

From Petals to Profits: Modern Trends in Floral Value Addition

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Abstract

Floriculture has transitioned from its traditional roots in ornamental gardening to become a dynamic industry with diverse applications in pharmaceuticals, cosmetics, food and wellness. By transforming floral resources into value-added products such as essential oils, herbal teas, natural colorants and edible flowers, the sector now delivers both functional and therapeutic benefits. The rising demand for natural and sustainable alternatives has fueled interest in products like bioactive compounds, botanical insecticides, floral nutraceuticals and plant-based skincare. These innovations not only create new economic avenues but also reinforce floriculture's contribution to sustainable development, supporting biodiversity conservation and the safeguarding of traditional knowledge.

Introduction

India cultivates floriculture across approximately 285 thousand hectares, yielding about 2,284 thousand tonnes of loose flowers and 947 thousand tonnes of cut flowers annually. Tamil Nadu, Karnataka, Madhya Pradesh and West Bengal are the leading producers. Despite export earnings of USD 86.63 million, the sector suffers from high post-harvest losses ranging between 35–40%, primarily due to inadequate handling and preservation methods (APEDA, 2024).

Value addition in flowers addresses these challenges by transforming perishable blooms into long-lasting, high-value products like essential oils, herbal infusions, natural cosmetics and decorative items. It not only enhances the value of flowers but also contributes to the diversification of the industry, meeting the increasing demand for sustainable and natural products.

Gulkhand

- ❖ Gulkand is a traditional Indian preserve made from rose petals, primarily derived from *Rosa bourboniana* and *Rosa damascena*. The term "Gulkand" comes from the Persian words



"Gul" meaning flower and "Qand" meaning sweet, reflecting its floral sweetness and rich aromatic profile.

- ❖ Traditionally used in Ayurvedic medicine, Gulkand is renowned for its cooling properties, making it beneficial during hot weather. It is also commonly consumed as a natural mouth freshener, often paired with paan leaves for a refreshing and digestive-friendly experience.
- ❖ In recent years, Gulkand has found increasing popularity as a key ingredient in a variety of processed food products. Its sweet, floral flavour and therapeutic properties make it suitable for inclusion in items such as shrikhand, milkshakes, cakes, pastries, gelato ice cream, flavoured milk, burfi and herbal teas. These modern applications not only preserve the traditional essence of Gulkand but also expand its appeal in contemporary culinary and wellness practices.

Pankhuri

- ❖ Dried Rose petals called Pankhuri are used during the hot weather for preparing cool drinks.
- ❖ Rose petals are also used in cooking, which increases its flavour and make it even more delicious. It is also used in making floral cards as well as in pot pourris.



Flower tea

- ❖ Flower tea is also known as floral tea or herbal infusion. It is a caffeine-free beverage made by steeping dried or fresh flowers in hot water.
- ❖ It has been consumed for centuries in various cultures for its pleasant aroma, delicate taste and numerous health benefits. Unlike traditional teas derived from the *Camellia sinensis* plant (such as green, black or oolong tea), flower teas do not contain tea leaves and are considered herbal infusions or tisanes.

Tea	Flavour Profile	Key Benefits
Chamomile Tea	Mild, floral	Calming properties, aids in sleep, reduces stress and anxiety, helps with indigestion and bloating
Hibiscus Tea	Tart, cranberry-like	Supports heart health (lowers blood pressure and cholesterol), aids in weight management, rich in antioxidants
Jasmine Tea	Floral, subtly sweet	Reduces stress, enhances cognitive function, improves digestion
Rose Tea	Fragrant, slightly sweet	Supports skin health, digestion, and menstrual relief, has anti-inflammatory and mood-enhancing properties
Lavender Tea	Floral, slightly minty	Calming effects, reduces stress and anxiety, improves sleep, aids digestion, relieves headaches
Butterfly Pea Flower Tea	Striking blue color, mild	Supports brain function, skin health, reduces oxidative stress, rich in antioxidants



Rose Tea



Lavender Tea



Butterfly Pea Flower Tea



Chamomile



Jasmine Tea



Hibiscus Tea

Blooming Flower Tea

Blooming flower tea, a type of flower tea also known as artisan, flowering or display tea. It is carefully handcrafted by wrapping dried tea leaves around edible flowers such as jasmine, chrysanthemum, amaranth,

lily, hibiscus and osmanthus. When steeped in hot water, the bundle gracefully unfurls, resembling a blooming flower, offering a visually captivating experience along with delicate flavors and potential health benefits.



Floral Syrup

- ❖ Floral syrup is a concentrated, aromatic liquid made by infusing edible flowers with sugar and water, widely used in beverages, desserts and gourmet cooking. It has been a part of various culinary traditions, such as rose syrup in Middle Eastern sweets and elderflower syrup in European drinks.
- ❖ With its delicate floral essence, it enhances cocktails, teas and baked goods while also offering potential health benefits - lavender promotes relaxation, hibiscus supports heart health and chamomile aids digestion. Due to their versatility and aesthetic appeal, floral syrups remain a valued ingredient in both traditional and modern cuisine.

Flower extract

Vanilla extract

Vanilla extract, derived from the cured pods of *Vanilla planifolia*. It is a popular natural flavouring known for its rich, sweet aroma. Produced through alcohol-based extraction, it enhances the flavour of baked goods, desserts and beverages. Beyond culinary uses, it is valued in perfumery and skincare for its soothing fragrance. Rich in antioxidants, it may also have anti-inflammatory and mood-enhancing benefits.

Saffron extract

Saffron extract is derived from the dried stigmas of *Crocus sativus*. It is prized for its rich color, unique aroma and distinct flavour. Used in gourmet dishes like



biryani, paella and desserts, it also holds medicinal value. Packed with antioxidants and bioactive compounds like crocin and safranal, saffron extract supports mood, memory and overall well-being. Additionally, it is used in skincare and traditional medicine for its anti-inflammatory and neuroprotective benefits.

Flower-Infused Honey



Flower-infused honey is a natural sweetener made by steeping edible flowers like lavender, rose, chamomile and hibiscus in raw honey, enhancing its flavour, aroma and potential health benefits. This infusion combines the nutritional properties of honey with the therapeutic compounds of flowers, offering benefits such as immune support, digestion aid and relaxation. Commonly used in teas, desserts, salad dressings and wellness remedies. Flower-infused honey adds both natural sweetness and functional value, making it a versatile ingredient in culinary and health applications.

Edible flowers

Edible flowers are blossoms that are safe for consumption and are used to enhance the flavour, aroma and visual appeal of various dishes. Common edible flowers include rose, lavender, hibiscus, chamomile, marigold and nasturtium, each offering unique tastes and potential health benefits. Beyond their aesthetic appeal, many edible flowers contain essential oils, flavonoids and antimicrobial properties,



making them beneficial for digestion, relaxation and overall well-being. They are also popular in gourmet cuisine, herbal medicine and artisanal food products, offering a natural and flavorful way to enhance both food and health.

Floral Jams

Floral jam is a fragrant and flavorful preserve made by combining edible flowers with sugar, fruit and natural pectin. Flowers such as rose, jasmine, hibiscus and chamomile are commonly used, imparting delicate floral notes and natural sweetness. This jam is enjoyed on toast, pastries, cakes and cheeses, adding an elegant touch to both sweet and savoury dishes.

They are rich in antioxidants and beneficial plant compounds, floral jam not only enhances flavour but may also offer soothing and digestive benefits. Its unique taste, vibrant colour and aromatic essence make it a popular choice in gourmet and homemade preserves.

Floral Essential Oils and Aromatherapy



Floral essential oils are highly concentrated extracts derived from fragrant flowers such as rose, lavender, jasmine, chamomile, neroli and ylang-ylang through distillation or cold pressing. These oils capture the natural essence, aroma and therapeutic properties of flowers, making them widely used in aromatherapy to promote relaxation, reduce stress and enhance emotional well-being. Their soothing and healing properties make them essential in massage therapy, skincare, perfumes and holistic wellness.

Floral-Based Cosmetics and Skincare

Floral ingredients are widely used in cosmetics and skincare for their hydrating, soothing and rejuvenating properties. Floral perfumes contain natural extracts from rose, jasmine and lavender for a refreshing fragrance. Lotions and creams infused with calendula, chamomile and rose provide moisturizing and anti-aging benefits. Soaps and bath products enriched with hibiscus, jasmine and lavender offer a soothing cleanse. Rosewater and toners help in skin hydration and balancing, while flower-infused lip balms with chamomile and hibiscus nourish and protect the lips.



Floral Candles and Home Fragrances

Floral fragrances are widely used in home decor and wellness products for their calming and aromatic properties. Aromatherapy candles infused with lavender, rose or ylang-ylang essential oils promote relaxation. Potpourri and dried flower sachets naturally freshen the air, while incense and diffuser oils provide a soothing ambiance for meditation and stress relief.

Textile and Natural Dyes

Flowers are a valuable source of natural dyes for textiles and cosmetics that offer vibrant and eco-friendly coloring solutions. Hibiscus dye produces deep red and purple shades while marigold dye creates a bright yellow hue commonly used in textiles and food coloring. Saffron pigment is widely utilized in culinary, cosmetic and fabric applications providing a rich golden tone. Additionally indigo from butterfly pea flowers yields blue hues for natural fabrics making floral dyes an essential part of sustainable and traditional textile production.



Alcoholic Beverages and Floral Wines

Flowers are used in the fermentation and distillation of alcoholic beverages to enhance their flavor and aroma. Elderflower wine and liqueur are made from elderflower blossoms, while hibiscus wine and beer are popular in tropical regions for their vibrant taste. Rose-infused spirits add delicate floral notes to cocktails and fine liqueurs and lavender, jasmine

cocktails provide aromatic depth to gourmet drinks. Floral ingredients not only enhance the taste but also elevate the sensory experience, making them a unique addition to the world of spirits and wines.

Floral Insecticides

Floral insecticides are natural pest control agents derived from flowers that contain bioactive compounds with insecticidal and repellent properties. Chrysanthemum flowers produce pyrethrins, which target the nervous system of pests and are widely used in organic pest control. Marigold contains thiophenes, which exhibit nematicidal and insecticidal effects, making them effective against soil-dwelling pests. Lavender is rich in linalool and camphor, which act as natural repellents against mosquitoes, moths and other insects. These plant-based insecticides offer an eco-friendly and sustainable alternative to synthetic chemicals, helping protect crops and plants while reducing environmental impact.

Floral Supplements in Poultry Feed

Floral extracts are used in poultry feed to enhance growth, immunity and overall productivity. Marigold extract, a natural source of lutein and zeaxanthin, improves egg yolk pigmentation and supports vision health in poultry. Hibiscus and chamomile possess antimicrobial and anti-inflammatory properties, promoting a healthier digestive system and reducing the need for synthetic additives. Incorporating floral supplements into poultry diets helps improve nutritional quality, disease resistance and sustainable farming practices.

Conclusion

Value addition in flowers significantly enhances their market potential by increasing shelf life, improving quality and expanding their utility beyond conventional uses. It contributes to higher income generation, reduced post-harvest losses and the promotion of sustainable practices within the floriculture sector.

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