

Almond processing and industrialisation

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Almonds are the raw material for
many different products

but before they must be
processed

The base for this presentation is
the information of:

- Alexis Verdú (Consejo Regulador de las Denominaciones Específicas Jijona y Turrón de Alicante)
- Santiago Izquierdo (Frutos Secos Alcañiz)

The objectives of the industry are:

- Supplying line security
- High quality of the finished product
- High shelf-life of the finished product

All these objectives are related to
quality:

- Plant material ('Marcona', 'Belona')
- Production aspects
- Technological aspects
- Industrial processes

Harvesting



Reception



Cracking

- Shell type
- Double shell
- Double kernels



Blanching

- Hot water
- Rubbing strengths
- Opposite directions
- Different speed



Quality guidelines

In-shell almonds

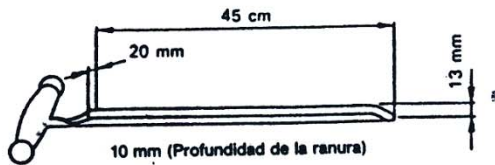
- Dry
- Healthy
- No impurities
- No hull
- No different hardness
- Moisture thresholds
(6.5-6.25 %)



Quality guidelines shelled almonds (Food Legislation)

- No impurities
- Moisture thresholds
- Aflatoxins
- Traceability
- GMOs
- Pesticide residues
- Heavy metals
- Microbiological samples





10 mm (Profundidad de la ranura)
Fig. 1. Sonda afilada abierta

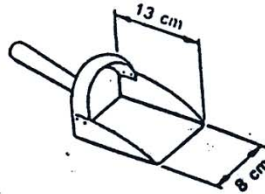
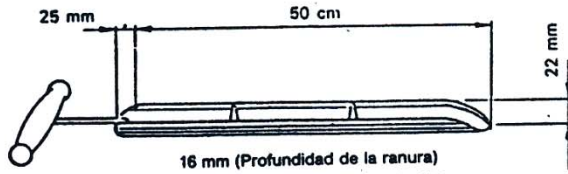


Fig. 2. Pala de mano



16 mm (Profundidad de la ranura)
Fig. 3. Sonda afilada abierta, dividida

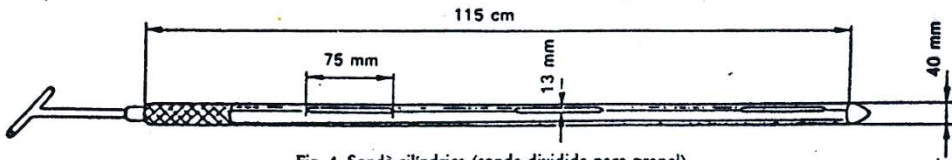


Fig. 4. Sonda cilíndrica (sonda dividida para granel)



Fig. 5. Sonda especialmente concebida para sacos

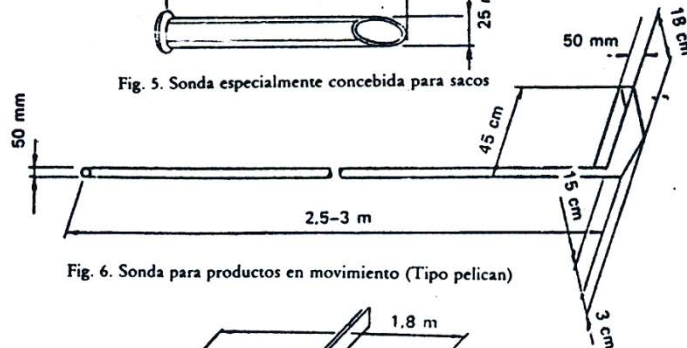


Fig. 6. Sonda para productos en movimiento (Tipo pelican)

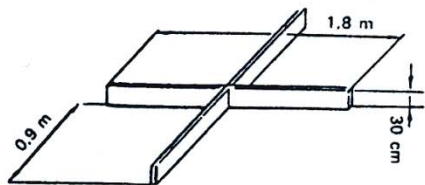


Fig. 7. Cruz

Sampling



Almond utilisation

- Appetizers
- Nougat
- Marsipan
- Pastries
- Ice cream
- Fillings
- Confectioneries
- Flour
- Milk
- Oil
- Etc...

Appetizers

- Raw/roasted/fried
- With seed coat or not
- With flavours
 - Salt
 - Garlic, onion, etc...
 - Curry, paprika, etc...
 - Smoke flavours.



Nougat (“turrón”)

- Soft (high fat content)
- Hard (kernel thickness)
- Guirlache
- Etc...





Marzipan

- Low fat content
- Rolls
- Figures
- Eels



Cakes and pastries

- Cakes
- Bites
- Christmas sweets
- Ice cream
- Dices
- Flour (low fat content)



Fillings

- Slices
- Dices
- Sticks



Confectioneries

- Sugared almonds (“peladillas” or “dragées”)
- Chocolate bonbons (large size)
- Chocolate bars (thickness)



Gastronomy

- Many dishes, gravies and sauces (soups, fricassee, romesco)
- Garnish (trout, vegetables)
- Roll covering instead of wheat flour





Almond milk and “orchata”

- Dietetic aspects
 - Intolerance to lactose
 - Low fat content
 - No gluten





Almond oil

- Cosmetics and Pharmacy
 - Dry skins (moistening, softening, anti-inflammatory)
 - Reducing cholesterol
 - Anti-oxidant
 - Laxative
- Extraction
- Nougat exudation



Shell uses

- Heating
- Conglomerates
- Active carbon
- Containers



BIO LINE

