lead to alterations in the initial glyceridic structure. It has a free acidity, expressed as oleic acid, of not more than 0.3 grams per 100 grams and its other characteristics correspond to those fixed for this category in this standard.

1.2.3. Olive-pomace oil is the oil comprising the blend of refined olive-pomace oil and virgin olive oils fit for consumption as they are. It has a free acidity of not more than 1 gram per 100 grams and its other characteristics correspond to those fixed for this category in this standard. In no case shall this blend be called "olive oil."

2. PURITY CRITERIA

The identity characteristics comprising the purity criteria shall be applicable to olive oils and olive-pomace oils.

The limits established for each criterion include the precision values of the attendant recommended method.

2.1. Fatty acid composition as determined by gas chromatography (% m/m methyl esters):

- Myristic acid	≤ 0.05
- Palmitic acid	7.5 – 20.0
- Palmitoleic acid	0.3 – 3.5
- Heptadecanoic acid	≤ 0.3
- Heptadecenoic acid	≤ 0.3
- Stearic acid	0.5 – 5.0
- Oleic acid	55.0 – 83.0
- Linoleic acid	3.5 – 21.0
- Arachidic acid	≤ 0.6
- Gadoleic acid (eicosenoic)	≤ 0.4
- Behenic acid	≤0.2*
- Lignoceric acid	≤ 0.2

* Limit raised to ≤ 0.3 for olive-pomace oils.

2.2. *Trans* fatty acid content (% *trans* fatty acids)

	C18:1 T	C18:2 T + C18:3 T
	%	%
- Edible virgin olive oils	≤ 0.05	≤ 0.05
- Lampante virgin olive oil	≤ 0.10	≤ 0.10
- Refined olive	≤ 0.20	≤ 0.30
- Olive Oil	≤ 0.20	≤ 0.30
- Crude olive-pomace oil	≤ 0.20	≤ 0.10
- Refined olive-pomace oil	≤ 0.40	≤ 0.35
- Olive-pomace oil	≤ 0.40	≤ 0.35

2.3. Sterol and triterpene dialcohol composition

2.3.1. Desmethylsterol composition (% total sterols)

- Cholesterol	≤ 0.5
- Brassicasterol	≤ 0.1*
- Campesterol	≤ 4.0
- Stigmasterol	< campesterol in edible oils
- Delta – 7 stigmastenol	≤ 0.5
- Beta-sitosterol + delta-5-avenasterol+ delta-5-23-stigmastadienol+ clerosterol + sitostanol + delta 5-24-stigmastadienol	≥ 93.0

2.3.2. Total sterol content (mg/kg)

- Virgin olive oils	≥ 1000
- Refined olive	≥ 1000
- Olive oil	≥ 1000
- Crude olive-pomace oil	≥ 2500
- Refined olive-pomace oil	≥ 1800
- Olive-pomace oil	≥ 1600

2.3.3. Erythrodiol and uvaol content (% total sterols)

- Edible virgin olive oils	≤ 4.5
- Lampante virgin olive oil	≤ 4.5[1]

* Limit raised to ≤ 0.2 for olive-pomace oils.

- Refined olive oil ≤ 4.5
- Olive oil ≤ 4.5
- Crude olive-pomace oil > 4.5[2]
- Refined olive-pomace oil > 4.5
- Olive-pomace oil > 4.5

2.4. Wax content C40+C42+C44+C46 (mg/kg)

- Edible virgin olive oils ≤ 250
- Lampante virgin olive oil ≤ 300[3]
- Refined olive oil ≤ 350
- Olive oil ≤ 350
- Crude olive-pomace oil > 350[4]
- Refined olive-pomace oil > 350
- Olive-pomace oil > 350

2.5. Maximum difference between actual and theoretical ECN 42 triglyceride content

- Edible virgin olive oils 0.2
- Lampante virgin olive oil 0.3
- Refined olive oil 0.3
- Olive oil 0.3
- Crude olive-pomace oil 0.6
- Refined olive-pomace oil 0.5
- Olive-pomace oil 0.5

2.6 Stigmastadiene content (mg/kg)

- Edible virgin olive oils ≤ 0.15
- Lampante virgin olive oil ≤ 0.50

2.7 Saturated fatty acid content at the 2-position in the triglycerides: sum of palmitic and stearic acids: % fatty acids in the 2-position

- Virgin olive oil ≤ 1.5
- Refined olive oil ≤ 1.8
- Olive oil ≤ 1.8
- Crude olive-pomace oil ≤ 2.2
- Refined olive-pomace oil ≤ 2.2

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[1] When the oil has a wax content between 300 mg/kg and 350 mg/kg it is considered a lampante virgin olive oil if the total aliphatic alcohol content is ≤ 350 mg/kg or the erythrodiol + uvaol content is ≤ 3.5%.

[2] When the oil has a wax content between 300 mg/kg and 350 mg/kg it is considered a crude olive-pomace oil if the total aliphatic alcohol content is > 350 mg/kg and the erythrodiol + uvaol content is > 3.5%.

[3] When the oil has a wax content between 300 mg/kg and 350 mg/kg it is considered a lampante virgin olive oil if the total aliphatic alcohol content is ≤ 350 mg/kg or the erythrodiol + uvaol content is ≤ 3.5%.

[4] When the oil has a wax content between 300 mg/kg and 350 mg/kg it is considered a crude olive-pomace oil if the total aliphatic alcohol content is > 350 mg/kg and the erythrodiol + uvaol content is > 3.5%.

- Olive-pomace oil ≤ 2.2

2.8 Unsaponifiable matter (g/kg)

- Olive oils ≤ 15
- Olive-pomace oils ≤ 30

3. QUALITY CRITERIA

The limits established for each criterion and designation include the precision values of the attendant recommended method

	Extra virgin olive oil	Virgin olive oil	Ordinary virgin olive oil	Lampante virgin olive oil*	Refined olive oil	Olive oil	Crude olive-pomace oil	Refined olive-pomace oil	Olive-pomace oil
3.1 Organoleptic characteristics									
- odour and taste					acceptable	good		acceptable	good
- odour and taste (on a continous scale):									
• Median of defect	Me=0	0<Me≤2.5	2.5<Me≤6.00**	Me>6.0					
• Median of the fruity	Me>0	Me>0							
• colour					light yellow	Light, yellow to green		light, yellow to brownish yellow	light, yellow to green
• aspect at 20°C for 24 hours					limpid	limpid		limpid	limpid
3.2 Free acidity % m/m expressed in oleic acid	≤ 0.8	≤ 2.0	≤ 3.3	> 3.3	≤ 0.3	≤ 1.0	no limit	≤ 0.3	≤ 1.0
3.3 Peroxide value in milleq. Peroxide oxygen per kg/oil	≤ 20	≤ 20	≤ 20	no limit	≤ 5	≤ 15	no limit	≤ 5	≤ 15

* It is not obligatory for the criteria in 3.1, 3.2 and 3.3 to be concurrent; one is sufficient.
** Or when the median of the defect is less than or equal to 2.5 and the median of the fruity attribute is equal to 0.

QUALITY CRITERIA (cont'd)

	Extra virgin olive oil	Virgin olive oil	Ordinary virgin olive oil	Lampante virgin olive oil*	Refined olive oil	Olive oil	Crude olive-pomace oil	Refined olive-pomace oil	Olive-pomace oil
3.4 Absorbency in ultra-violet (K1% 1cm)									
- 270 nm	≤ 0.22	≤ 0.25	≤ 0.30***		≤ 1.10	≤ 0.90		≤ 2.00	≤ 1.70
- Δ K	≤ 0.01	≤ 0.01	≤ 0.01		≤ 0.16	≤ 0.15		≤ 0.20	≤ 0.18
- 232 nm*	≤ 2.50**	≤ 2.60**							
3.5 Moisture and volatile matter (% m/m)	≤ 0.2	≤ 0.2	≤ 0.2	≤ 0.3	≤ 0.1	≤ 0.1	≤ 1.5	≤ 0.1	≤ 0.1
3.6 Insoluable impurities in light petroleum % m/m	≤ 0.1	≤ 0.1	≤ 0.1	≤ 0.2	≤ 0.05	≤ 0.05		≤ 0.05	≤ 0.05
3.7 Flash point	-	-	-	-	-	-	≥ 120°C	-	-
3.8 Trace metals mg/kg									
Iron	≤ 3.0	≤ 3.0	≤ 3.0	≤ 3.0	≤ 3.0	≤ 3.0		≤ 3.0	≤ 3.0
copper	≤ 0.1	≤ 0.1	≤ 0.1	≤ 0.1	≤ 0.1	≤ 0.1		≤ 0.1	≤ 0.1

* This determination is solely for application by commercial partners on an optional basis.
** Commercial partners in the country of retail sale may require compliance with these limits when the oil is made available to the end consumer.
*** After passage of the sample through activated alumina, absorbency at 270 nm shall be equal to or less than 0.11.

4. FOOD ADDITIVES

4.1 Virgin olive oils and crude olive-pomace oil:

none permitted.

4.2 Refined olive oil, olive oil, refined olive-pomace oil and olive-pomace oil: alpha-tocopherol permitted to restore natural tocopherol lost in the refining process.

Maximum level: 200 mg/kg of total alpha-tocopherol in the final product.

5. CONTAMINANTS

5.1 Heavy metals

	Maximum permissible concentration
Lead (Pb)	0.1 mg/kg
Arsenic (As)	0.1 mg/kg

5.2 Pesticide residues

The products covered by this standard shall comply with those maximum residue limits established by the Codex Alimentarius Commission for these commodities.

5.3 Halogenated solvents

Maximum content of each halogenated solvent	0.1 mg/kg
Maximum content of the sum of all halogenated solvents	0.2 mg/kg

6. METHODS OF ANALYSIS AND SAMPLING

The latest version of these methods below should be used.

6.1 Sampling

According to ISO 5555, "Animal and vegetable fats and oils – Sampling".

6.2 Preparation of the test sample

According ISO 661, "Animal and vegetable fats and oils – Preparation of the test sample".

6.3 Determination of the fatty acid composition

According to ISO 5508, "Analysis by gas chromatography of methyl esters of fatty acids" or AOCS Ch 2-91.

6.4 Determination of the *trans* fatty acid content

According to ISO 15304 or AOCS Ce If-96.

6.5 Determination of the sterol composition and total sterol content

According to ISO 12228 or AOCS Ce If-91.

6.6 Determination of the content of erythrodiol + uvaol

According to IUPAC no. 2,431, "Determination of the erythrodiol content". Capillary columns are recommended.

6.7 Determination of the wax content

According to AOCS Ch 8-02.

6.8 Determination of the aliphatic alcohol content

According to attachment entitled "Determination of aliphatic alcohols content by capillary gas chromatography".

6.9 Determination of the difference between the actual and theoretical ECN 42 triglyceride content

According to AOCS 5b-89.

6.10 Determination of the stigmastadiene content

According to ISO 15788-1 or AOCS Cd 26-96.

6.11 Determination of the fatty acids in the 2-position in the triglycerides

According to ISO 6800, "Determination of the fatty acids in the 2-position in the triglycerides of oils and fats", or AOCS Ch 3-91.

6.12 Determination of the unsaponifiable matter

According to ISO 3596, "Determination of the unsaponifiable matter – Method using diethyl either extraction", or AOCS Ca 6b-53 or ISO 18609.

The results should be expressed in g/unsaponifiable matter per kg/oil.

6.13 Determination of the organoleptic characteristics

According to attachment entitled "Organoleptic assessment of virgin olive oil".

6.14 Determination of the free acidity

According to ISO 660, "Determination of acid value and acidity", or AOCS Cd3d-63.

6.15 Determination of the peroxide value

According to ISO 3900, "Determination of the peroxide value," or AOCS Cd8b-90.

6.16 Determination of the absorbency in ultra-violet

According to ISO 3656 or AOCS Cg 5-91.

6.17 Determination of the moisture and volatile matter

According to ISO 662, "Determination of the moisture and volatile matter".

6.18 Determination of the insoluble impurities in light petroleum

According to ISO 663, "Determination of the insoluble impurities".

6.19 Determination of the flash point

According to the FOSFA International method.

6.20 Determination of the trace metals

According to ISO 8294, "Determination of copper, iron and nickel by direct graphite furnace atomic absorption spectrometry".

6.21 Determination of the alpha-tocopherol

According to ISO 9936, "Determination of tocopherols and tocotrienols contents – Method using high-performance liquid chromatography".

6.22 Determination of traces of heavy metals.

- Determination of lead: according to ISO 12193 or AOCS Ca 18c-91 or AOAC 994.02.

- Determination of arsenic: according to AOAC 952.13 or AOAC 942.17 or AOAC 985.16.

6.23 Detection of traces of halogenated solvents

According to attachment entitled, “Determination of tetrachloroethylene in olive oils by gas-liquid chromatography”.