

PROFICIENCY TESTING SCHEMES

FOOD

| | |
|-------------|---|
| A20 | Dietary products and nutritional labeling |
| A21 | Fats and oils |
| A21a | Olive oil: physico-chemical analyses |
| 21b | Olive oil: sensorial analyses |
| A26b | Amino acids: Food |
| A46 | Honeys |
| 46a | Adulterated Honeys |
| 62 | Flavourings & Fragrances: Quality control |
| | <ul style="list-style-type: none"> • 62d: GC Analyses • 62e: LC Analyses • 62f: Chirality |
| A75 | Dairy food |

A = PTS accredited by COFRAC



20 - DIETARY PRODUCTS AND NUTRITIONAL LABELING



- Proficiency testing scheme created in **1991**
- **94 registered laboratories** from **28 countries**
- **PTS accredited by COFRAC**
- **10 rounds per annual series**
- For further details on samples please refer to the schedule.



MATRICES

- | | | | |
|-------------------------|----------------------------|------------------------|-----------------------------|
| • Baby food | • Compote | • Baby milk | • Spread |
| • Butter biscuits | • Cordon bleu | • Mayonnaise | • Ready-made dish with fish |
| • Dietary biscuits | • Clinical nutrition cream | • Liquid nutritive mix | • Ready-made dish with meat |
| • Cereals with vitamins | • Dried fruits | • Milk shake | • Salmon |
| • Dietary supplement | • Milk for breakfast | • Mustard | • Soup |

MAIN PARAMETERS *

Caloric value:

- | | |
|-----------------------------|---------------------------|
| • Ash content | • Lactose |
| • Cholesterol ^{NA} | • Maltose |
| • Dry matter | • Acesulfame K |
| • Insoluble fibers | • Glucids |
| • Lipids | • Starch |
| • Peroxide value | • Total fibers |
| • Protein | • Sulphites ^{NA} |
| • pH | • FOS ^{NA} |
| • Oleic acidity | • Taurine ^{NA} |
| • Soluble fibers | • L-carnitine |
| • Sucrose | • Nitrates ^{NA} |
| • Glucose | |
| • Fructose | |

Fatty acids:

- Relative composition in %
- Contents in g/100g

Mineral compounds:

- Ca, Cu, Cr, Fe, Mn, Mg, Mo, P, K, Na, Se, Zn, chlorides, fluorides^{NA}, iodides^{NA}.

Vitamins:

- Inositol
- Vitamins A, D, E, B1, B2, B3, B5, B6, H, B9, B12, C, K1
- Beta-carotene
- Total and free choline.

NA => Non accredited parameter

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21 - FATS AND OILS



- Proficiency testing scheme created in **1993**
- **96 registered laboratories** from **29 countries**
- **PTS accredited by COFRAC**
- **10 rounds** per annual series
- For further details on samples please refer to the schedule.



MATRICES

Oils :

- Borage
- Cabbage palm
- Crude and refined peanut
- Crude and refined palm
- Crude and refined soybean
- Crude and refined rapeseed
- Crude and refined sunflower
- Erucic rapeseed
- Fish
- Frying
- Grape pip
- Hazelnut

- Hydrogenated soybean
- Nut
- Olive
- Refined walnut
- Refined sesame
- Refined coconut
- Refined-mix
- Refined virgin-olive
- Virgin argan
- Virgin walnut
- Virgin olive
- Sweet almond

Others:

- Animal fat
- Cocoa butter
- Dried milk fat
- Lard
- Margarine
- Poultry fat
- Vegetable fat
- Tallow.

MAIN PARAMETERS*

- Adulteration
- Hexane
- Impurities
- Iodine value
- Lovibond color
- Mineral oil content Para-anisidine index
- Moisture and volatile matter
- Oleic acid
- Oxydability
- Oleic acidity
- Palmitic acidity
- Peroxide value
- Rancimat
- Saponification value
- Solids content
- Tocotrienols
- Tocopherols
- Unsaponifiable
- Wax content / 4 PAH.

Fatty acids composition:

- Arachidic
- Behenic
- Erucic
- Gondoic
- Heptadecenoic
- Linoleic
- Linolenic
- Lignoceric
- Lauric
- Myristic
- Margaric
- Nervonic
- Oleic
- Palmitic
- Palmitoleic
- Stearic

Trans fatty acids:

- Trans-octadecenoic
- Trans-octadecadienoic
- Trans-octadecatrienoic...
- Sum of saturated acid

Sterols:

- Brassicasterol
- Cholesterol
- Cholestanol
- Stigmasterol
- etc

Triglycerides by (HPLC and GC).

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21A - OLIVE OIL: PHYSICO-CHEMICAL ANALYSES



- Proficiency testing scheme created in 2008
- 57 registered laboratories from 20 countries
- PTS accredited by COFRAC
- 3 rounds per annual series
- For further details on samples please refer to the schedule.



MAIN PARAMETERS*

ACCREDITED PHYSICO-CHEMICAL ANALYSES

- Adulteration
- Delta ECN 42
- Erythrodol + uvaole
- Impurities
- Iodine value
- Lovibond color
- Moisture and volatile matter content
- Moisture content (Karl Fisher)
- Oleic acid
- Peroxide value
- Saponification value
- UV spectro-photometric test
- Stigmastadiene
- Tocopherols
- Unsaponifiable
- WAX

Fatty acids:

- Arachidic
- Behenic
- Erucic
- Gondoic
- Heptadecenoic
- Linoleic
- Lignoceric
- Margaric
- Myristic
- Palmitic
- Palmitoleic
- Stearic

Trans fatty acids:

- Octadecenoic
- Octadecadienoic
- Octadecatrienoic
- etc.

Sterols:

- Brassicasterol
- Cholesterol
- Cholestanol
- Clerosterol
- Sitostanol
- Total stigmasterol

Triglycerides: (HPLC).

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21B - OLIVE OIL: SENSORIAL ANALYSES



- Proficiency testing scheme created in **2008**
- **22 registered laboratories** from **9 countries**
- **3 rounds** per annual series (September, February, June)
- For further details on samples please refer to the schedule.

MAIN PARAMETERS*

Intensity of perceived negative attributes:

- Fusty
- Muddy sediment
- Musty
- Humid
- Metallic
- Rancid
- Winey
- Vinegary
- Acid
- Sour
- etc.

Intensity of perceived positive attributes:

- Bitter
- Fruity
- Pungent

Category of the oil:

V : Virgin
EV : Extra virgin
L : Lampante.

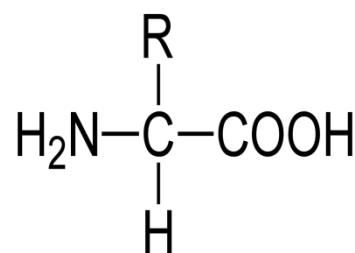
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26b - AMINO ACIDS: FOOD



- Proficiency Testing Scheme created in 1970
- **19 registered laboratories** from **15 countries**
- **This PTS is accredited by COFRAC**
- **5 rounds** per annual series
- For further details on samples please refer to the schedule.



MATRICES

- | | |
|---|---|
| <ul style="list-style-type: none"> • Casein • Dry food for children • High-protein powder • Baby milk in powder | <ul style="list-style-type: none"> • Meal substitute • Pasta • Pure lysine • Food for children. |
|---|---|

MAIN PARAMETERS *

- | | |
|--|--|
| <ul style="list-style-type: none"> • Amino acids by hydrolysis method: <ul style="list-style-type: none"> - aspartic acid - alanine - arginine - cystine - glutamic acid - glycine - histidine - isoleucine - leucine - phenylalanine - proline - serine - tyrosine - threonine - valine | <ul style="list-style-type: none"> • Sum of amino acids • Protein content. <p>Free amino acids:</p> <ul style="list-style-type: none"> - lysine - methionine - tryptophane |
|--|--|

A complementary test « 26a – Amino acids: Feed » is available. A special price will be allocated if you cumulate these schemes.

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46 - HONEYS



- Proficiency Testing Scheme created in 2001
- This PTS is accredited by COFRAC
- 52 registered laboratories from 22 countries
- 5 rounds per annual series
- For further details on samples please refer to the schedule.



MATRICES

- Monofloral: acacia, rosemaryn pine, chestnut, alder, linden, eucalyptus, sunflower, rapeseed, citrus, coriander, thyme...
- Multifloral
- Honeydew.

MAIN PARAMETERS*

Physico-chemical analyses:

- Acidity
- Diastasic activity
- Electrical conductivity
- Hydroxymethylfurfural (HMF)
- Moisture content
- Sucrase index^{NA}
- Sugars
 - fructose
 - glucose
 - ratio fructose / glucose^{NA}
 - sucrose
 - maltose
 - melezitose
 - erlose
 - turanose...

Microscopic examinations:

- Accompanying pollens
- Main pollens
- Significant isolated pollens

Identification:

- Floral origin
- Geographic origin

Sensorial analysis:

- Aroma : woody, floral, plant, animal, hot, fresh, chemical, fruity
- Flavour: sweetness, acidity, bitterness
- Smell: fresh, hot, vegetable, animal, chemical, floral, woody.

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46A – ADULTERATED HONEYS

- Proficiency Testing Scheme created in **2016**
- **1 round** per annual series
- For further details on samples please refer to the schedule.



MATRICES

- Honey

MAIN PARAMETERS*

13C (‰) whole honey ^{NA}
13C (‰) protein extract ^{NA}
C4 sugars (%) ^{NA}

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62 – FLAVOURINGS & FRAGRANCES

- PTS created in **2009**
- **38 registered laboratories** from **19 countries**
- **5 rounds per annual series**
- For further details on samples please refer to the schedule.



MATRICES

- Raw material
- Liquid flavouring
- Fragrance
- Powder flavouring
- Essential oil

QUALITY CONTROL*

- **Physico-chemical analyses :**
 - Ash
 - Acid value
 - Density
 - Evaporation residues
 - Ethanol
 - Fat content
 - Flash point
 - Flavour loading
 - Optical rotation
 - Peroxide index
 - Residue on evaporation
 - Refractive index
 - Solvent residues
 - Water content (Karl Fisher).

OTHER PTS*

- **62d – GC Analyses**
 - 2 rounds per year (30 participants)
 - Matrix: Essential oil
 - Parameters: GC criteria expressed as relative GC/FID area %
- **62e – LC Analyses**
 - 1 round per year (12 participants)
 - Matrix: vanilla extract
 - Parameters: determination of vanillin and its associated compounds
- **62f – Chirality**
 - 1 round per year (9 participants)
 - Matrix: synthetic mixture or essential oil
 - Parameters: (R)-Linalol, (S)-Linalol, (R)-linalyl acetate, (S)-linalyl acetate.

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75 – DAIRY FOOD



- Proficiency testing scheme created in **2015**
- **98 registered laboratories** from **28 countries**
- **PTS accredited by COFRAC**
- **3 rounds per annual series**
- For further details on samples please refer to the schedule.



MATRICES

- Butter
- Pasteurised milk
- Baby milk

MAIN PARAMETERS *

Caloric value:

- Ash content
- Cholesterol ^{NA}
- Dry matter
- Lipids
- Peroxide value
- Protein
- pH
- Oleic acidity
- Sucrose
- Galactose
- Glucose
- Fructose
- Lactose
- Maltose
- Glucids
- Starch
- FOS ^{NA}
- Taurine ^{NA}
- L-carnitine

Mineral compounds:

- Ca, Cu, Fe, Mn, Mg, P, K, Na, Se, Zn, chlorides, fluorides ^{NA}, iodides ^{NA}.

Vitamins:

- Inositol
- Vitamins A, D, E, B1, B2, B3, B5, B6, H, B9, B12, C, K1
- Total and free choline.

Fatty acids:

- Relative composition in %
- Contents in g/100g

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