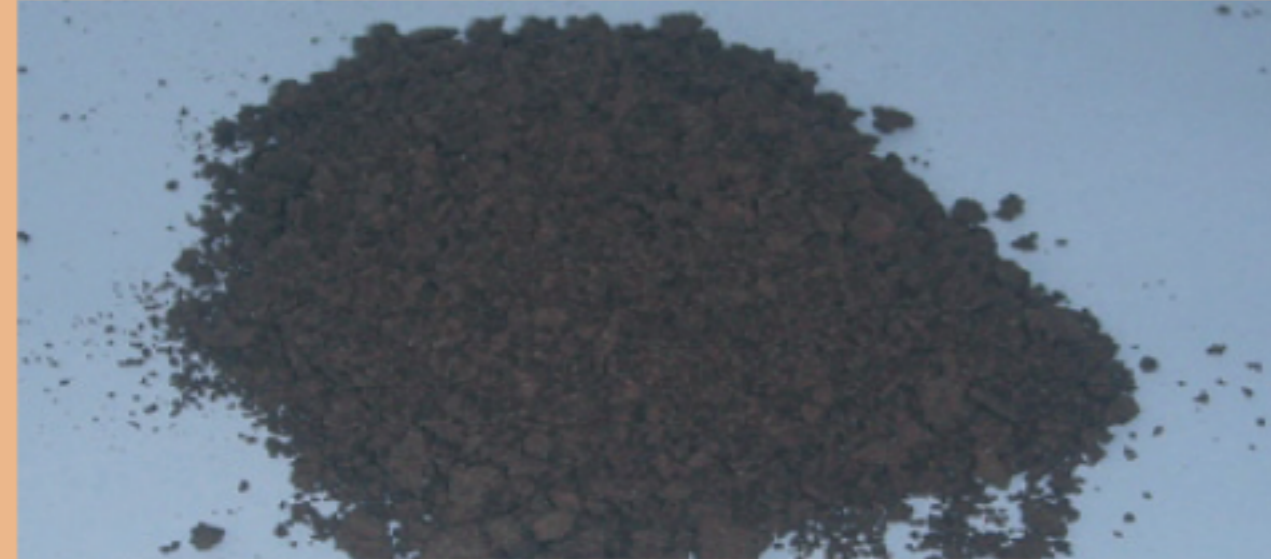


# CURED OLIVE FRUIT POWDER GRANULATE AND OLIVE FRUIT PASTE.

Olives



Olive Granulate



## OLIVE GRANULATE SPECIFICATION

### Description

Botanical name: Olea Europea L.  
Part of the plant used: Fruit (black olive)

### Format

Free flowing light brown small granulate, with the characteristic flavour and aroma of olives.

### Process

Obtained from fresh & washed macerated olives, partially defatted to enable the product to be cured, concentrated and spray dried.  
The product is entirely natural and is manufactured without the use of processing additives.

### Physical parameters

Fineness: 99% within range 125 - 800 microns  
Moisture: < 4.0%  
Ash: 4.0% - 6.0%

### Microbiological parameters

Enterobacteriaceae/g: 100 CFU/ g max.  
Yeast & moulds/g: 100 CFU/ g max.  
Total Viable Plate count /g: 100 CFU/ g max.  
Lactobacillus/g: 100 CFU/ g max.  
E.Coli /g: Absent  
Salmonella/25g: Absent

### Nutritional data

Fat: 5.0% - 15.0%  
Protein: 5.0% - 10.0%  
Digestible carbohydrates:  
Starch: 5.0% - 10.0%  
Sugars: 19.2%  
Dietary fibre:  
Soluble fibre: 4.7%  
Insoluble fibre: 20.2%  
  
Tocopherols: 50.0 mg/ kg  
  
Total polyphenols: 5.0% - 6.0%  
Hydroxytyrosol: 0.71%  
Tyrosol: 0.12%  
Oleuropein: 0.02% (740 mg /kg)  
ORAC: 1200 micromole TE/g

Sodium: 0.11%  
Potassium: 1.91%  
Phosphorous: 0.19%  
Calcium: 0.21%  
Magnesium: 0.08%

### Packaging

Cardboard box with Polythene inner bag, 25 kgs net.  
Optional Big Bags - 400 kg

### Storage conditions

Cool, dry and out of direct sunlight. Ideally, between 4 - 20° C, < 60.0% rh

### Shelf life

Minimum 18 months

## REDUCED FAT OLIVE GRANULATE AND PASTE

- An exciting opportunity for savoury foods and wonderful way to export the Mediterranean taste

September 2006

Olives are an extraordinary fruit, and greatly appreciated the world over. Olive trees have been cultivated for thousands of years and are a product of the Mediterranean basin.

The majority of the harvest is used for the production of olive oil and to a lesser extent, table olives.

Unfortunately the pressed olive, which is a by product from olive oil production, is somewhat discarded or utilised to make second grade inexpensive products (notably the fabrication of combustible material, a component for fertilisers or certain industrial chemicals, or as an addition to certain animal food stuffs). Regardless of these alternative uses, the olive oil refineries remain a wash with this by product to the extent that much of it is simply discarded to waste and subsequently could represent a pollution hazard.

To date, pressed olives (sometimes referred to as "olive cake" or "alperujo") have hardly been exploited for human nutrition and we have only scratched the surface for this exciting opportunity, which given the right scientific understanding, will open up a vast market for the savoury food industry. It should not be underestimated the sheer magnitude and thousands of tons of olive cake which is generated with every annual harvest.

We already know the olive pulp is rich in certain nutrients, including natural residual quality olive oil (up to 15%), dietary fibre and especially anti-oxidants (in particular polyphenols and vitamin E). Attempts have been made to develop an olive powder for human consumption and this was described in a patent which was filed a number of years ago. Unfortunately early results showed the product was extremely bitter rendering it virtually inedible, as well as being inhomogeneous and having poor free flowing attributes.

Nevertheless, the idea of having a stable dry olive food stuff or liquid concentrate available all year around would inevitably bring a multitude of benefits; firstly it would help to utilise a relatively inexpensive by product and potential environmental pollutant, and secondly it would create new employment following the emergence of a new processing industry, which could be compared to the magnitude of the tomato processing plants that we currently have today. The versatility of olive powders and concentrates for application in savoury food is vast as highlighted in the web site [www.olivepowder.com](http://www.olivepowder.com). The main use is for savoury dishes such as soups, sauces, pizza toppings, pasta, bread and snacks, not to mention as a condiment including cooking bouillon cubes or even as an alternative to table salt. These ingredients also serve as base material for the production of olive flavours and food preservatives (as previously reported in the scientific press for bread and certain canned products).

With this innovation, fresh olive cake (or alperujo) is taken from the refinery and cured in a specially developed industrial process, not too dissimilar to that which has been practised for thousands of years for table olives. Once cured and stabilised the olive concentrate can optionally be de-bittered to the desired pre-determined degree. The full process is entirely natural and makes use of established food ingredients and processing aids entirely native to the Mediterranean basin.

The cured olive concentrate, can then be optionally sterilised to produce olive pastes of different Brix and subsequently could be packaged as an industrial ingredient in aseptic sachets, commonly available in the food manufacturing industry.

Alternatively, the cured olive concentrate can be dried by a commonly available processes well known in the food industry, such as spray drying in a fluidised bed to produce a free flowing (and virtually dust free) granulate.

The cured olive concentrate can be used to manufacture olive flavours or anti-oxidant concentrates using a proprietary aqueous process and is available in liquid, paste and powder formats.

These products can be manufactured from green, red and/or ripe black olives offering a range of colours from olive green to dark brown.

For more details, you are advised to visit the web site and consult the products specification. Samples are readily available and we predict this is an industry that will offer steady and sustainable growth over many years to come. Now that major multinational food companies have taken an interest in these ingredients, it is only a matter of time before we see them appearing in major brand food products.

Olive groves are native to the Mediterranean basin and are suited to the climate in a limited number of regions around the world; Developments within the olive processing sector will have direct impact upon the many rural communities, whose dependant on olive processing for their livelihood. Furthermore, this is not an industry that can be easily up-routed because olive trees take a number of years to cultivate and bear fruit.

Olive granulate and olive concentrate is an ideal and innovative export product that will add further fame to one of our most venerated fruits.

Fortunately, these new ingredients are covered by pending patents and a local food manufacturer has already "lifted the gauntlet" to make olive granulate and olive concentrate a reality.

- web: [www.olivepowder.com](http://www.olivepowder.com)
- e-mail: [cpc@olivepowder.com](mailto:cpc@olivepowder.com)

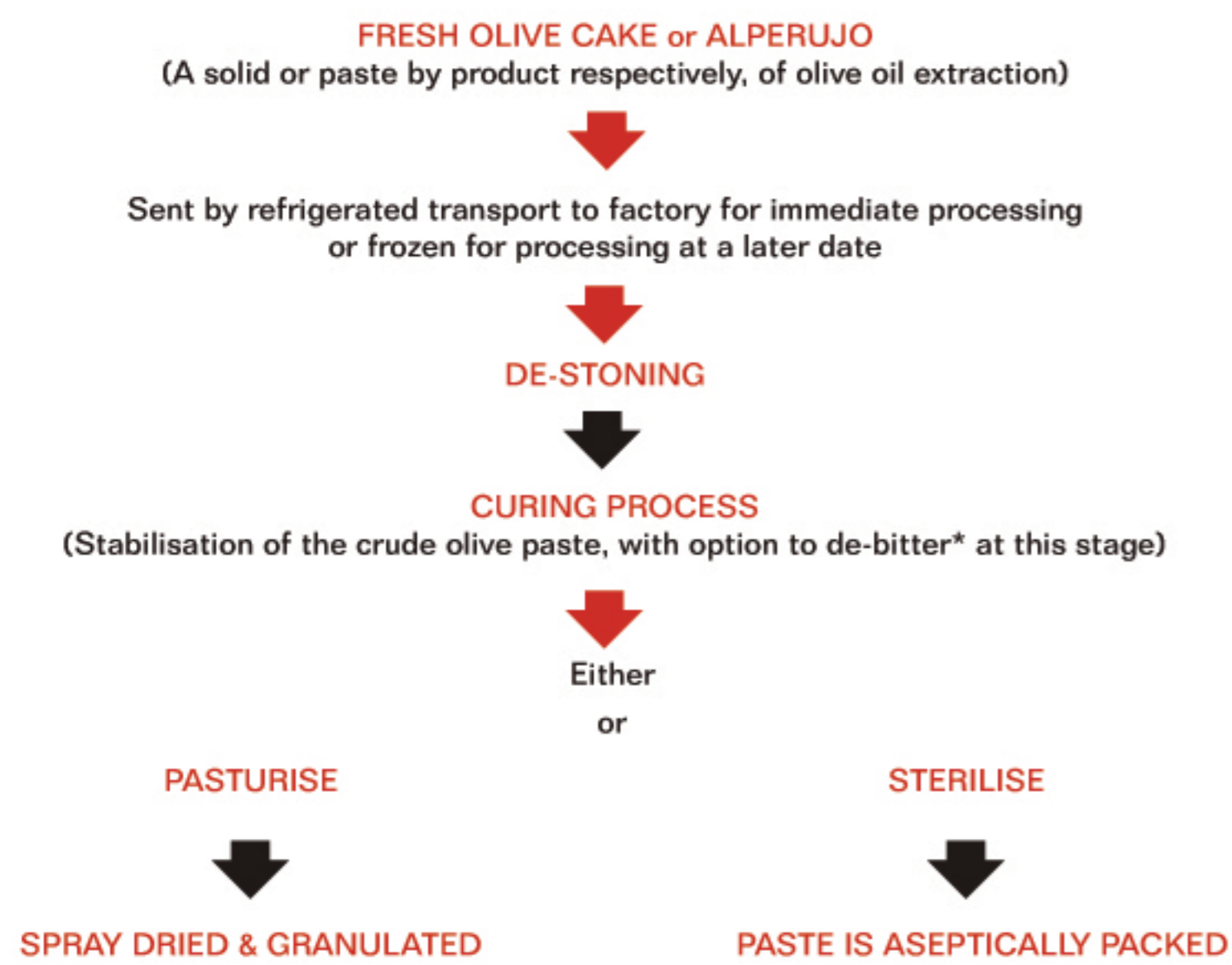
## LIST OF OLIVE PRODUCTS: September 2006

- Cured olive granulate
- Cured & de-bittered olive granulate
- Cured olive paste
- Cured and de-bittered olive paste
- Reduced fat Olive Sauce
- Reduced fat Olive Spread
- Olive Extract (Rich in polyphenols)
- Olive Flavour

### Colour Options (dependent on Olive fruit used)

- Green
- Dark brown

## TYPICAL PROCESS FLOW CHART Olive Granulate and Olive Paste



\*proprietary in house processes

## APPLICATIONS



Olive soup



Olive sauce



Olive bouillon cubes



Olive flavored crisps



Olive pizza



Olive bread



Typical food and beverage products which contain olive granulate or olive paste

## SUMMARY

To summarise, olive granulate and paste:

- Add value and utilise a by product
- Creates a new innovative product that has many uses in the food and potentially the Pharmaceutical industry.
- Strengthens existing manufacturing infrastructures at origin
- Creates new job opportunities within the olive industry
- Reduces the effects of waste by products on the environment
- Promotes the known healthy benefits of the olive fruit