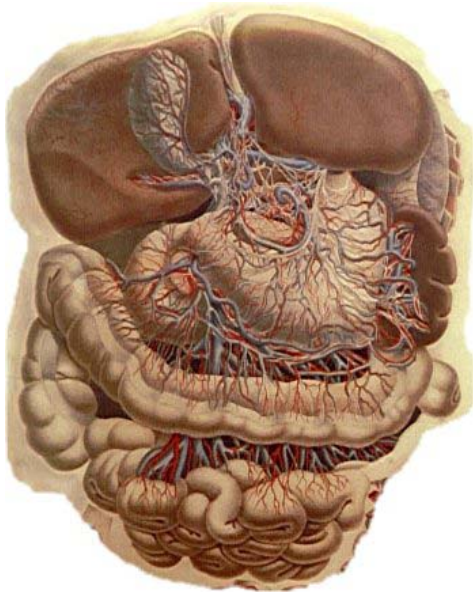


## Dolce Digestivo

### Gastric Health

The gastrointestinal system plays a fundamental role in our dietetic-metabolic balance and overall health.

The GI system draws nutrients from our diet and eliminates waste from our bodies.



Gastrointestinal Apparatus

Our modern lifestyles affect our GI systems not simply because of what we eat but also how we eat. The GI system is regulated by hormones and nerves, and its performance can be heavily influenced by stress and anxiety. GI health is one of the first targets of an irregular diet, use of medications, alcohol consumption and stress. The signs of poor intestinal health are varied: incomplete digestion, heartburn, headache, intestinal discomfort, sickness and ulcer are just a few. In combination, the ingredients of DOLCE DIGESTIVO support proper GI function and help fend off the negative effects of inevitable GI disturbances.

One of the worst enemies of the GI system is alcohol, yet many herbal remedies actually contain

alcohol themselves. Like all Balestra & Mech products, DOLCE DIGESTIVO contains no alcohol, no sugar and no preservatives.

### Ingredients

Water

Licorice (*Glycyrrhiza glabra*) root

Marshmallow (*Althaea officinalis*) root

Chamomile (*Matricaria recutita*) flower

Peppermint (*Mentha piperita*) leaf

Star Anise (*Illicium verum*) seed

Bitter Fennel (*Foeniculum vulgare*) fruit

Lemon Balm (*Melissa officinalis*) leaf

Juniper (*Juniperus communis*) bark

Bitter Orange (*Citrus aurantium*) flower

Wild Yam (*Dioscorea villosa*) leaf

Calendula (*Calendula officinalis*) flower

European Goldenrod (*Solidago virgaurea*) grass

Echinacea Angustifolia (*Echinacea angustifolia*) root

Meadowsweet (*Filipendula ulmaria*) whole plant

natural flavors

natural caramel color (strictly to control slight variations in product appearance due to seasonal and geographic variations in natural herbs)

## Herb Discussion

All plants used by Balestra & Mech are either wild or have not been treated with chemical agents. All products contain no alcohol, no sugar and no preservatives.

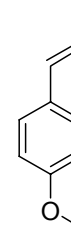
The DOLCE DIGESTIVO herbal blend targets the stress-related component of GI health by utilizing the sedative and antispasmodic properties of five important extracts: Wild Fennel, Peppermint, Lemon Balm, Bitter Orange and Star Anise, all of which are used for these purposes throughout Chinese medicine.



Anise

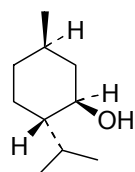
The specific calming component of **Anise** is the molecule, Anethole, one of the main constituents of the essential oil.

The essential oil of **Wild Fennel**, which shares the same Anethole compound with Anise, was known to the ancient Greeks. Thanks to its Anethole component, Wild Fennel has long been associated with the treatment of digestive problems related to social stress and anxiety such as meteorism (tympany), aerophagia and gastric spasms. **Peppermint** belongs to the Lamiacea family,

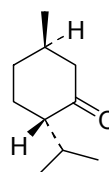


*trans*-Anethole

and is without doubt the most common and studied. The essential oil is the most active component, but the flavonoids, carotenoids and triterpenes must also be taken into consideration. The composition of the essential oil is widely known: 65% is made up of a combination of menthol (the main element) and menthone.



(-)-menthol (1R, 3R, 4S)



(-)-menthone

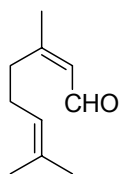
The herb is traditionally used for sedating gastrointestinal pain because of the menthol it contains. A great number of pharmacological studies conducted on the ileum of guinea pigs used acetylcholine to induce contractions, and the results highlighted the sedative effect of this herb. Because of its special properties, mint has no equal when treating pathologies of the colon. It was calculated that the DL<sub>50</sub> of menthol is equal to 0.2 mg/kg, an amount that has never been reached by therapeutic doses.



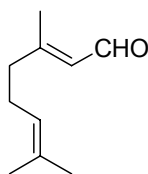
Lemon balm

**Lemon Balm** is a Lamiacea originating from Asia Minor. It arrived in Europe during the Middle Ages and has been used since as a sedative for the gastrointestinal mucous. Terpenic derivatives are found in its composition,

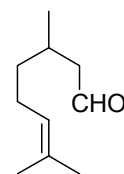
including neral (*cis*-citral), geranial (*trans*-citral) and citronellal elements. These derivatives act together as a mild sedative.



Neral



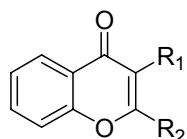
Geranial



Citronellal

Clinical tests show a positive effect on gastroenteric disturbances connected to anxiety or stress. The extract is not harmful if taken over long or short periods. The sedative activity of this preparation is completed by **Bitter Orange**, a terpenic herb specifically targeting the GI system.

After addressing GI “nervousness,” the preparation acts as an anti-inflammatory and anti-ulceric to reduce inflammation and permit reconstruction of the damaged tissue. **Licorice, Chamomile and Meadowsweet** are included in the blend because they help address ulceric damage. Also included are other anti-inflammatory extracts such as **European Goldenrod, Wild Yam, Echinacea and Calendula**. “Heartburn” is an inflammation, and **Licorice** is one of the most important plants in traditional Chinese Medicine, where it is used to address many conditions. Glicirizine and flavonoids can be found among its main components. Flavonoids are important natural molecules and are characterised by their flavonic, flavonolic, isoflavonic and flavononic substructures associated with anti-oxidizing and protective benefits for cell membranes.



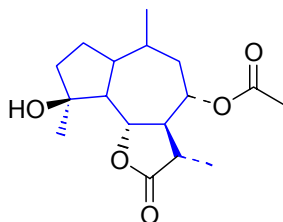
$R_1=H, R_2=Ph$  Flavone

$R_1=OH, R_2=Ph$  Flavonol

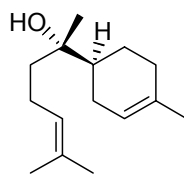
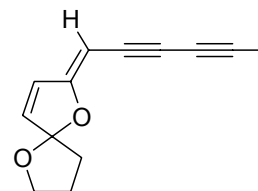
$R_1=Ph, R_2=H$  Isoflavone

$R_1=2H, R_2=H+Ph$  Flavonone

Studies on samples of **Licorice** without glycirizine show that the flavonoidic component was notably active at a gastric level, which makes it ideal against ulcers. **Chamomile** is an Asteracea that is widespread throughout Europe, and attention is turned towards it because of two chemical compounds: the essential oil and the polyphenol. The essential oil actually appears blue because of the presence of azulene derivatives, mainly camazulene. This isosteric molecule of naphthalene is a degradation product of matricine. Other constituents are bisabolol and (Z)-en-in-dicycloether.

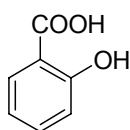


Matricina (the Camazulene is shown in blue)

 $\alpha$ -bisabolol

(Z)-en-in-dicycloetere

The extract is mainly anti-inflammatory and anti-spasmodic, but recent studies have shown that (-)- $\alpha$ -bisabolol may be effective against gastric ulcers caused by indomethacine (FANS), alcohol or stress. The extract is safe, because the  $DL_{50}$  exceeds 5 g/Kg. **Meadowsweet** belongs to the Rosacea family and is widespread throughout Europe, especially in humid areas. It contains compounds that are common to the majority of Rosaceae such as ascorbic acid, as well as the phenol glucosides and salicylic derivatives that are particular to this herb.



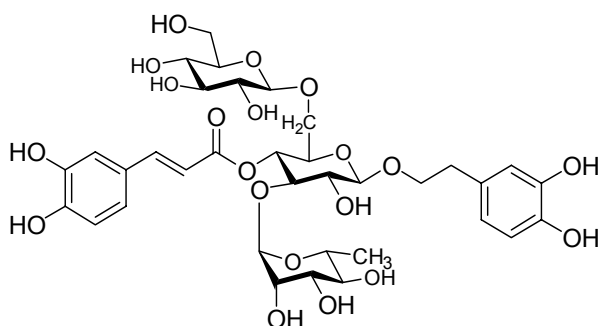
Salicylic acid

These elements are credited with the herbs anti-inflammatory benefits. Russian researchers carried out **Meadowsweet** studies on rats and observed notable anti-ulcer effects. Other studies have supported the claim of digestive benefits. The extract is not harmful if taken over long or short periods.

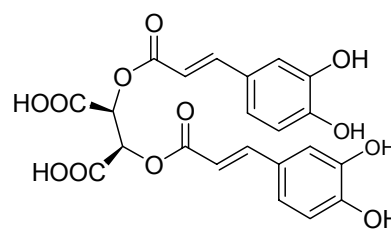


Calendula

**European Goldenrod** originated in North America, where indigenous cultures used it as an anti-inflammatory and sedative for the mucus in the respiratory, digestive and urinary tracts. It is ideal for this purpose because of the alkaloids that it contains. Its important role at a gastroenteric level pushed researchers to study it as a potential cure for Crohn's disease. The extract obtained from **Wild Yam** was traditionally used by the Central Americans thanks to its antispasmodic and anti-inflammatory results in the gastric tract. **Echinacea** is an Asteracea that is commonly found in the mountainous areas of North America, and it was used by the local people for addressing various GI disturbances, including stomach ache. Today the plant is widely known and studied, and its most active compounds have been recognized: caffeic acid derivatives, the most important of which are chicoric acid and echinacoside.



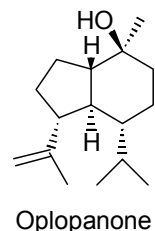
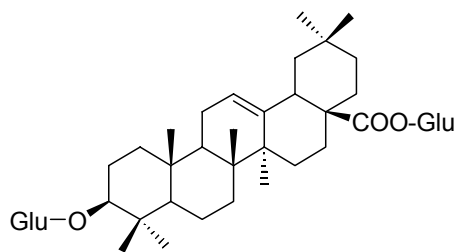
Echinacoside



Chicoric Acid

**Echinacea** also contains an essential oil that works firstly as an anti-inflammatory and secondly as an immunostimulant. It addresses problems such as swelling, redness, soreness and pain. Like Echinacea, **Calendula** also belongs to the Asteracea family. Most of its active components are derivatives of a terpenic nature, the essential oil of which is particularly rich. Oxygenated derivatives such as carvone, ionones and oplapanone are also present, as are the pentacyclic triterpenic derivatives. **Pot Marigold** is anti-

inflammatory, anti-edemogenous and antiseptic, which makes it suitable for disturbances of the GI tract. The extract is not completely harmless, but there are no recorded cases of hospitalization due to overdose.



The DOLCE DIGESTIVO preparation is completed with three additional extracts: **Althea**, **Juniper** and **Bitter Orange**. **Althea** is a plant that prefers the marshy areas of Europe and North America. This herb is characterized by a high level of complex carbohydrates (mucilages), which mechanically protect the gastric wall. This molecule supports the mucus that is normally secreted by the gastric cells by increasing the protection of the gastric walls against the hydrochloric acid that is naturally present. It spreads along the inflamed wall, creating a protective barrier. The extract is very dark in color and is not harmful in any way. **Juniper** boasts numerous therapeutic benefits as a stimulant of renal function and as support for stomach function.

Although each herb and molecule in the DOLCE DIGESTIVO blend has its own benefits, it is important to note that it is the carefully selected and handled combination of herbs that allows DOLCE DIGESTIVO to perform as it does.

### Recommended Use

We recommend taking one or two measured caps (approx. 30ml) diluted in a glass of water before and after main meals.

### Nutrition information – per 10ml serving

Energy: 1.3 Kcal – 5.0 KJ  
Protein: 0.007 g  
Carbohydrates: 0.080 g of which are sugar: 0.00 g  
Fats: 0.060 g of which are saturated: 0.00 g  
Fiber: 0.004 g

### Bibliography

- Fintelmann V. Modern phytotherapy and its uses in gastrointestinal conditions. *Planta Med.* 57, S48-S52, 1991.
- Tanira MOM, Shah AH, Mohsin A, et al. Pharmacological and toxicological investigations on *Foeniculum vulgare* dried fruit extract in experimental animals. *Phytother Res* 1996;10:33-6.
- Hahn FE, Ciak J. Berberine. *Antibiotics* 1976;3:577-88.

- Duke JA. CRC Handbook of Medicinal Herbs. Boca Raton, FL: CRC Press, 1985, 256.
- Tyler VE. Herbs of Choice: The Therapeutic Use of Phytomedicinals. Binghamton, NY: Pharmaceutical Products Press, 1994, 76-7
- Lust JB. The Herb Book. New York: Bantam Books, 1974, 401
- Da Legnano L.: Le piante medicinali nella cura delle malattie umane, Ed. Mediterranee.
- Della Loggia R.: Piante medicinali per infusi e tisane, Ed. OEMF.
- Pedretti M.. : L'erborista moderno, Ed. Erboristeria Domani.
- Various articles from Internet

TECHNICAL SHEET FOR PROFESSIONAL USE ONLY