

It started with a dream
and grew with faith & hard work



Fridal is a privately owned Egyptian company established in 1957 with its headquarters located in 6th of October city.

With five processing plants, over 800 employees and 3000 Feddans of privately owned land cultivated all over Egypt, Fridal is specialized in the fields of Flavors & Fragrances, Herbs & Spices, Essential Oils, Processed Food, Absolutes & Concretes, Natural Extracts and Chemicals.

Throughout the past fifty years, Fridal has gained the experience to establish and boost its remarkable share in the Egyptian market and become a major supplier to a number of countries in the international markets.

The company started by growing Aromatic plants in the fifties in response to the increasing demand for essential oils, specifically Geranium by all overseas buyers. Accordingly, Fridal became one of the biggest producers & exporters of essential oils and Concretes as well as some Herbs & spices.

As a result, Fridal found itself fully involved in the perfumery world which led to a deeper interest in growing floral plants for concretes & absolutes. It was then that Fridal increased its activities by producing perfumes, flavors & fragrances in the early eighties. Throughout the following ten years Fridal expanded its range of products in all its divisions. It also became one of the major producers & exporters of Herbs & Spices especially to the United States of America.

Fridal continued to grow significantly and expanded its divisions, facilities and lands in a vision to be independent of market turbulences and self supply most of its raw materials.

Today, Fridal is a major supplier of a wide range of products and offers an outstanding worldwide service. It has also started its expansions within the retail market through processed food & household products.



Essential Oils, Absolutes & Concretes

An essential oil is a pure concentrated liquid containing volatile aroma compounds found in plants. Essential oils are also known as "volatile oils", "ethereal oils" or simply as the oil of each distinctive plant from which they were extracted.

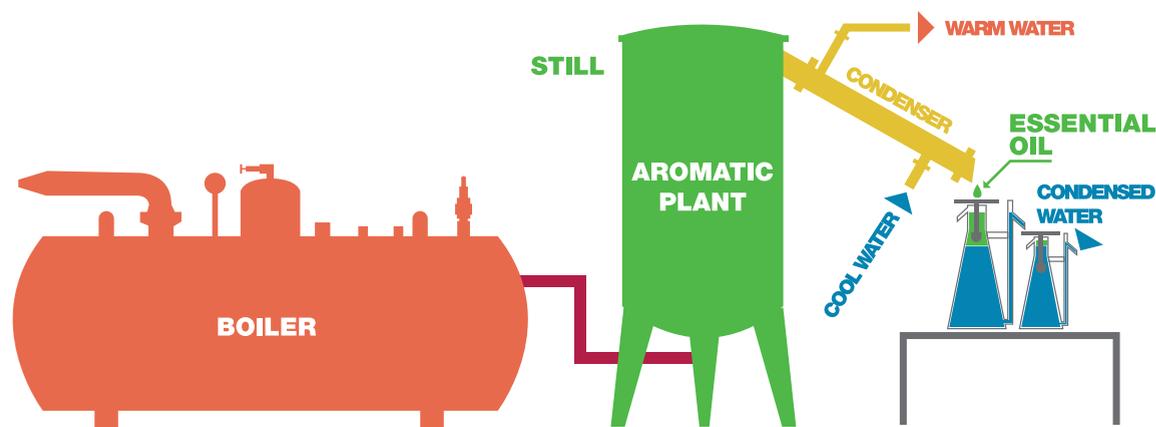
The naming of "essential" oil comes from the sense that it carries a unique and distinctive scent, or essence, of the plant. Essential oils do not form a distinctive category for any medical, pharmacological, or culinary purpose.

Fridal became interested in the production of essential oils due to its various uses in Flavors & Fragrances and Medical applications.

Relying on its lands, labs, facilities & distillation units owned in 6th of October city, Banisweif & Western desert, Fridal cultivates most of its products and extracts them using "Steam distillation" which is the main technique used to distill most of the aromatic plants in Egypt. Both distillation facilities owned by Fridal include a complete solvent extraction unit to extract oils of jasmine and other delicate products.

Today, Fridal is working on introducing new varieties of essential oils to the Egyptian market by growing foreign species that can adapt to the climate in Egypt.

Steam Distillation



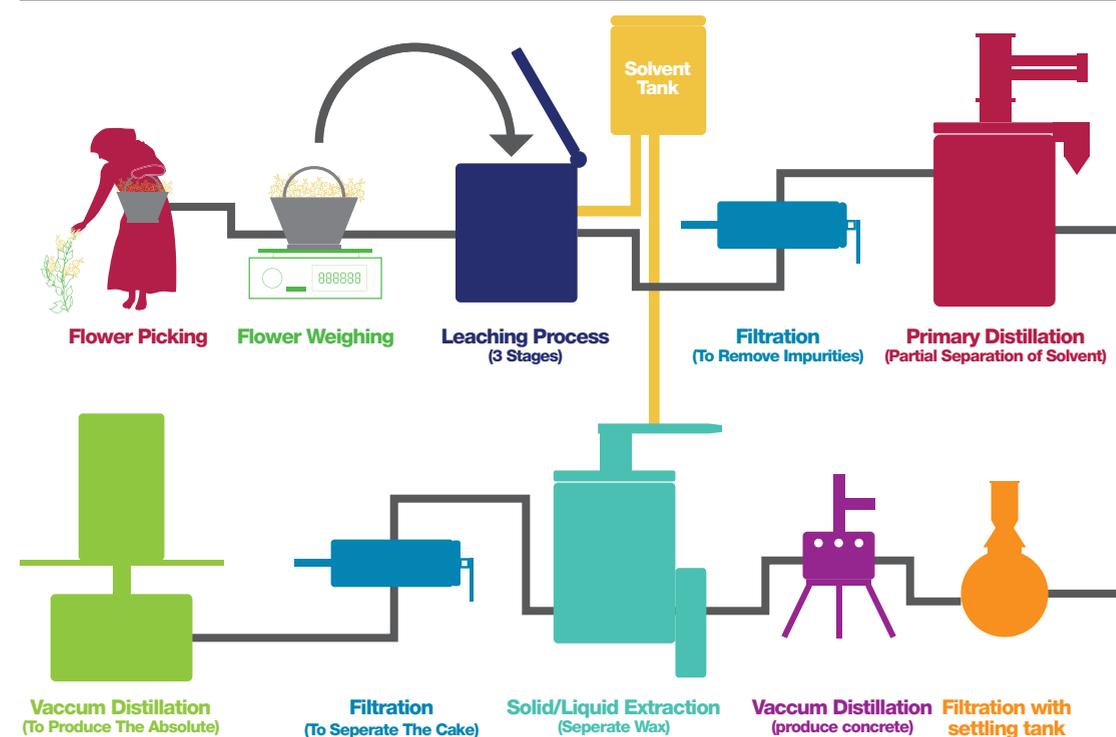
During "Steam Distillation" which is the process used for manufacturing and extraction of essential oils, the botanical material is placed upon a grid inside the still. The still is then sealed and steam is forced over the material. Steam then slowly breaks through the plant, flower or seed to remove its volatile constituents. The hot steam helps to release the aromatic molecules from the plant material since the steam forces open the pockets in which the oils are kept in the plant material.

The molecules of these volatile oils then escape from the plant material and evaporate into the steam.

The volatile constituents then rise through a connecting pipe leading them into a condenser. The condenser filled with cold water from a cooled water source starts cooling the rising vapor back into liquid form. The liquid is then collected in a vessel below the condenser. Since the water and essential oils do not mix, the essential oil will be found separated on the surface of the water where it is siphoned off. Occasionally an essential oil is denser than water and is found on the bottom rather than the top.

The temperature of the steam needs to be carefully controlled - just enough to force the plant material to let go of the essential oil, yet not too hot as to burn the plant material or the essential oil. This temperature of course differs from a plant to the other and is controlled by controlling the distillation period.

Solvent Extraction



As for the "Solvent Extraction" technique used to extract oils from flowers that are of high delicacy and cannot be distilled using steam distillation the process is simply as follows:

Solvent extraction involves the use of oil-soluble solvents such as hexane. The use of solvents gives a higher yield and also keeps the more water-soluble components intact, which would otherwise be lost in distillation.

Extracts from hexane and other hydrophobic solvents are called concretes, which are a mixture of oil, waxes, resins, and other lipophilic (oil soluble) plant material. Although highly fragrant, concretes contain large quantities of non-fragrant waxes and resins. Often, another solvent, such as ethyl alcohol, which is more polar in nature, is used to extract the fragrant oil from the concrete. The alcohol is removed by evaporation, leaving behind the absolute.

Here is an example of solvent extraction in jasmine flowers. Jasmine flowers are picked by hand early in the morning and extracted as soon as possible by hexane or other volatile solvents. The flowers are delicately immersed in the solvent in a multi stage process called "Leaching". The extract is known as concrete, after removal of the solvent; it is a very colored, sometimes brownish, waxy mass. The "fragrant oil", or rather the more soluble components contained in this waxy concrete, are extracted by warming it with absolute ethanol at 40-50 degrees C and then by chilling to -5 to -12 degrees C to precipitate out the waxes. The resultant filtrate, separated by filtration, is called 'absolute' after recovery of the ethanol by distillation under reduced pressure. These absolutes are normally colored as they still contain pigment and often have a mild proportion of waxes.

Essential Oils Product List



Aloe vera Oil

Anise Oil

Basil Oil (Linalool)

Basil Oil (Methyl Chavicol)

Caraway Seed Oil

Cassie Absolute

Chamomile Oil Blue / Concrete

Coriander Herb Oil

Cumin Seed Oil

Cypress Oil (Monterey)

Dill Weed Oil

Fennel Oil Bitter

Fennel Oil Sweet

Geranium Oil

Jasmine Absolute & Concrete

Lemon Grass Oil

Lemon Petitgrain Oil

Mandarin Petitgrain Oil

Marjoram Oil

Nigella Sativa Oil (Black Cumin)

Orange flower Absolute

Parsley Herb Oil

Rosemary Oil

Sesame Oil

Tagetes Oil

Violet Absolute

Zanthoxylum Oil

Basil Oil

Botanical Name
Ocimum Basilicum

Main Components
Linalool, Eucalyptol, Bergamotene, Eugenol.

USES
Perfumery, flavoring & aromatherapy.

Crop Cycle

| | | | | | |
|-----|--------------|------------------|----------------------|--------------|----------------------|
| Jan | Feb | Mar | Apr | May | Jun |
| | | Soil Preparation | Seed Plantation | Plant Growth | 1st Cut Distillation |
| Jul | Aug | Sep | Oct | Nov | Dec |
| | Plant Growth | | 2nd Cut Distillation | | |

Odor
Sweet, herbal & Spicy

Color
Colorless to pale yellow

Part Distilled
Whole plant with flower

Extraction
Steam Distillation

Cumin Oil

Botanical Name
Cuminum Cyminum

Main Components
Beta-Pinene, Gamma-Terpinene, Para-Cymene, Cuminaldehyde, Para Menthadienal, Cuminic Alcohol.

USES
Flavor, medical uses and perfumery.

Crop Cycle

| | | | | | |
|-----|-----|------------------|--------------------|--------------|-----|
| Jan | Feb | Mar | Apr | May | Jun |
| | | Plant Growth | | Distillation | |
| Jul | Aug | Sep | Oct | Nov | Dec |
| | | Soil Preparation | Seeding Plantation | Plant Growth | |

Odor
Heavy & spicy

Color
Light yellowish brown

Part Distilled
Seed

Extraction
Steam Distillation

Chamomile Oil

Botanical Name
Matricaria Chamomilla

Main Components
Alpha Bisabolol Oxide, Chamazulene, Farnesene, Alpha Bisabolol.

USES
Flavoring, skin care, perfumery and medical uses.

Crop Cycle

| | | | | | |
|-----|------------------|--------------------|--------------|----------------|-----|
| Jan | Feb | Mar | Apr | May | Jun |
| | Flower Picking | | Distillation | | |
| Jul | Aug | Sep | Oct | Nov | Dec |
| | Soil Preparation | Seeding Plantation | Plant Growth | Flower Picking | |

Odor
Sweet & herbal

Color
Blue green to dark blue

Part Distilled
Flower

Extraction
Steam Distillation

Geranium Oil

Botanical Name
Pelargonium Graveolens

Main Components
Citronellol, Geraniol, Citronellyl Formate, Geranyl formate, 10-epi-gamma-Eudesmol, Isomenthone, Linalool.

USES
Perfumery, flavoring, medical uses and skin care.

Crop Cycle

| | | | | | |
|-----|--------------|--------------|----------------------|--------------------|----------------------|
| Jan | Feb | Mar | Apr | May | Jun |
| | | Plant Growth | | | 1st Cut Distillation |
| Jul | Aug | Sep | Oct | Nov | Dec |
| | Plant Growth | | 2nd Cut Distillation | Seeding Plantation | |

Odor
Sweet & rosy

Color
Clear yellowish green

Part Distilled
Whole plant

Extraction
Steam Distillation

Jasmine Oil

Botanical Name
Jasminum Grandiflorum

Main Components

Benzyl Acetate, Benzyl Benzoate, Phytol, Iso-Phytol, Cis-Jasmone, Linalool, Indol.

USES

Perfumery, skin care and aromatherapy.



| Jan | Feb | Mar | Apr | May | Jun |
|-----------------------------|-----|-----|-----|-----|----------------|
| Plant Growth | | | | | Flower Picking |
| Jul | Aug | Sep | Oct | Nov | Dec |
| Flower Picking & Extraction | | | | | |

Odor
Floral & sweet

Color
Orange to brown

Part Distilled
Flower

Extraction
Solvent Extraction

Parsley Oil

Botanical Name
Petroselinum Crispum

Main Components

Alpha Pinene, Beta Pinene, Mentha Triene, Myristicin, Beta Myrcene.

USES

Medical uses, flavoring and perfumery.



| Jan | Feb | Mar | Apr | May | Jun |
|------------------|-----|-----------------|--------------|--------------|-----|
| Herb Cutting | | | | Distillation | |
| Jul | Aug | Sep | Oct | Nov | Dec |
| Soil Preparation | | Seed Plantation | Plant Growth | | |

Odor
Fresh, herbal and spicy

Color
Light yellow to light brown

Part Distilled
Whole plant with seeds

Extraction
Steam Distillation

Marjoram Oil

Botanical Name
Origanum Majorana

Main Components

Sabinene, Sabinene Hydrate, Terpinenol, Alpha Terpinene, Gamma Terpinene, Alpha Terpineol.

USES

Perfumery, flavoring and medical uses.



| Jan | Feb | Mar | Apr | May | Jun |
|--------------|----------------------|------------------|---------------------|----------------------|-----|
| Plant Growth | 3rd Cut Distillation | Plant Growth | | 1st Cut Distillation | |
| Jul | Aug | Sep | Oct | Nov | Dec |
| Plant Growth | 2nd Cut Distillation | Soil Preparation | Seedling Plantation | Plant Growth | |

Odor
Sweet & spicy

Color
Pale to greenish yellow

Part Distilled
Flowering tops

Extraction
Steam Distillation

Tagetes Oil

Botanical Name
Tagetes Minuta

Main Components

Ocimene, Tagetone, Dihydro Tagetone

USES

Perfumery, flavoring and medical uses.



| Jan | Feb | Mar | Apr | May | Jun |
|--------------|------------------|-----------------|---------------------|----------------------|----------------------|
| Plant Growth | | | | 1st Cut Distillation | Plant Growth |
| Jul | Aug | Sep | Oct | Nov | Dec |
| Plant Growth | Soil Preparation | Seed Plantation | Seedling Plantation | Plant Growth | 2nd Cut Distillation |

Odor
Wild, fruity and citrus

Color
Yellow to reddish-amber

Part Distilled
Whole plant with flower

Extraction
Steam Distillation

Crop Calendar

The Crop Calendar is a tool that provides timely information about each plants cycle of growth to promote local crop production and guide consumer to the best time of purchasing a fresh and cheap product.

Through out the past 20 years the world has witnessed remarkable changes in the climate all over the globe.

This in turn affected the known growth cycle of each crop shifting the seasons of plants activity according to the area.

Today we have plotted our own most up to date calendar depicting the crop time "For essential oil extraction" of each product.

