SUNSHINE AGRICULTURE
e-Newsletter

ISSN (E): 2583 – 0821

Sun. Agri.:e- Newsletter, (2025) *5*(7), 1-5

Article ID: 394

Floriculture and Landscape Horticulture: Aromatic and Ornamental Plants in Landscaping and Therapy (Horti-Therapy)

Anand Singh Rawat[1], Subhash Verma[2], Ashutosh Kumar[3], Charu Shekhawat[4]

[1]Assistant Professor (Horticulture), Department of Agriculture, JBIT College of Applied Sciences, Dehradun
[2]Assistant Professor, School of Agriculture, Eklavya University Damoh (M.P.)-470661
[3]SMS, Department of Horticulture, Vegetable Science, KVK, Narkatiyaganj, RPCU, Pusa Bihar
[4]SRF, SKRAU, Rajasthan

Open Access

*Corresponding Author
Anand Singh Rawat*

Available online at
www.sunshineagriculture.vitalbiotech.org

Article History
Received: 01. 07.2025
Revised: 05. 07.2025
Accepted: 10. 07.2025

INTRODUCTION

Floriculture, a critical division of horticulture, focuses almost entirely on the growing and care of flowering and ornamental plants for gardens, commercial sale, and public places. It involves a vast array of plants such as annuals, perennials, shrubs, and trees that are prized for their beauty, fragrance, and symbolic significance. Being able to earn income and jobs, floriculture is instrumental in upgrading rural and urban livelihoods and significantly contributing to the world's ornamental plant business.

Landscape horticulture, however, emphasizes the design, creation, and maintenance of outdoor areas to make them aesthetically attractive and functionally productive. It combines different elements of horticulture e.g., turfgrass, trees, shrubs, climbers, and ground covers to develop green areas that enhance residential, commercial, and institutional living conditions. Landscape designs can mitigate pollution, regulate temperature, increase biodiversity, and promote community interaction.

The combination of floriculture and landscape horticulture not only makes an area more beautiful, but it also enhances ecological balance and emotional well-being. Over the past few years, the therapeutic use of plants has gained increasing interest, leading to the establishment of horti-therapy practiced using gardening processes and plant interaction to enhance mental, emotional, and physical well-being. Horti-therapy is being increasingly integrated into hospitals, rehabilitation facilities, schools, and community programs as a non-invasive, cost-efficient means of healing and reintegration.

This paper explores the combined functions of floriculture and landscape horticulture in designing restorative environments, with a focus on the employment of aromatic and ornamental plants as essential features of therapeutic landscapes. It underscores their input not just to environmental sustainability and economic growth but also to the overall quality of human life.

2. Ornamental Plant Role in Landscape Design

Ornamental plants are an integral feature in landscape design, providing aesthetic beauty, utility, and ecological worth combined in a harmonious fusion. Ornamental plants encompass the diverse flora of flowering plants, shrubs, climbers, trees, succulents, and foliage plants that form the building blocks of developing aesthetically pleasing and ecologically friendly space.

Ornamental plants are carefully chosen and placed in landscape architecture to create interest throughout the year with differences in color, shape, texture, and scent. Ornamental plants have a function beyond simple decoration; they define limits of space, create points of interest, and improve the aesthetic quality and environmental condition of both the natural and built landscapes.

Ornamental plants are widely used in many types of settings, such as

Urban environments promote: Parks, public gardens, boulevards, roadways, medians, and traffic islands from ornamental plantings that create softening of the hardscape, reduce glare and dust, and provide shade.

Institutional campus buildings: Schools, hospitals, government institutions, and corporate offices employ ornamental landscaping to establish peaceful, inviting, and productive settings conducive to well-being and stress reduction.

Residential neighborhoods and home gardens: Citizens employ decorative plants for curb appeal, privacy, and individual enjoyment, turning outdoor spaces into peaceful refuges.

Creative green solutions: Due to space constraints and urbanization, ornamental plants are integrated into vertical gardens, roof gardens, and balcony gardens to make nature more accessible to urban inhabitants.

A few of the widely used ornamental plant species are:

Flowering plants: Bougainvillea, Hibiscus, Rosa (roses), Tagetes (marigold), Petunia – valued for their brilliant blooms and seasonal color changes.

Foliage plants: Dracaena, Croton, Ficus, Areca palm – prized for their pleasing leaf designs, textures, and constant greenery.

In addition to their beauty, ornamental plants have an important role in improving environmental quality. They:

- Enhance air quality by removing pollutants and producing oxygen.
- Lower surrounding temperature by shading and evapotranspiration.
- Reduce the urban heat island effect, particularly when incorporated in large-scale urban greening projects.
- Offer habitat and food to pollinators, birds, and beneficial insects and thereby contribute to urban biodiversity.

3. Scented Plants in Landscaping

Scented plants are a crucial but frequently overlooked element in landscape gardening. Famously fragrant of leaves and flowers, such plants bring benefits beyond the senses—environmental benefits and medicinal properties that add quality and function to public and private green spaces. Adding scented species to landscapes adds not just aesthetic value but also scent richness, creating multi-sensory experiences that enchant, heal, and revitalize.

The special benefit of aromatic plants is that they release volatile essential oils into the air, which tend to have antimicrobial, anti-inflammatory, insect-repellent, and mood-elevating qualities. These same properties make aromatic plants top choices for therapeutic landscapes, wellness gardens, and spiritual or sacred spaces.

Some of the most common aromatic plants to use in landscaping are:

***Lavandula* spp. (Lavender):** With its relaxing and stress-relieving fragrance, lavender is commonly incorporated in borders, walks, and healing gardens. Its inherent mosquito-repellent character brings functional appeal to its ornamental beauty.

***Rosa damascena* (Damask Rose):** Valued for its highly fragrant flowers, the damask rose finds extensive application in hedges, rose gardens, and ceremonial landscapes. The petals are also used in perfumes, herb teas, and cosmetics, exemplifying its greater use.

***Jasminum* spp. (Jasmine):** The evening fragrance of jasmine has made it the preferred choice for planting around pergolas, trellises, and windows. The climbing nature of some species also enables vertical integration in small urban landscapes.

Ocimum sanctum (Tulsi/Holy Basil): Indian culture holds tulsi in high esteem for its holy and medicinal uses and often finds it planted in courtyards and temples. It is not only prized for its fragrance but also for its established air-purifying properties.

***Cymbopogon citratus* (Lemongrass):** With its pungent citrus aroma, lemongrass is used in herbal gardens and borders. Its essential oil is used for antifungal and antibacterial applications, and its leaves repel pests and can be cut for tea or for medicinal extracts.

In landscape design, scented plants can be utilized to:

- Mark out pathways and borders with aromatic leaves.
- Develop themed areas like sensory gardens or wellness areas.
- Encourage biodiversity by supporting pollinators and beneficial insects.
- Augment the spiritual and emotional atmosphere of healing and meditation gardens.

By engaging the sense of smell, the plants enhance the experiential nature of outdoor environments, making gardens more engaging and meaningful. Their participation in urban green infrastructure is consistent with contemporary objectives of mental wellness, sustainability, and health-focused landscape design.

4. Horti-Therapy: Therapeutic Role of Plants

Horti-therapy or horticultural therapy is a developing interdisciplinary practice that incorporates the therapeutic potential of plants and gardening activities into therapy to enhance physical, mental, emotional, and social welfare. Based on traditional practices but substantiated by contemporary scientific evidence, horti-therapy is increasingly recognized in clinical, educational, and community environments globally.

The core hypothesis of horti-therapy is the human-nature bond interacting with plants, soil, and nature stimulates psychological and physiological changes that may reduce stress, improve mood, and facilitate recovery from illness or injury. In contrast with traditional therapies, horti-therapy presents a non-invasive, holistic, and participant-centered way to recover.

Horti-therapy has demonstrated quantifiable advantages in the care and management of:

Stress and Anxiety Reduction: Consistent exposure to green spaces and vegetation, particularly scented and colorful plants, has been associated with decreased cortisol (stress hormone) levels and enhanced parasympathetic nervous system functioning. Gardening encourages the cultivation of mindfulness and relaxation, causing people to disengage from daily stressors.

Mood Improvements and Cognitive Stimulation: Horticultural activities increase the release of serotonin and dopamine two neurotransmitters linked with happiness and motivation. It also enhances attention, concentration, and memory, making it particularly useful for people experiencing burnout or cognitive deterioration.

Older Adults with Dementia or Alzheimer's Disease: Therapeutic gardens provide a secure and engaging setting for older adults. Repeated gardening activities, recognizable floral odors, and the process of caring for living things can help retain memory, enhance motor function, and minimize agitation or depression.

Physical Rehabilitation: Gardening assists in the development of fine and gross motor skills, hand-eye coordination, and building endurance in patients recovering from surgery or injury. Curved paths, adjustable tools, and elevated beds enable inclusive access.

Autism Spectrum Disorders and ADHD Support: Horti-therapy offers a structured yet adaptable setting that encourages sensory integration, enhances emotional regulation, and allows for social interaction in children and adults with neurodevelopmental disorders.

Important design elements within horti-therapy environments are:

- Therapeutic gardens containing plant material selected for color, scent, and feel.
- Healing landscapes with integrated natural aspects like water features, shade structures, and natural sounds.
- Sensory gardens created to engage the five senses—sight, smell, touch, sound, and taste.
- Quiet sitting areas that offer room for reflection, meditation, and social connection.

Scientific research has shown that direct exposure to plants and green spaces—especially those with aromatic and flowering plants can dramatically reduce heart rate and blood pressure, boost immune function, and enhance overall mental well-being.

With society becoming more urbanized and separated from nature, the incorporation of horti-therapy into health care, elder care, rehabilitation, and education becomes not only useful but necessary. It offers a natural, low-cost intervention that supplements conventional medicine, enhancing quality of life and fostering long-term health.

5. Environmental and Social Benefits

The incorporation of ornamental and aromatic plants into landscape design brings about long-term environmental and social rewards, and these play an important role in enhancing sustainable urban development and community health. The plants are not only useful for aesthetic and therapeutic functions but also help in increasing ecosystem services as well as promoting inclusive social spaces.

Environmental Benefits:

Enhanced Biodiversity: Enriched landscapes with a rich variety of flowering and scented plants have diverse ranges of pollinators like bees, butterflies, and hummingbirds. These pollinators play a critical role in sustaining healthy ecosystems and crop production, particularly in peri-urban and rural-urban interface areas.

Climate Regulation: Vegetation plays a vital role in mitigating the urban heat island (UHI) effect a phenomenon where built-up areas experience higher temperatures than surrounding rural areas due to heat-absorbing surfaces like asphalt and concrete. Trees, shrubs, and groundcovers reduce surface and air temperatures through shading and evapotranspiration, thus creating cooler and more comfortable microclimates.

Air Purification: Various decorative and fragrant plants like Ficus, Areca palm, Tulsi (Ocimum sanctum), and Lavender have been found to remove airborne pollutants like carbon dioxide (CO_2), sulfur dioxide (SO_2), nitrogen oxides (NOx), and particulate matter. These plants promote better air quality and better respiratory well-being, especially in crowded urban environments.

Social Benefits

Increased Social Cohesion: Well-planned green spaces like public parks, neighborhood gardens, and institutional campuses transform into important social centers where people of diverse age groups and backgrounds can meet and greet, unwind, and indulge in outdoor games and recreation. These areas foster community cohesion, cultural identity, and intergenerational interaction.

Inclusive Urban Spaces: Landscaping that includes accessible design (e.g., ramps, broad pathways, sitting areas) makes nature accessible to individuals with disabilities, the elderly, and children on an equal basis. Therapeutic and sensory gardens add to the inclusivity by offering soothing, stimulating spaces for neurodivergent persons or individuals suffering from mental health issues.

Mental and Emotional Well-being: Being close to landscaped settings is highly associated with lower incidences of depression, anxiety, and loneliness. Involving the community in planting and caring for gardens also generates feelings of ownership, responsibility, and pride.

ISSN (E): 2583 – 0821

Overall, the ecological services of ornamental and aromatic plants, e.g., pollination assistance, climate regulation, and pollution management, are augmented by social values such as community participation and enhanced public health. Their incorporation into urban and rural environments is therefore an investment in proactive sustainability and integrated societal well-being.

6. Applications and Future Prospects

The diversely beneficial uses of floriculture and landscape horticulture particularly through the use of aromatic and ornamental plants have resulted in their increasing application throughout various sectors. The medical value of green spaces is not only being recognized in medicine and education but also in urban planning and social rehabilitation for its beneficial effects.

Healthcare Environments: Hospitals, mental health clinics, and nursing homes are increasingly integrating therapeutic gardens into patient healing programs. These gardens, with their scented plants, water elements, and pathways that everyone can navigate, produce healing environments that drive decreased hospital stays, less medication, and enhanced emotional results.

Educational Facilities: Schools and colleges are adopting green classrooms and sensory gardens to improve student learning and well-being. Exposure to the outdoors enhances children's attention, behavior, and ability to regulate their emotions, as well as environmental awareness and responsibility.

Urban Planning and Green Infrastructure: City planners are increasingly embracing green city models that include ornamental and aromatic plantings in rooftops, vertical gardens, traffic medians, and public parks. These strategies promote climate resilience, biodiversity conservation, and better urban esthetics.

Correctional and Rehabilitation Centers: Horti-therapy is being given a place in correctional centers and rehabilitation centers, where organized gardening activities provide therapeutic regimens, vocational experience, and psychological benefit to inmates and recovering patients. These programs help in reintegration and lower recidivism.

Elder Care and Memory Support Units: Older adults, especially those with dementia or Alzheimer's disease, can be significantly helped by therapeutic landscapes that engage memory, mobility, and emotional state through familiar plant and scent exposure.

In the future, interdisciplinary studies in aromapsychology, green architecture, landscape ecology, and ecotherapy will continue to stimulate innovation in horticultural therapy. New technologies like sensor-rich gardens, artificial intelligence-based landscape design, and sustainable plant breeding will improve the accessibility and efficacy of horti-therapy treatments.

7. CONCLUSION

Floriculture and landscape horticulture, synergistically blended with scent and ornament plants, have developed far from their conventional uses as mere ornaments. These practices today are at the interfaces of environmental sustainability, public health, and therapeutic development. The advent of horti-therapy as an institutionalized profession testifies to the strong link between nature and human health.

In a world of fast-paced urbanization, climate degradation, and increased mental health issues, purposeful incorporation of healing landscapes in cities, institutions, and individual domains is not only warranted it is vital. Facilitating biodiversity, cleansing the air, advancing social cohesion, and promoting mental well-being, these green measures provide an avenue toward sustainable living and integral health.

Looking ahead to the future, adopting nature-based solutions such as horti-therapy will be imperative in building healthier, resilient, and equitable societies. Investing in parks is, in effect, investing in the health of both individuals and the world.