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Processing of Licorice

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Derived from the *Glycyrrhiza glabra* plant, licorice is a multipurpose herb with a long history of use in cosmetic, culinary, and medical purposes. The pharmacological benefits of the root are attributed to its bioactive constituents, which include flavonoids and glycyrrhizin. These compounds display antibacterial, antioxidant, and anti-inflammatory capabilities. Traditionally, licorice has been used to enhance skin health, ease respiratory conditions, and ease stomach problems. Current studies have also looked into how it might be used to treat long-term conditions like diabetes and hepatitis. Licorice is used in culinary goods, medicines, and cosmetics in a variety of forms, including as extracts, oils, and powders.

Botany

Kingdom	:	Plantae
Order	:	Fabales
Family	:	Fabaceae
Subfamily	:	Faboideae
Genus.	:	Glycyrrhiza
Species	:	*G. glabra*

Characters

Licorice is a hardy, perennial herbaceous plant with a vast root system made up of long runners, tap roots, and root branches. Loose foliage with unpaired pinnate, narrowly lanceolate leaves covered with sticky glandular hairs grows from the woody stalk , growing to a height of 1.5 meters.

Benefits

- Removes dead skin cells evens out skin tone.
- Removes tan lines.
- Keeps the skin from ageing and from getting wrinkles.
- Provides the body with a natural scent all day.
- Shields the skin from bacterial illnesses and pathogens.

Processing

The Glycyrrhiza glabra plant's root is used to make liquorice, which is then processed into a variety of forms for use in food, medicine, and cosmetics.

Collecting and Sanitising : Three to five years of plant growth, roots are extracted. Excess soil and contaminants are removed from the roots.

Extraction and Drying : To lower the moisture content, the roots are dried. To make liquorice extract, dried roots are extracted using solvents (such as water, ethanol, or glycerin).
Grinding. : Powdered dried roots are used for grinding .
Decoction : A decoction is made by boiling powdered roots in water.
Concentration: Evaporation or spray drying are used to concentrate the decoction.
Purification: Filtration or activated carbon are used to purify concentrate.

Licorice forms

- Powdered liquorice root.
- Liquid or solid Licorice extract.
- Licorice syrup
- Oil of licorice

Applications

- Pharmaceuticals: skin creams, cough medications
- Food: drinks, baked items, and candies.
- Cosmetics: hair care and skincare items.
- Traditional Medicine: respiratory and digestive disorders.

By products

Agricultural byproduct : Liquorice root leftovers are utilised for animal feed or compost . Liquorice leaf extract are utilised as an all-natural insecticide.
Industrial Byproducts : Licorice stalks are utilised as biofuel or biogas. Polymers made from liquorice are utilised in the manufacture of paper and textiles . Adhesives based on liquorice are used in construction and woodworking . Dye obtained from licorice are utilised in the manufacture of leather and textiles .
Other Byproducts: Leftover liquorice root can be utilised to make nutrient-rich feed for animals. Licorice root leftovers can be turned into fertiliser by composting them.

Conclusion

Licorice is a multipurpose botanical with a long history of use in medicine, food, and cosmetics. It is produced from the Glycyrrhiza glabra plant. Its anti- inflammatory, antioxidant, and antibacterial qualities have been demonstrated in relation to its bioactive constituents, such as flavonoids and glycyrrhizin, which validate its historic usage in treating skin, respiratory, and digestive disorders. The potential uses of modern research to the management of chronic diseases, like diabetes and hepatitis, have grown. Since it is a natural substitute for synthetic materials, liquorice is still a major ingredient in the culinary, cosmetic, and pharmaceutical industries. To fully realise its potential, though, sustainable farming methods, standardisation, and quality control are essential. Creating cutting-edge goods that take advantage of its many advantages.