

# GRUPO ANALIZA CALIDAD

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International Workshop UBU 2013  
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# GRUPO ANALIZA CALIDAD



Group of companies that aims to provide comprehensive support to companies in different sectors such as:

- ✓ Agriculture
- ✓ Animal feed
- ✓ Human food
- ✓ Environmental
- ✓ Industrial

# Our companies



1. **ANALIZA CONTROL DE CALIDAD S.L. (BURGOS)**
2. **ANALIZA CALIDAD MADRID S.L.**
3. **ANALIZA CALIDAD BARCELONA S.L.**
4. **ANALIZA CALIDAD VALLADOLID S.L.**
5. **SANILAB CALIDAD S.L. (ZAMORA)**
6. **HIDROMANTE S.L. (CACERES)**
7. **AUDITAR ALIMENTARIA S.L. (MADRID)**
8. **GARANTIZA/FORMEAM (VALLADOLID)**
9. **AKLABS CALIDAD S.L. (CASTELLÓN)**
10. **LABNOVA DISTRIBUCIONES ALIMENTARIAS S.L. (BURGOS)**

# Our analysis

- Microbiology
- Bromatology
- Additives
- Mycotoxines
- Drinking water
- Waste water
- Soil
- Pathogenic micro-organisms identification
- And so on...



# Microbiological Analysis



## ○ **Indicator parameters** *(both in food and water):*

- ✓ Aerobic mesophilic
- ✓ Enterobacteria
- ✓ Molds and yeasts
- ✓ Coliforms
- ✓ Fecal coliforms
- ✓ Sporulated microorganisms
- ✓ psychotrophics
- ✓ Lactic acid bacteria
- ✓ Aerobic thermophilic
- ✓ Anaerobic
- ✓ Anaerobic sulfite reducing
- ✓ Streptococcus

# Microbiological Analysis

## ○ Pathogenic micro-organisms

- ✓ *Bacillus cereus*
- ✓ *Clostridium perfringens*
- ✓ *Escherichia coli*
- ✓ *Staphylococcus aureus*
- ✓ Salmonella
- ✓ *Listeria monocytogenes*
- ✓ *Pseudomonas aeruginosa*
- ✓ *Legionella pneumophila...*



# Bromatologic Analysis



- **Nutritional facts:**

- ✓ Moisture, fat, protein, carbohydrates, etc.

- **Fat:**

- ✓ Saturated fatty acids, unsaturated fatty acids, cholesterol, sterols...

- **Minerals:**

- ✓ Iron, calcium, magnesium.

- **Vitamins**

A photograph of a nutrition facts label. The label is titled "Nutrition Facts / Vale" and provides information for "Per 1/2 package (85 g) / pour 1/2 emballage" and "1/2 package prepared / 1/2 emballage préparé". It lists various nutrients and their amounts, along with a column for "% Daily Value".

Amount Teneur	% Daily Value
Calories / Calories	
Fat / Lipides 4.5 g*	
Saturates / saturés 2.5 g	
+ Trans / trans 0.2 g	
Cholesterol / Cholestérol 15 mg	
Sodium / Sodium 870 mg	
Carbohydrate / Glucides 55 g	
Fibre / Fibres 3 g	
Sugars / Sucres	

# Pollutants

- In compliance with Regulation 1886/2006:
  - ✓ Nitrates
  - ✓ Heavy Metals
  - ✓ Mycotoxines
  - ✓ Dioxins and PCBs





# Allergens

- Gluten
- Lactose
- Sulphites
- Soya
- Egg
- Nuts



Gluten free

# Drinking water



- **Microbiological analysis**
- **Phisico-chemical parameters:**
  - ✓ Nitrites
  - ✓ Nitrates
  - ✓ Chloride
  - ✓ Sulphate...
- **Metals:**
  - ✓ Sodium, calcium, magnesium...
  - ✓ Heavy metals as lead, cadmium, mercury, arsenic...
- **Another contaminants**
  - ✓ Pesticides, hydrocarbons...



# Industrial water



- **Ultrapure water**

- ✓ Low detection limits for many substances, as TOC (Total Organic Carbon), under the limit set by the Real Farmacopea Española

- **Tower water**

- ✓ Phisico-chemical and microbiological control, including *Legionella Pneumophyla*

- **Sewages**

- ✓ Control of industrial waste water in order to compliance the legal requeriments
- ✓ Automatic sampler, to make a representative sample during all the working day
- ✓ Collaborative with the Hidroghaphic Confederation

# Enviromental Analysis



- **Sewages**
- **Muds**
- ✓ Controlling their adequation to be used in agriculture



Toma de muestras del influente a una EDAR / M. C. T.

# Agriculture



## ○ Soil

- ✓ Texture, pH, organic materia, calcic carbonate, etc.
- ✓ To know the adequation of the soil for a crop, and to choose the fertilizing it needs

## ○ Fertilizers

- ✓ Total NPK amount
- ✓ Another nutrients like calcium and magnesium



# Instrumental Analysis

- GC
- GC-MS
- HPLC
- LC-MS/MS



# GC and GC-MS

- **Gas chromatography:**

- ✓ Fatty acids profile
- ✓ Sterols
- ✓ Alcohols

- **GC-MS:**

- ✓ Pesticide residues
- ✓ Hydrocarbons
- ✓ Phenols
- ✓ PAH's
- ✓ VOC's

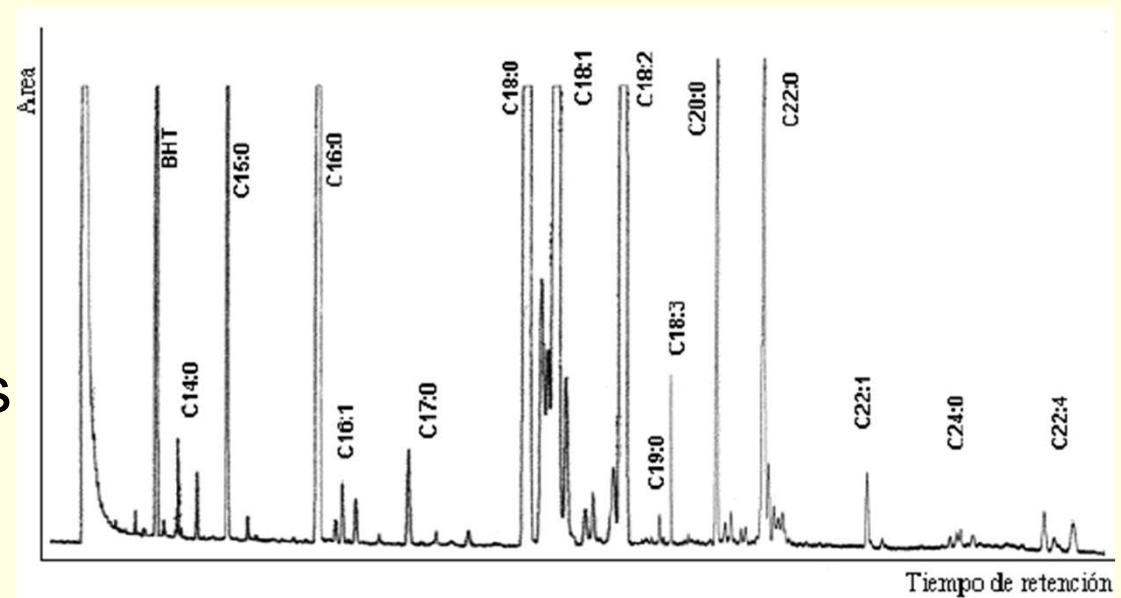


Figura 6. Cromatograma característico del perfil de ácidos grasos.

# HPLC



- **Amino-acids:** complete aminogram, lysine, methionine, tryptophan...
- **Organic acids** (fumaric, lactic)
- **Veterinary medicinal products:** tetracyclines, sulfonamides, tiamulin, trimethoprim, amoxicilin, lincomycin, tylosin, salinomycin, monensin...
- **Vitamines:** A, D, E, vitamin B group... (both in animal and human feed)



# HPLC

- **Preservatives:** sorbic acid, propionic acid...
- **Antioxidants:** BHT, BHA, ethoxyquin...
- **Dyes**
- **Sugars**
- **Sweeteners**



# HPLC



**Our Instrumental Departament we have three HPLC equipments**



# LC-MS/MS

- **Mycotoxines**
- **Medicine residues**
- **Pesticide residues**



# ISO 17025:2005



## Three current acreditations:

- **Dossier 552/LE1333**

- ✓ Human food and animal feed
- ✓ Microbiology and phisic-chemical

- **Dossier 552/LE1225**

- ✓ Drinking water, continental water and waste water
- ✓ Microbiology and phisic-chemical (Including Legionella)

- **Dossier 1013/LE1770**

- ✓ Animal feed (antibiotics) and human food (preservatives)
- ✓ HPLC methods

# ISO 17025:2005

## 2014 targets:

- Heavy metals
- More preservatives
- Mycotoxines (LC-MS/MS)
- Alergens



**THANK YOU**

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