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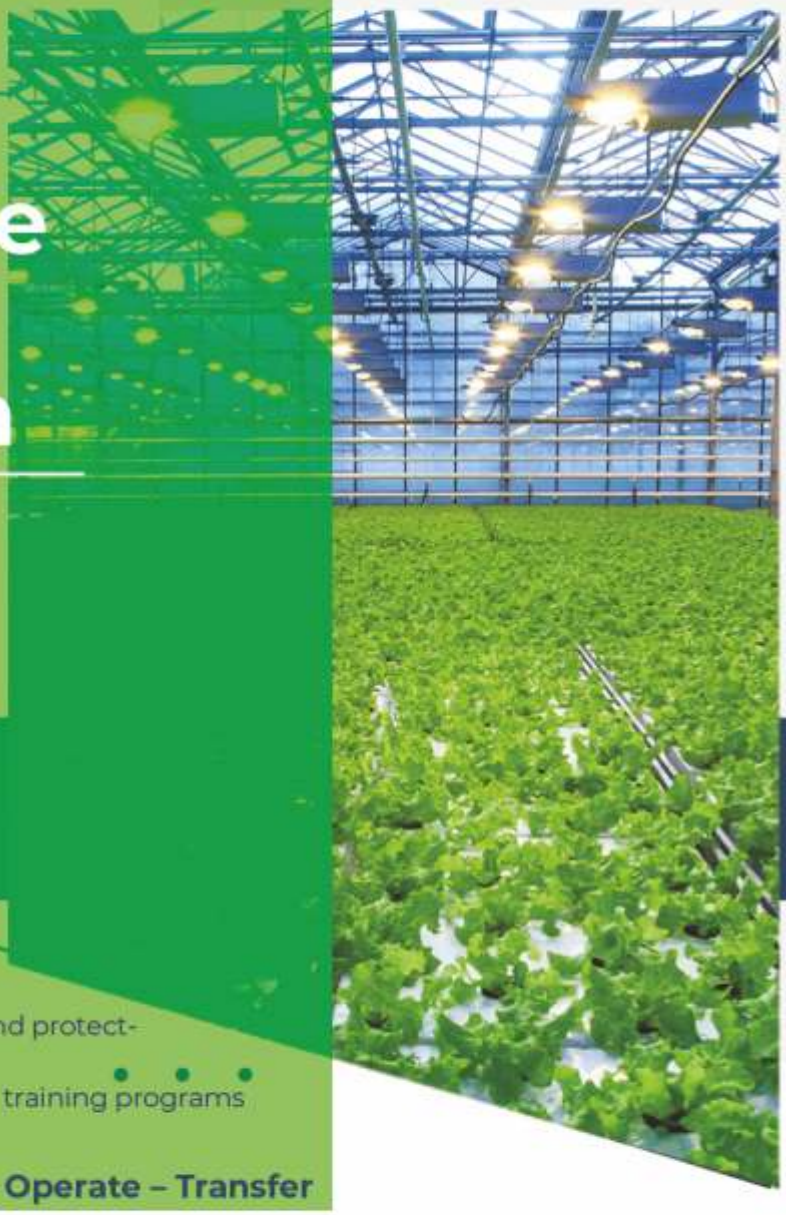

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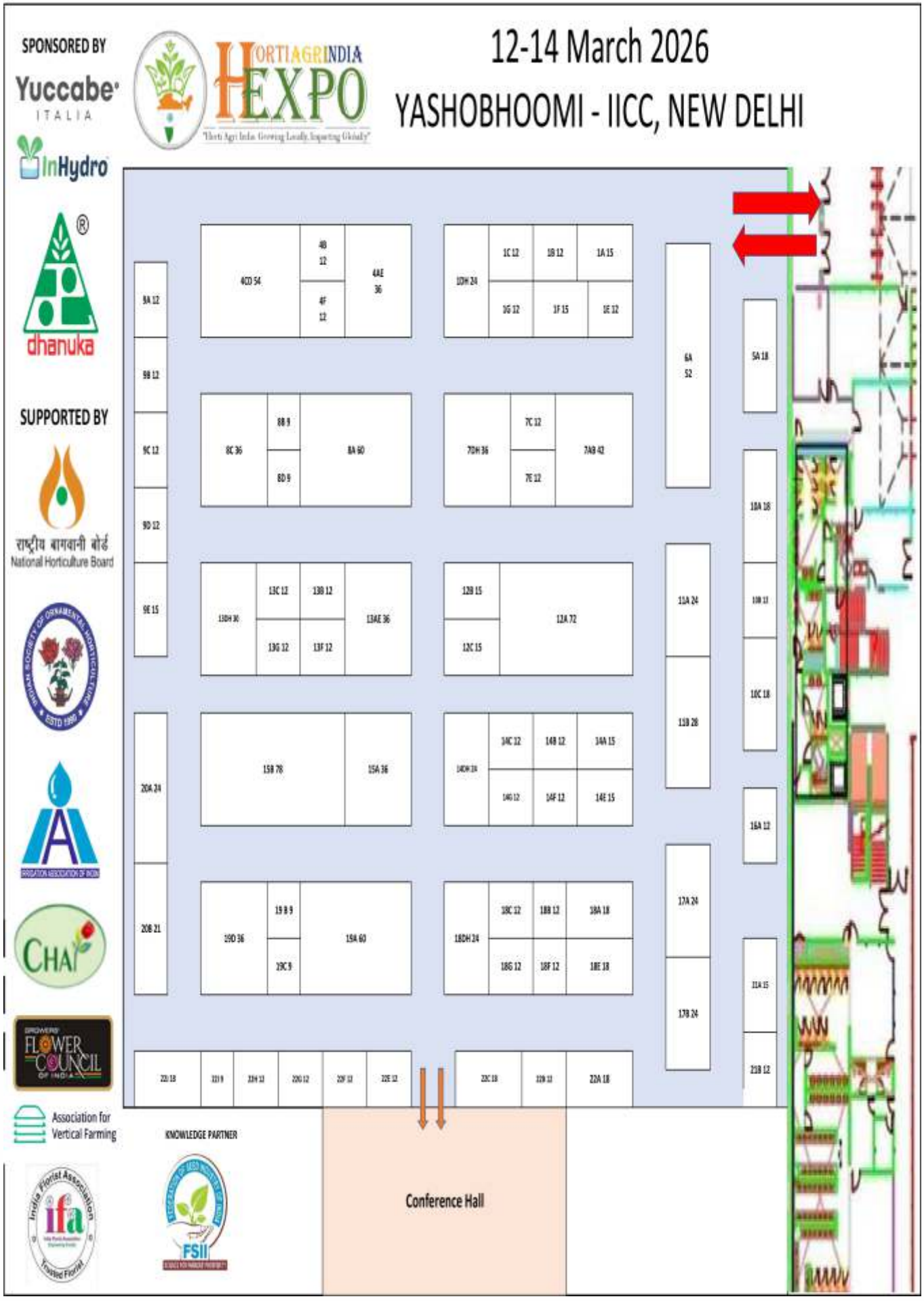
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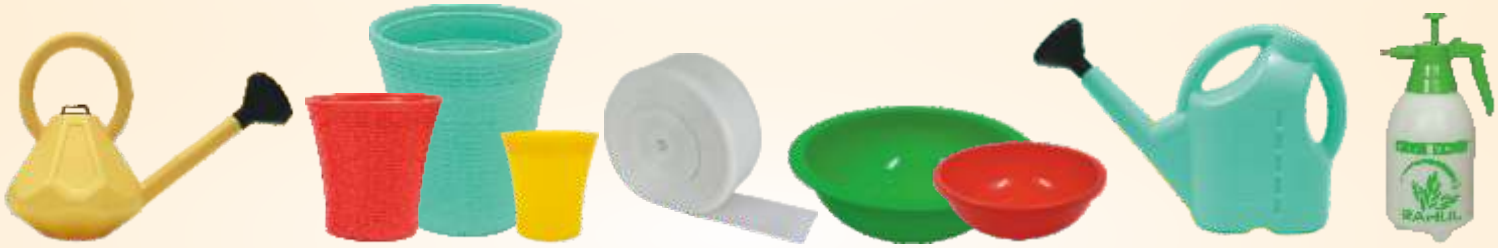

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D. Chatterjee

Founder & CEO

Horti Agri India Expo 2026

It gives me immense pleasure to welcome you to the **Horti Agri India Expo 2026** — a celebration of innovation, sustainability, and the timeless beauty of nature.

Horticulture is more than cultivation; it is the art and science of nurturing life. As global conversations around climate resilience, food security, and sustainable development continue to grow, our industry stands at the forefront of meaningful change. This expo is a platform where tradition meets technology, and where ideas blossom into impactful solutions.

At our organization, we believe that the future of horticulture lies in collaboration, innovation, and responsible stewardship of our natural resources. Through advancements in protected cultivation, smart irrigation, organic practices, and sustainable landscaping, we are redefining how communities grow and thrive.

This event brings together growers, researchers, entrepreneurs, policymakers, and enthusiasts from across the region and beyond. It is an opportunity to exchange knowledge, explore emerging trends, and build partnerships that will shape the future of our green economy.

I extend my heartfelt gratitude to our partners, exhibitors, sponsors, and visitors for being part of this journey. Together, let us cultivate innovation, harvest opportunity, and plant the seeds for a greener tomorrow.

Wishing you an inspiring and fruitful experience at the Horti Agri India Expo 2026.












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It is with great pride and responsibility that I extend my warm greetings to all participants, partners, and visitors of Horti Agri India Expo 2026.

The horticulture industry today stands at a defining moment. As India accelerates toward sustainable growth, enhanced agricultural productivity, and global competitiveness, horticulture has emerged as one of the most promising pillars of our green economy. From high-value crops and protected cultivation to floriculture, landscaping, and post-harvest innovation — this sector is transforming rural prosperity and urban ecosystems alike.

My vision for the horticulture industry is rooted in three core principles: **innovation, integration, and impact.**

- **Innovation,** through adoption of advanced technologies, precision farming, climate-smart practices, and digital integration.
- **Integration,** by connecting farmers, startups, exporters, policymakers, architects, and global stakeholders on a unified platform.
- **Impact,** by ensuring that growth in this sector translates into real economic upliftment, environmental balance, and sustainable livelihoods.

Horti India Expo is more than an exhibition — it is a catalyst for opportunity. It is a place where ideas meet investment, where research meets commercialization, and where partnerships evolve into long-term growth stories.

As we look toward the future, my mission is to build a strong, globally connected horticulture ecosystem that empowers growers, encourages entrepreneurship, attracts international collaboration, and positions India as a leader in sustainable horticultural excellence.

I sincerely thank all exhibitors, sponsors, industry associations, and delegates for their trust and participation. Your contribution strengthens this platform and drives the collective ambition of a greener, smarter, and more prosperous tomorrow.

Let us work together to shape the future of horticulture — responsibly, sustainably, and ambitiously.

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Biochar: A Sustainable Solution for Soil Health, Carbon Sequestration and Climate Resilience

Agriculture is vital to many developing economies, but modern farming faces major challenges such as soil degradation, excessive chemical use, declining organic matter, crop residue burning, and climate change impacts. These issues reduce soil fertility and productivity while increasing pollution and greenhouse gas emissions.

Sustainable soil management is therefore essential. Biochar, an ancient practice supported by modern research, offers a promising solution by improving soil health, managing agricultural waste, and helping mitigate climate change. This article examines biochar's concept, history, benefits, application methods, challenges, and future potential in sustainable agriculture.

Biochar is a stable, carbon-rich material produced by heating organic biomass in a low-oxygen environment through a process known as pyrolysis. Unlike open burning, pyrolysis limits oxygen supply, preventing complete combustion. Instead of turning biomass into ash and releasing carbon dioxide into the atmosphere, this process converts it into a solid form of carbon that can remain stable in soil for hundreds of years.

Common raw materials used to produce biochar include:

- Crop residues (rice husk, wheat straw, maize stalks)
- Wood waste and sawdust
- Coconut shells
- Bamboo residues
- Animal manure

At Ecotrails Growme, we use hardwood waste to produce biochar. Since wood has more lignin than crop residues, hence the biochar produced has very high organic carbon content, making it a superior soil amendment in India

Although biochar resembles charcoal in appearance, its purpose and production process differ. Charcoal is primarily used as fuel, whereas iochar is specifically designed for soil application. The structure of biochar is highly porous, giving it a large surface area. This porous nature enables it to retain water, nutrients, and microorganisms effectively.

The chemical properties of biochar vary depending on feedstock type and pyrolysis temperature. Higher temperatures generally produce biochar with greater carbon stability but lower nutrient content. Therefore, production conditions are carefully adjusted depending on its intended agricultural use.

How Biochar Works in Soil

Biochar improves soil quality through several physical, chemical, and biological mechanisms:

Improved Water Retention

The porous structure of biochar acts like a sponge. It absorbs water during irrigation or rainfall and slowly releases it to plant roots. This property is especially beneficial in sandy soils and drought prone regions.

Enhanced Nutrient Retention

Biochar has a high cation exchange capacity (CEC), which allows it to hold essential nutrients such as nitrogen, potassium, calcium, and magnesium. This reduces nutrient leaching and improves fertilizer efficiency.

Increased Microbial Activity

The pores in biochar provide habitat for beneficial soil microorganisms. These microbes support nutrient cycling, organic matter decomposition, and plant growth

Improved Soil Structure

Biochar enhances soil aeration and aggregation. In clay soils, it reduces compaction; in sandy soils, it improves cohesion.

Long-Term Carbon Storage

Biochar contains stable forms of carbon that resist decomposition. When applied to soil, it locks carbon away for decades or even centuries, reducing atmospheric carbon dioxide levels.

Companies such as Ecotrails Growme contribute to this process by ensuring that agricultural waste is converted into long-lasting carbon products instead of being burned.

Historical Background: The Example of Terra Preta

The concept of enriching soil with charred organic matter dates back thousands of years. In the Amazon Basin, indigenous communities developed a highly fertile black soil known as Terra Preta, meaning "black earth" in Portuguese. This soil was created by incorporating char, bones, manure, and organic waste into otherwise nutrient-poor tropical soils.

Even today, Terra Preta soils remain remarkably fertile compared to surrounding areas. Scientific studies show that the char content in these soils has remained stable for centuries, demonstrating biochar's long-term carbon stability.

This historical example provides strong evidence that biochar can significantly enhance soil fertility and sustainability over long periods

BENEFITS OF BIOCHAR

Biochar offers multiple benefits across agricultural, environmental, and economic dimensions

A. Agricultural Benefits

- Increased crop yields in degraded soils
- Better root development
- Reduced need for chemical fertilizers
- Improved soil pH balance
- Enhanced resilience to drought

Several field trials by our team have demonstrated yield improvements, particularly when biochar is combined with compost or organic fertilizers.

B. Environmental Benefits

Biochar contributes significantly to environmental sustainability:

- Carbon sequestration: Locks carbon in soil instead of releasing it as CO_2.
- Reduction in greenhouse gases: Can lower methane and nitrous oxide emissions from soils.
- Waste management: Converts agricultural residues into useful soil amendments.
- Reduced stubble burning: Provides an alternative use for crop waste.

Organizations such as the International Biochar Initiative promote research and standardization of biochar to ensure environmental safety and effectiveness.

ABOUT ECOTRAILS GROWME

Ecotrails Growme focuses on producing biochar using controlled pyrolysis techniques to ensure consistent quality, optimal carbon content, and safe soil application. Proper production standards are crucial to achieving long-term agricultural benefit's.

C. Economic Benefits

- Converts agricultural waste into value-added products
- Reduces long-term fertilizer costs
- Enhances farm productivity
- Opens opportunities in carbon credit markets

Farmers can potentially benefit not only from improved yields but also from environmental incentives and sustainable certification schemes.

TYPES OF BIOCHAR

Feedstock Type	Characteristics	Application
Wood-based biochar	High fixed carbon, stable structure	Long-term soil amendment
Crop residue biochar	Moderate carbon, nutrient-rich	Field crops
Coconut shell biochar	Very high carbon content	Soil and filtration
Manure-based biochar	Higher nutrient levels	Nutrient-deficient soils

Temperature also affects properties. Low-temperature biochar retains more nutrients, while high temperature biochar offers greater carbon stability.

We at Ecotrails Growme select feedstock carefully to ensure optimal balance between stability and nutrient retention for agricultural applications.

Application Methods

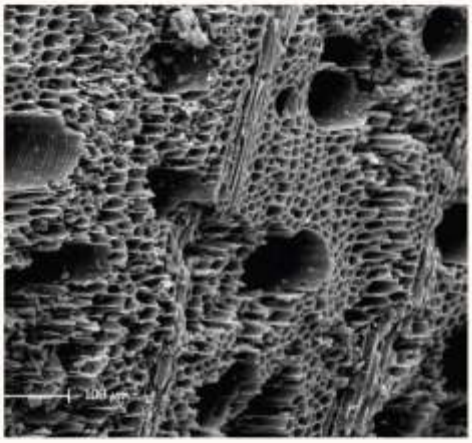
Proper application is essential for maximizing benefits.

1. Direct Soil Incorporation
Biochar is mixed into soil before planting. Typical application rates range of Ecotrails Growme biochar from 300-400 kgs per acre, depending on soil condition.

2. Mixing with Compost
Biochar is often blended with compost to "charge" it with nutrients before application. Fresh biochar can temporarily absorb nutrients from soil; pre-charging prevents this issue.

Uniform mixing into the root zone ensures optimal plant response.

3. Integration with Organic Farming
Biochar works effectively alongside vermicompost, farmyard manure, and organic fertilizers.



India faces serious soil degradation and air pollution from crop residue burning. States like Punjab and Haryana experience seasonal smog due to stubble burning. Biochar offers a practical solution by converting agricultural waste into a beneficial soil amendment.

Research institutions and agricultural universities are conducting field trials to assess biochar's effectiveness under Indian soil conditions. There is growing interest in regenerative agriculture and carbon farming practices.

If properly implemented, biochar could help improve soil fertility, reduce pollution, and support sustainable rural development.

Challenges and Limitations

Despite its advantages, biochar faces several challenges:

- Limited awareness among farmers
- Initial production and transportation costs
- Variability in quality due to inconsistent production methods
- Need for technical knowledge regarding correct dosage

Biochar aligns strongly with global climate and sustainability goals. The Intergovernmental Panel on Climate Change has recognized carbon sequestration strategies as important tools in climate
mitigation

Future opportunities include:

- Participation in carbon credit markets
- Integration into regenerative agriculture systems
- Development of decentralized pyrolysis units
- Public-private partnerships for waste-to-energy projects

As awareness grows, biochar could become a mainstream soil amendment and climate solution

Biochar represents a powerful intersection of traditional knowledge and modern science. By converting agricultural waste into a stable carbon-rich material, it addresses soil degradation, waste management, and climate change simultaneously. Its ability to improve soil fertility, enhance water retention, and store carbon for long periods makes it a promising tool for sustainable agriculture.

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Biocarve Seeds — Sowing Prosperity, Cultivating Futures

In the fertile plains of Punjab — a region long defined by wheat and paddy monocultures — a quiet agricultural transformation has been unfolding. At the center of this change stands **Biocarve Seeds**, a company that has not only introduced profitable alternatives to traditional farming but has also reshaped the horticulture landscape through innovation, trust, and deep-rooted social responsibility.

From humble beginnings to international reach, Biocarve's journey is not merely a business success story — it is a story of vision, resilience, and the power of agriculture to uplift entire communities.

Roots in Humble Soil

The origins of Biocarve trace back to the passion of **Chaudhary Mohammad Ramzan**, a man of modest means who worked in the gardens of the erstwhile Maharaja of Patiala. What began as a small side activity to supplement family income gradually evolved into a lifelong dedication to flowers and seeds.

This passion was later carried forward and expanded by the next generation. The company took its modern shape under the leadership of **Dr. Allah Rang**, a distinguished academic and former Professor and Head of the Department of Plant Breeding and Genetics at Punjab Agricultural University, Ludhiana. Bringing together scientific expertise and practical farming knowledge, he laid the foundation for a research-driven enterprise.

Today, Biocarve Seeds operates as a dynamic family-led organization, supported by the entrepreneurial energy of the younger generation. Together, they transformed a legacy of gardening into a professional seed enterprise serving farmers across India and beyond.

Reimagining Agriculture in Punjab

Punjab's agricultural success once came at a cost — depleting groundwater, soil fatigue, declining biodiversity, and economic vulnerability due to

dependence on wheat and paddy. Recognizing these challenges early, Biocarve championed an alternative: **high-value flower seed cultivation**.

By introducing commercially viable ornamental crops such as calendula, antirrhinum, lupins, daisies, coreopsis, and clarkia, the company created a new pathway for farmers to diversify income without abandoning their land.

Today, Biocarve coordinates cultivation across nearly a thousand acres, including company farms and a large network of contract growers. Farmers sign pre-season agreements detailing crop choices, buy-back prices, expected yields, and agronomic practices — providing a level of income predictability rarely seen in agriculture.

Seeds and seedlings are supplied, technical guidance is provided throughout the season, and the company purchases the harvest at agreed rates. This end-to-end support model has enabled many farmers to earn significantly more than traditional wheat cropping, while also reducing pressure on natural resources.

The fields themselves tell a story of change — vibrant expanses of flowers replacing monotonous monoculture, bringing both ecological and aesthetic renewal to the countryside.

Building a Farmer-Centric Ecosystem

Biocarve's success rests on trust — built through transparency and long-term partnerships.

Farmers are not treated as vendors but as collaborators. The company provides:

- High-quality seeds and planting material
- Scientific crop guidance
- Regular field visits
- Digital advisory through videos and messages
- Transparent grading and cleaning processes
- Assured procurement

Such practices reduce risk and empower farmers to adopt new crops confidently. For many families, flower seed cultivation has become a reliable source of livelihood and financial stability.

Importantly, these crops fit well into existing rotations, often following short-duration paddy or basmati varieties. This compatibility has accelerated adoption across districts.

Innovation in Seeds and Young Plants

While its roots lie in contract seed production, Biocarve has steadily evolved into a technology-driven horticulture enterprise.

The company offers a diverse portfolio of flower, vegetable, and herb seeds — including modern hybrids designed for uniformity, yield, color vibrancy, and adaptability to Indian conditions. Each variety is evaluated carefully before introduction, ensuring performance under real-world climate and soil conditions.

Beyond seeds, Biocarve has developed advanced young plant production capabilities. Seedlings are raised in controlled environments using precision irrigation, optimized substrates, and scientific nutrition protocols. Plants are hardened through staged exposure to different conditions, producing robust transplants ready for field or container cultivation.

This professional nursery approach dramatically improves crop success rates while saving time and labor for growers, landscapers, and nurseries.

Connecting Punjab to the World

Biocarve's reputation for quality has extended far beyond India's borders. Over the years, the company has established itself as a trusted exporter of flower seeds to multiple international markets across Europe, North America, and the Middle East.

Stringent quality control, genetic purity, and reliable supply chains have helped the company meet demanding global standards. This international presence not only strengthens the brand but also brings foreign exchange earnings and recognition to the region.

Recognition has come in many forms — including prestigious state and national awards for innovation in agriculture and contributions to farmer welfare.

Sustainability Through Diversification

The environmental benefits of Biocarve's model are substantial. Flower seed crops typically require less water than paddy and encourage diversified cropping systems, which improve soil health and reduce pest cycles.

By promoting crops that deliver higher value per acre, the company helps farmers achieve better incomes without expanding land or intensifying resource use. This aligns with the broader vision of sustainable agriculture — producing more while conserving natural capital.

Additionally, ornamental crops contribute to urban greening, landscaping, and biodiversity, linking rural production with urban environmental improvement.

Empowering Communities Through Education

Perhaps the most distinctive aspect of Biocarve's journey lies beyond agriculture itself.

The company has adopted a deeply meaningful social initiative: **supporting the education of the girl children of its employees from early schooling through completion of Grade 12.**

This long-term commitment reflects a simple but powerful belief — educating one girl transforms an entire family's future. An educated woman is more likely to ensure that her children receive proper education, healthcare, and opportunities, creating a ripple effect across generations.

By removing financial barriers that often lead to school dropouts, Biocarve empowers families to invest in their daughters' futures with confidence. The initiative also sends a strong message within local communities about the importance of women's education and gender equality.

For Biocarve, this is not merely corporate social responsibility; it is an investment in societal progress. Strong families build strong communities, and educated women are central to that foundation.

A Family Enterprise with Modern Vision

Despite its growth, Biocarve retains the character of a close-knit family enterprise — agile, values-driven, and personally invested in outcomes.

The leadership combines academic rigor, technological orientation, and entrepreneurial spirit. Digital tools, online marketing, and modern supply chain practices complement traditional agricultural knowledge, positioning the company for the future.

This blend of legacy and innovation allows Biocarve to adapt quickly to changing market trends — from commercial landscaping demand to the rise of urban home gardening.

Shaping the Future of Horticulture

As India's horticulture sector expands, demand for reliable planting material, new varieties, and professional nursery systems continues to rise. Biocarve is well positioned to meet this demand through ongoing innovation, partnerships, and expansion into new crop segments and markets.

The company's vision extends beyond commercial success. It seeks to create an ecosystem where farmers prosper, landscapes flourish, communities grow stronger, and agriculture becomes both sustainable and aspirational for the next generation.

More Than Seeds — A Legacy of Growth

Biocarve Seeds' story demonstrates how a single idea — growing flowers to improve livelihoods — can evolve into a movement that touches thousands of lives.

From the gardens of a princely state to farms across Punjab and markets around the world, the journey reflects perseverance, scientific insight, and unwavering commitment to people.

In every packet of seed and every tray of seedlings lies the promise of transformation — of fields, incomes, communities, and futures.

Biocarve Seeds is not just sowing crops; it is cultivating prosperity, opportunity, and hope — one season at a time.

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The Potted Path: Container Gardening

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Introduction: Container gardening is a method of growing plants in pots or other containers instead of traditional garden beds. This approach is particularly useful for individuals with limited space, such as those living in apartments or urban areas. It allows for efficient use of space, as containers can be placed on balconies, patios, or indoors. One of the key benefits of container gardening is the ability to control the soil used, allowing gardeners to select specific mixes tailored to the plants' needs. Containers are also mobile, making it easy to move them to optimize sunlight exposure or protect plants from harsh weather. This method is also more accessible, especially for those who lives in metro cities and have mobility issues. Common types of containers include clay, plastic, ceramic, and metal pots, as well as grow bags for growing herbs or smaller plants, and hanging baskets for trailing varieties like indeterminate type of tomatoes. Popular plants for container gardening include vegetables as well as various flowers and foliage plants but it involves regular watering, nutrition and extra care for light and temperature requirements. Additionally, it's important to ensure that containers have drainage holes to prevent water logging. Overall, the container gardening is a versatile and rewarding way to grow plants, making it accessible to everyone, regardless of space limitations.

1. **Type of containers:**

- **Pots:** Clay, plastic, ceramic, or metal.
- **Trugs:** Shallow, longer containers for herbs or smaller plants.
- **Troughs:** Wider containers suitable for multiple plants.
- **Hanging Baskets:** Ideal for trailing plants and vertical gardening.
- **Window Boxes:** Long, narrow containers for use on windowsills or railings.

- **Grow Bags:** Fabric containers that promote good drainage and air circulation.
- **Planters:** Larger containers that can hold multiple plants or small trees.

2. **SOIL:** Standard Soil Mix for Pot Culture. A widely recommended mixture is:

Garden Soil – 1 part, Well-decomposed FYM (Farmyard Manure) or Compost – 1 part

Sand – 1 part. This is often referred to as 1:1:1 soil mix.

3. HOW TO PLANT IN A CONTAINER

3.1. Choose the right container

- Select a pot with **drainage holes** at the bottom.
- size depends on plant type:
  - o small herbs → 6–8 inch pots
  - o vegetables (tomato, brinjal) → 12–16 inch pots
  - o flowers → 8–12 inch pots

3.2 Prepare the potting mix

- Use **standard soil mix (1:1:1)** → garden soil + fym/compost + sand.
- Optionally add **1–2 handfuls of coco-peat** or **perlite** for better aeration.

3.3 Filling the container,

- Place a **small stone or mesh** over the drainage hole to prevent soil loss.
- Fill container **3/4th full** with prepared soil mix.

3.4 Planting

- **Seedlings:** make a small hole, place the seedling, and cover gently with soil, press lightly.
  - o Seeds: sow 2–3 seeds, cover with a thin layer of soil, and water gently.
  - o Maintain spacing as per plant type.

3.5 Water: Light watering thoroughly until excess water drains out.

- Keep soil moist but not water-logged.

3.6 Positioning:

- Place the container in a sunny location (4–6 hours of sunlight for most vegetables).
- Shade-loving plants (ferns, coleus) can be kept in semi-shade.

3.7 Fertilising: Apply liquid organic fertiliser (vermin-compost tea or seaweed extract) every 2–3 weeks. Remove weeds regularly.

3.8 Maintenance:

- Pinch off dead leaves and flowers to encourage growth.
- Stake tall plants (tomato, chilli) to prevent lodging.

4. Planting Method for Ornamental Plants

- Choose **healthy seedlings or cuttings** from a nursery.
- Place in a **sunny or semi-shade** location depending on plant type.
- **Sun-loving:** Marigold, Petunia, Zinnia
- **Shade-loving:** Fern, Coleus, Begonia

4.1 Soil, planting method, spacing, watering and maintenance

- Use **well-drained soi**l (Garden soil: FYM: Sand = 1:1:1).
- For flowering plants, add **bone meal/vermin-compost** to enrich soil.
- Dig holes slightly larger than the root ball.
- Remove the plant from the pot carefully without damaging the roots.
- Place it in the hole at the **same depth as before**, fill with soil, and press gently.
- Small annual flowers: **20–25 cm**
- Shrubs: **50–75 cm**
- Water immediately after planting.
- Soil must be soil moist during planting.

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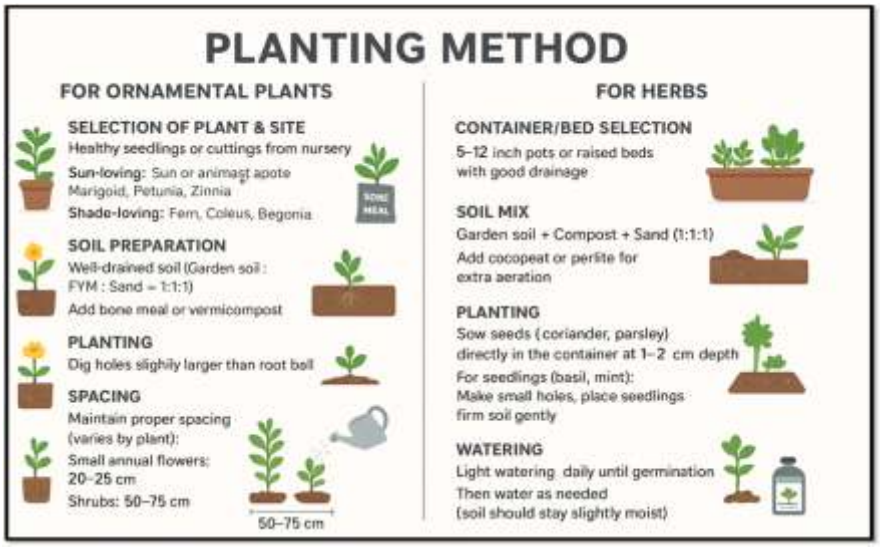
- Pinch off flowering shoots to encourage leaf production (basil, mint).
- Fertilize every 2–3 weeks with organic liquid fertiliser.



5. Irrigation in a container garden:

You are absolutely correct that maintaining a regular watering schedule to prevent drying out is a key for successful container gardening, especially in tropical regions where plants can dry out rapidly due to heat and wind. However, for a beginner, this advice can be misleading because "regular" doesn't mean "daily" or "fixed schedule." It means consistent attention to the plant's needs. Here is a detailed breakdown of how to properly manage watering for container plants in a tropical climate, focusing on consistency without causing root rot.

5.1 The Tropical Container Watering Paradox

In the tropics, containers face two extreme threats:

(I) Rapid Dry-Out (Risk: Under watering): Small pots, dark-colored pots, and windy, hot days cause soil to dry out very fast.

(ii) **Root Rot (Risk: Over-watering):** High ambient humidity and dense soil slow down evaporation from the soil surface, leading to a risk of the roots sitting in stagnant water.

The Solution: Focus on when to water and how to water, not a fixed calendar date.

5.2 When to Water: The Based on demand and weather conditions not a daily watering when plant reached at threshold level and start sowing wilting sign of leaves and the best time of watering is during morning.

6. Fertilize- when and how much: When mixing a water-soluble fertiliser (NPK mix) or use organic manure and use based on recommended dose or size of pot considering weather conditions during their active growing period. It's much safer to feed lightly and frequently than to risk root burn with a single, strong dose.



7. Integrated Pest Management (IPM) is the smartest and safest way to handle pests in a closed, containerised indoor environment. It relies on prevention and observation rather than immediate chemical reaction. The common pests are:

(i) Spider Mites: Fine webbing, tiny yellow dots on leaves. Take the plant to a shower or hose. Use a strong jet of room-temperature water to physically knock the pests off the plant.

(ii) Mealy bugs: Small, white, cottony masses, usually in leaf crevices. Dip a cotton swab in rubbing alcohol (isopropyl alcohol) and gently touch the pest. The alcohol dissolves their protective coating.

(iii) Scale: Small, brown, immobile bumps on stems or leaves. Mix pure cold-pressed neem oil (1 tsp) with warm water and a small amount of liquid soap (1/2 tsp) as an emulsifier. Spray the entire plant (especially undersides of leaves) every 5-7 days until pests are gone

8. CONCLUSION OF CONTAINER GARDENING:

Container Gardening is an alternative for urban dwellers and those with limited outdoor space to transform small areas like balconies, patios, roof, and windows. The ability to control soil conditions, optimise sun exposure by moving pots, and better manage pests and diseases makes it a practical choice for gardeners of all skill levels. Container gardening also provides a creative outlet, allowing for the arrangement of diverse plants in various containers, which enhances the aesthetic appeal of a home while fostering a sense of accomplishment with each successful bloom or harvest. In essence, it offers a sustainable and joyful way to bring greenery and fresh produce of herbs and vegetables closer to our daily lives, making the pleasures of gardening available to everyone, regardless of their space limitations.

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Don't bring the heavy raw materials to the machine; take the machine to the source. Our mini and small-scale units are designed with a compact footprint, making them easy to transport to forests, farms, or remote research sites. This is especially vital for Agarwood hunters and essential oil farmers who need to process fresh material immediately.

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We use only Food Grade 304/316 Stainless Steel (SS304) for all contact parts:
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·Corrosion Resistance: Our units withstand the heavy acidic and alkaline reactions common in herbal processing.
·Robustness: These are "heavy-duty" machines designed for 15–20 years of service, not thin-gauge hobbyist kits.

5-Year Warranty

We are so confident in our engineering that we offer a 5-year warranty on our distillation units. While most competitors offer a standard 12 months, we stand by our craftsmanship for half a decade, giving you total peace of mind for your investment.

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Bottom Fire

Field Distillation

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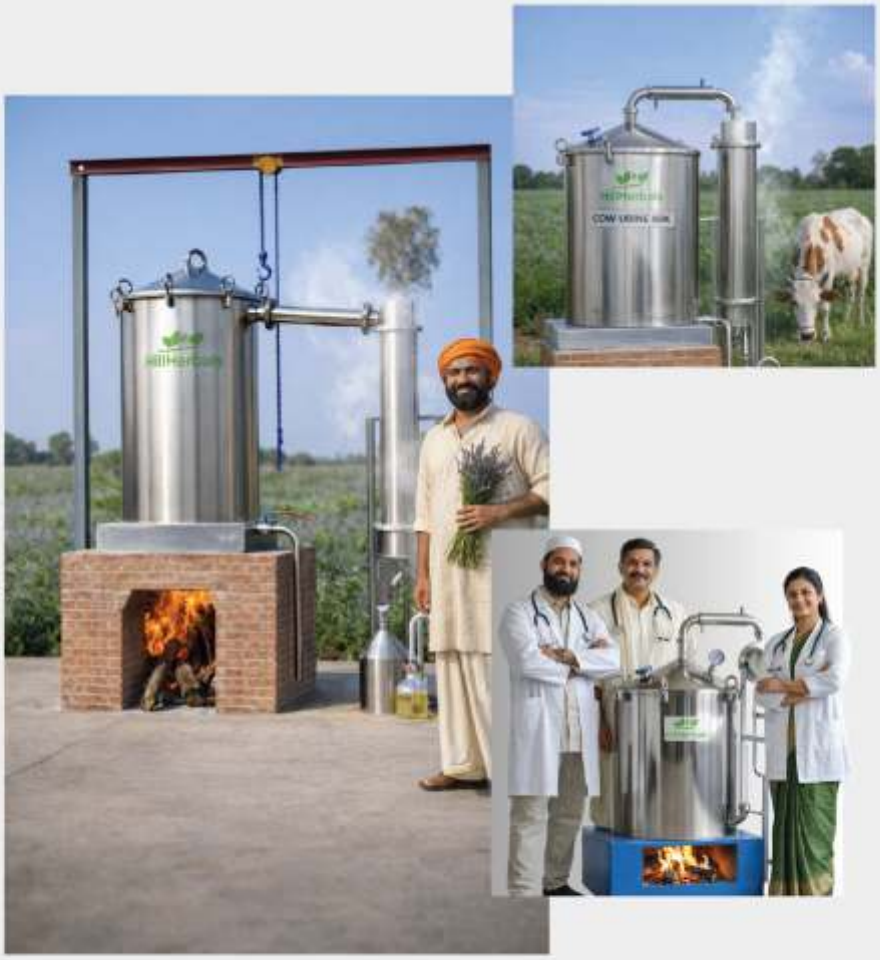
serves a diverse range of sectors

1. Agriculture & Aromatic Farming
We empower cultivators to move beyond traditional farming into high-value processing.

- Value Addition: Providing farmers with the technology to extract essential oils from crops like Lemongrass,Tulsi Citronella, and Palmarosa & many more
- On-Field Processing: Our portable and industrial units allow for immediate distillation, ensuring the highest purity and freshness of the oil.

2. Ayurveda, Siddha & Unani Medicine
A core sector for our mission, we support traditional practitioners in modernizing their medicine preparation.

- Ark & Hydrosol Production: Our specialized small-batch distillation units are the gold standard for creating Ark and herbal distillates used in clinics.



3. Personal Care, Cosmetics & Perfumery
We supply distillation required to produce

- Natural Fragrance
- Skin & Hair Care: Supporting manufacturers of organic toners (Rose Water/Vetiver), essential oils, and herbal extracts.
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4. Pharmaceuticals & Research
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- Reducing Malnutrition
- Creating Entrepreneurship

About Us :

da' mushroom nursery is a mushroom-focused organisation built to integrate nutrition, biotechnology, and sustainable livelihoods into a single, structured ecosystem. The organisation operates across cultivation, research, processing, education, and market access, ensuring quality and transparency at every stage.

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- Material : 100% Polyster

APPLICATIONS

- SUPPORT CUCUMBER, CAPSICUM, TOMATO PLANT & ETC.
- EASY TO USE & INSTALL
- SUITABLE FOR GREEN HOUSES POLYHOUSES
- WEATHER RESISTANT & UV STABILITY
- PROVIDE HIGH & RELIABLE SUPPORT

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Trellising twin thread made of polyester is an advanced agricultural and horticultural support system designed to improve plant growth, increase yields, and enhance crop management efficiency. Widely used in vineyards, greenhouses, orchards, and vegetable farms.

Why Choose Polyester?

High Tensile Strength – Supports heavy fruit-bearing plants like tomatoes, cucumbers, and grapes.

UV Resistant – Long-term outdoor durability without frequent replacement.

Weather Durable – Withstands rain, humidity, and temperature fluctuations.

Lightweight & Flexible – Easy installation and maintenance.

Low Maintenance – Resistant to rot, moisture absorption, and pests.

Applications in Agriculture

Vineyards – Improved air circulation and sunlight exposure.

Greenhouses – Vertical training for tomatoes, peppers, cucumbers.

Orchards – Supporting young tree growth.

Floriculture – Maintaining aesthetic plant structure.

Advantages Over Traditional Materials

Longer lifespan than jute or cotton.

Moisture & pest resistance.

Safer and lighter than metal wire.

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Trellising twin thread made of polyester offers a reliable, durable, and efficient plant support solution for modern agriculture — balancing performance, sustainability, and cost-effectiveness.

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The Future of Farming: Why Hydroponics is Becoming Strategic Infrastructure

India's agriculture sector is undergoing structural transformation driven by urbanization, shrinking landholdings, water scarcity, climate variability, and rising food safety awareness

Traditional open-field farming faces systemic challenges

- Weather unpredictability
- Seasonal supply gaps
- Quality inconsistency
- Price volatility
- Rising input costs

These pressures demand a shift from dependency-driven farming to precision-driven production. Controlled Environment Agriculture (CEA), with hydroponics at its core, offers that transition.

What is Hydroponics?

Hydroponics is soil-less cultivation where crops grow in nutrient-enriched water under controlled environmental conditions. Instead of soil-based nutrient uptake, plants receive precisely balanced nutrients through irrigation systems.

Key controlled parameters include:

- Nutrient delivery
- Irrigation cycles
- Light intensity
- Temperature
- Humidity
- CO_2 levels

This creates a production ecosystem where growth variables are optimized rather than exposed to environmental uncertainty.

Why Hydroponics Makes Economic Sense

From an agribusiness perspective, hydroponics provides:

- Up to 90% lower water usage
- Higher yield per square foot
- Faster crop cycles
- Reduced pest pressure
- Uniform quality output
- Year-round production
- Predictable harvest planning

These factors enhance revenue predictability and reduce operational risk — critical for investors and institutional buyers.

The Changing Urban Demand

Urban food markets are increasingly quality- and compliance-driven.

Buyers now demand:

- Residue-free produce
- Traceable supply chains
- Standardized quality
- Reliable volume
- Stable pricing

Hotels, cloud kitchens, and premium retailers require consistency that conventional supply chains often cannot guarantee.

Hydroponics introduces operational predictability into food production.

And this is where INHYDRO plays a strategic role — not just as a technology provider, but as a structured execution partner in India's agricultural evolution.

Innovation Solution For Your Growing Environment

Engineering Agriculture: The Genesis of INHYDRO

Integrated Hydroponics India Pvt Ltd, operating under the brand INHYDRO, was established with a clear mandate: to industrialize hydroponics and vertical farming in India through engineering precision and integrated execution.

Structured as an engineering-led agricultural enterprise — and a subsidiary of Smartbrains Engineers & Technologist Pvt Ltd — INHYDRO draws on 25+ years of expertise in engineering design, infrastructure development, large-scale execution, and technical training.

Its entry into hydroponics was strategic, recognizing that future food systems require the same discipline as industrial infrastructure.

InHydro aim to provide best quality profitable and sustainable hydroponic solutions to customers world wide.

Identifying Structural Gaps

Upon entering the sector, three systemic gaps were evident:

- Lack of engineering rigor in system design, leading to inefficiencies in water flow, nutrient delivery, and climate control.
- Absence of structured commercial feasibility models, including ROI projections and risk analysis.
- Limited agronomy and post-installation support, leaving clients without operational frameworks.

While many operated as equipment suppliers, INHYDRO positioned itself as a technology and business integration partner — aligning engineering, agronomy, and financial planning into a unified execution model

Unique model of **Build – Operate – Transfer** to assure peace of mind to our Customers

Building from Practice, Not Theory

INHYDRO's credibility is rooted in production-scale validation.

Operational Footprint

- 12 acres of climate-controlled hydroponics farms
- 6+ rooftop hydroponics farms in urban environments
- 50,000+ plant capacity indoor NFT systems for high-density leafy greens
- 9,650,00+ Kg Annual Production Capacity Operational farms and partner networks delivering consistent commercial output.

These are revenue-generating commercial units designed for consistency, efficiency, and scalability.

What This Infrastructure Enables

This ecosystem allows INHYDRO to:

- Conduct real-time crop trials
- Optimize nutrient and irrigation protocols
- Standardize SOPs across climatic zones
- Benchmark yield performance
- Train entrepreneurs and institutional teams
- Validate ROI through live production data

Engineering precision is continuously tested against biological performance, and business models are validated through real harvest cycles.

This is how hydroponics evolves from concept to scalable commercial agriculture.

From Infrastructure to Income: Building Profitable Hydroponics Enterprises

Hydroponics is not merely about crop production — it is about creating a controlled, repeatable, and scalable revenue model.

In a structured setup, agriculture shifts from weather dependency to performance-driven production, where yield, quality, and harvest cycles are forecasted with measurable accuracy.

Infrastructure Delivered by INHYDRO

Integrated Hydroponics India Pvt Ltd (INHYDRO) designs commercially engineered systems focused on efficiency and ROI.

Commercial Hydroponics Systems

- Flat Bed & A-Frame NFT
- High-Density Indoor NFT Units
- Dutch Bucket & Grow Bag Systems
- DWC & Ebb & Flow
- Vertical Rack & Container Farms
- Aquaponics & Aeroponics Systems

Each system is engineered for optimized nutrient flow, automation, and long-term structural durability.

Business Consulting & Professional Training Programs

Commercial hydroponics workshops, advisory services, and enterprise development modules for entrepreneurs and institutions.

Climate-Controlled Greenhouses

Integrated with hydroponics for production stability:

- Fan & Pad Greenhouses
- Polycarbonate Structures
- Naturally Ventilated Polyhouses
- Shade Net Houses

All designed for seamless hydroponic integration and climate precision.

The Road Ahead

As India's urban population expands, food production must move closer to consumption centers to reduce supply chain inefficiencies.

Hydroponics and controlled environment agriculture are transitioning from pilot projects to strategic urban infrastructure — enabling resilience, consistency, and food security.

INHYDRO's Vision

Food Safety

Water Efficiency

Urban Sustainability

Profitability

Hydroponics represents the convergence of engineering, plant science, and enterprise economics.

INHYDRO represents its structured execution —from design to delivery,

The future of farming will not be defined by land size —but by system design.—from design to delivery,

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  Nurseries: Vegetable, flower & fruit and pot plants etc.
- Controls: Drip Valves, EC & pH, Water Volumes, Soil Moisture
  Temperature- Relative Humidity, Light, Shade Screens , Side Vents
  CO2, Fan-Pad, Air Circulation Fans, Fogging, Misting &Sprinkling
- PLC-HMI Based Control System, IOT-Remote Control-Mobile App
  Drip Irrigation Valves Control Range- 1 -100 Valves
  Water Discharge Capacity: 5 CMPH - 100CMPH (Cubic Meter/ Hour)

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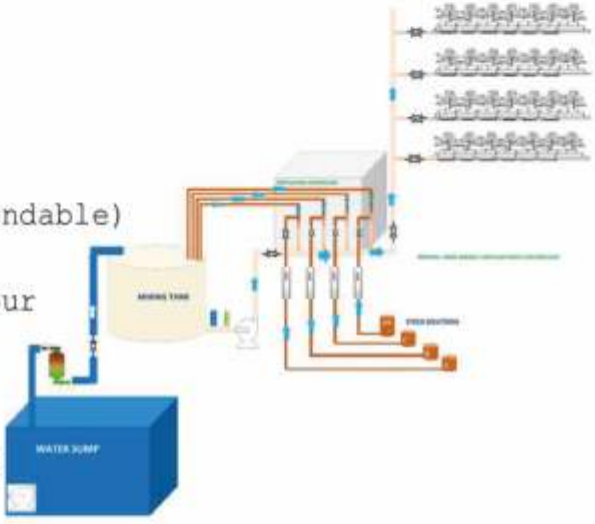
Where Ferti-Go works?

- Protected-Soil based Crops (vegetable-fruit-flower-Nursery)
- Open Field-Soil Crops (vegetable-fruit-flower-Nursery)
- Soilless Crops(Substrate-NFT-DWC-Aeroponics)

Specifications:



- EC Control: 3-4 injection channels(extendable)
- pH control: pH low and high
- Discharge: 10 to 100 cubic meter per hour
- Irrigation Valves control:1-20Nos (Extendable upto -50 Valves)
- Recipes: 16 Nos
- Day Schedules:weekly & Day Schedules-10
- Data History log-6 Months
- User Interfacing: Touch Screen based
- Fertigation Modes: EC PH Time, EC-pH Volume and Proportional
- Control Modes: Auto, Manual & Bypass
- Automatic Sand Filter Backwash-Control
- Remote Control: IOT Integrated - Monitor & Control with mobile remotely
- Optional Sensors:Soil Moisture-Temperature-EC & pH, Radiation

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Our Mission

- To bring prosperity to every farmer and all our stakeholders by delivering quality seeds and services.

Our Vision

- To be a leading global seed company known for delivering quality seeds driven by strong R&D, constant innovation, extensive reach, prompt customer support and focused knowledge sharing programmers.

Values


MUTUAL RESPECT


ACCOUNTABILITY


TRUST


EXCELLENCE


TEAM WORK

Leading
Top 3rd largest & leading vegetable Seed Company in India

14th
Largest, fastest growing among top vegetable seed company in Asia

Founded in 1971 in Jalna, India by Mr. Suresh Agrawal as Sheetal Hybrid Seeds Pvt Ltd

Kalash Seeds is a leader in the best quality seeds, operating mainly in the vegetables sector, in India. We have a talented team of scientists, breeders, and researchers working hard to bring seed innovation to farmers. We have been catering to the needs of thousands of Indian and international professional growers and farmers since 2011 with an experience of over 50 years.

Strong, long-lasting, growing customer relationships with farmers in India and globally

Well-diversified global seed business across geographies, products and customers

30+ R&D Trial Centres across India

Experienced management team

1000+ employees across the globe

ABOUT THE FOUNDER

SURESH AGRAWAL
CHAIRMAN

- Visionary and founder with over five decades of versatile experience in seeds industry.
- Mr. Suresh O. Agrawal being commerce graduate entered the seed industry at the Age of 23 years and since then he has contributed for pioneering the work in Vegetable and seed Sector.
- In recognition of his outstanding achievements in the field of international Agribusiness Mr. Suresh Agrawal received Holland Award from the counselor of Agriculture, Royal Netherlands Embassy.
- Mr. Agrawal also received MIRR's Outstanding Ag Bio Business Leadership of the year Award conferred by Maryland India Business Roundtable Inc. He was Awarded with Life time Achievement Award from National Seeds Association of India for his outstanding contribution towards growth and development if Indian Seed Industry.

MD'S Message

SAMEER AGRAWAL
MANAGING DIRECTOR

At Kalash Seeds, we take pride in being a part of India's agricultural growth story, contributing to the mission of a self-reliant Indian economy.

At Kalash Seeds, our focus goes beyond just business. We believe in building long-term relationships with our farmers, empowering them with the knowledge and tools they need to succeed. Through farmer training programs and education initiatives, we strive to ensure that our farmers achieve the best possible yields and quality using our products.

I am proud of the growth that Kalash Seeds has achieved over the past 50 years, with a team of 1000 employees who are dedicated to our mission. I believe in fostering a culture of freedom and initiative, where employees are encouraged to take ownership and perform to their full potential. For me, meeting targets should be a passion, not pressure, and I encourage all our employees to embrace challenges and enjoy their work.

As we look to the future, my vision for Kalash Seeds is to continue empowering Indian farmers and making a significant difference to the face of Indian agriculture. I envision a self-reliant India, where our highest-yielding varieties of seeds help feed a country of 130 crore people, resilient to climate changes and maximizing yields and quality for our farmers. Thank you for being a part of the Kalash Seeds family. Together, let's work towards a brighter, more prosperous future for Indian agriculture.

COMPANY OVERVIEW

Over the years, Kalash Seeds has established itself as one of the top five seed companies in the vegetable sector in India. Our commitment to providing only the highest quality seeds has driven us to invest in exceptional infrastructure, including research centres across India and laboratories, extensive crop trials over 1000 acres of land, and a talented team of over 100 scientists and breeders. This commitment to research and development has enabled us to introduce blockbuster products, catering to a customer base of over 20 lakh farmers and professional growers.

- **700+ Varieties in 25+ Crops** — FY 2024-25
- **1000+ employees** — Based in India, Bangladesh, Myanmar, Thailand, Egypt, Sri Lanka and Kenya
- **Exports** — to 35 countries, 3 continents
- **35 Acres Poly House** — 75 Acres Insect Net
- **1000 acres of own research land** — in 5 states
- **14 marketing offices** — in 14 states
- **75 K Sq. Ft. Lab Area** — Marker, DH, Pathology and Quality
- **2+ Lac Sq. Ft. Warehouse** — 2 Manufacturing Facilities
- **18000+ active seed producers** — in 10 states
- **2** — Manufacturing Facilities
- **50 years** — Legacy

FIVE DECADES OF SOWING TRUST

- **1971** — Incorporation of Sheetal Hybrid Seeds
- **1984** — JV between Sheetal Hybrid Seeds Co. & Bejo Zaden Netherlands, & Rallis India Limited
- **1998** — First direct commercial order
- **2004** — Inception of Biotech Lab
- **2009** — International Seed Testing Association (ISTA) accreditation
- **2011** — Kalash Seeds Pvt Ltd formed. 100% Indian Company
- **2016** — Enhanced research capability through Cell Biology
- **2018** — Commenced International Sales
- **2022** — 14th largest vegetable seed company in Asia
- **2023** — Established 1st overseas company in Thailand as Kalash Seeds Thai Company Ltd

Awards & Recognition

- **2011** — Outstanding Lifetime Achievement - To Chairman for Onion Hybrid
- **2012** — Outstanding Contribution in Seed Industry
- **2017** — Fellow Horticulture
- **2018** — Global Agriculture Leadership Award

Kalash — AWARDS

DH & Tissue Culture Lab

Location: Jalna, Maharashtra, India

- DSIR Approved
- Strong team of **10 Scientist**

Facilities

State-of-the-art Instruments and Equipment

- 10 K Sq. Ft. of Growth Chambers
- 5 K Sq. Ft. of Tissue culture lab
- 20000 Sq. Ft. Research Polyhouse
- 3 Acres of NVPH Polyhouse
- Laminar Air Flow
- Ploidy Analyzer
- BOD Incubator

Molecular Marker Lab

Location: Jalna, Maharashtra, India

- DSIR Approved
- Strong team of **15 Scientist**
- DNA Fingerprinting Germplasm
- Molecular Breeding Marker assisted selection for disease resistance
  e.g. ToLCV & Nematode resistance in Tomato
- Diagnostic Purpose GMO testing genotype
  e.g. BT gene in transgenic brinjal
- Quality Control Hybrid Purity & GOT
  e.g. SSR markers use for GOT

State-of-the-art Instruments and Equipment

- 15 K Sq. Ft. of Growth Chambers
- 10+ PCR Machines
- Aquacycler Machine

Plant Pathology Lab

Location: Jalna, Maharashtra, India

- DSIR Approved
- Strong team of **5 Scientists**
- Plant disease surveillance
- Microbial plant disease – detection & diagnosis
- Screening germplasms, inbred lines, and hybrids for disease resistance
  e.g.: Phytophthora blight, Begomovirus, Fusarium wilt
- Optimizing high-throughput disease screening protocol
  e.g.: Gummy stem blight, cucumovirus, bacterial wilt

State-of-the-art Instruments and Equipment

- **Temperature controlled poly houses**
- **Microscope**
- **PCR**
- **Real time/qPCR**
- **Elisa reader**

Quality Control Lab

Location: Jalna Maharashtra, India

- ISTA Approved Lab since 2009
- Seed Germination Test
- Field GOT
- Seed Purity
- Moisture testing
- Seed Health Lab

R & D Setup

Processing Plant

Location: Jalna Maharashtra, India

HO PLANT

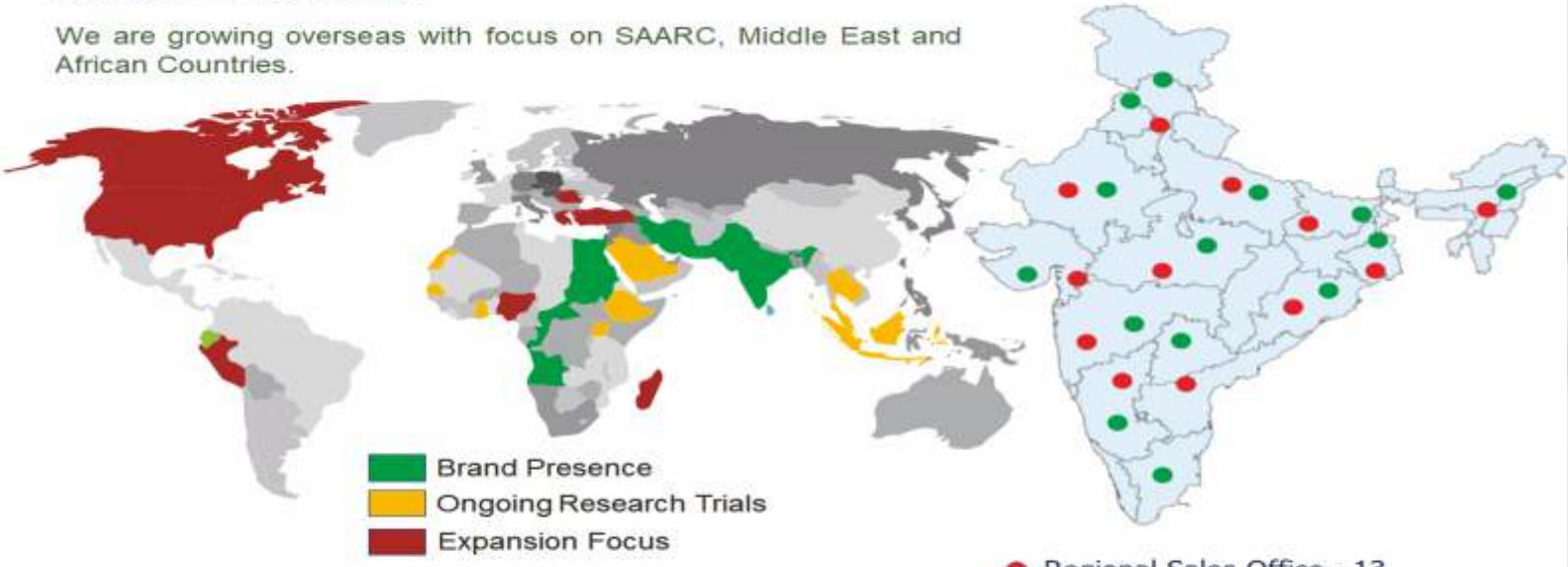
- 80,000 Sq. Ft. Warehouse
- 12,000 Sq. Ft. Cold Storage
- 2000 MT storage capacity
- 13 million packing capacity per year
- Advance processing machines
- Online packing machines

DEVMURTHI PLANT

- 68,000 Sq. Ft. Warehouse
- 25,000 Sq. Ft. Cold Storage
- 3000 MT storage capacity
- 5 million packing capacity per year
- Advance processing machines
- Online packing machines

Kalash Presence:

We are growing overseas with focus on SAARC, Middle East and African Countries.



Presence in 30+ Countries with dedicated trials and focused research to suit localized needs

Kalash

Kalash Seeds Pvt. Ltd.

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E-mail : info@kalashseeds.com I Website : www.kalashseeds.com

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big leaf
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big leaf - All Purpose
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greenure - K20
PDR

big leaf - HBN 100

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Humic Acid & Seaweed -
for Tomato

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successfully growing agribusiness across North India

PIONEER AGRITECH
SOLUTIONS PVT LTD
We Grow Agribusiness

OUR OFFERINGS

Structures & Cultivation Solutions

- Net & Poly House
- Hydroponics Systems
- Vegetable Nursery
- Bedding Plantation
- Green House Structure

Project & Technical Support

- Bank Finance Assistance
- Subsidy Assistance
- Soil Treatment
- Marketing Assistance
- Agronomical Support

PIONEER AGRITECH
SOLUTIONS PVT LTD
We Grow Agribusiness

OUR JV PROJECTS

Location : Karnal, Haryana
Crop : Cucumber
Structure : Net House
Total Land : 5 Acres

Location : Kaithal, Haryana
Crop : Capsicum
Structure : Net House
Total Land : 5 Acres

Location : Rajpura, Punjab
Crop : Strawberry
Structure : Net House
Total Land : 5 Acres

Location : Moradabad, UP
Crop : Muskmelon
Structure : Net House
Total Land : 5 Acres

successfully growing agribusiness across North India

Our Upcoming Joint Venture Projects

successfully growing agribusiness across North India

Budget 2026 & The Viksit Bharat Vision: A Transformational Boost for India's Horticulture Sector

By **CA Shubham Gupta**
CFO & Founder
Horti India Expo 2026

India's Union Budget 2026–27 represents more than just a statement of expenditure and revenue for the coming fiscal year — it is a reaffirmation of the nation's long-term development philosophy. Anchored in the theme of Viksit Bharat @2047, the Budget seeks to accelerate economic growth while strengthening rural prosperity, technology-led innovation, resilient agriculture, and inclusive development.

For the horticulture sector — encompassing fruits, vegetables, floriculture, spices, medicinal herbs, and allied high-value crops — this Budget takes on significant importance. Horticulture occupies a unique place in India's agricultural landscape: it contributes disproportionately to value creation, export potential, employment generation, and nutritional security despite utilizing a relatively smaller share of arable land. As such, the sector has become central to the Government's vision of value-centric agricultural growth and rural economic empowerment.

1. Budget 2026–27: Taking a Multi-Dimensional View of Agriculture

In its 2026–27 Budget, the Government of India allocated Rs. 1,40,529 crore to the Ministry of Agriculture and Farmers Welfare — an increase of 5.4 % over the revised estimates of the prior year. This total encompasses both farmer welfare programmes and agricultural development initiatives, reflecting a blended focus across inputs, infrastructure, innovation, and research.

Of this allocation:

- **Rs. 1,30,561 crore** is devoted to Agriculture and Farmers Welfare.
- **Rs. 9,967 crore** is earmarked for Agricultural Research and Education, with a special thrust on strengthening institutions such as the Indian Council of Agricultural Research (ICAR) that form the backbone of future innovation in farm productivity and sustainability.

These allocations signal a recognition that enhanced productivity, value chain integration, and scientific innovation are essential for the sector's transformation.

Budget 2026 does not stand in isolation — it reflects continuity of the Government's broader agricultural strategy, in which rural development and farm sector vitality are engines of national growth. Agriculture, MSMEs, exports, and investment have been officially identified as four core growth engines in India's ongoing development narrative.

2. Strategic Allocations with Direct Implications for Horticulture

While horticulture does not yet have a boldly separate line item in the central budget, several key allocations and policy thrusts are directly or indirectly impactful:

2.1 Support for High-Value Agriculture

The Budget has introduced a dedicated allocation of **Rs. 350 crore** to support high-value crops, including coconut, cocoa, cashew, and sandalwood. This represents a qualitative shift from traditional cereal-centric policy measures toward diversified, income-enhancing horticultural crops.

Although fruits, vegetables, and spices are conspicuous by their absence from this headline item — sparking debate among sector stakeholders — the explicit focus on expanding value chains through high-value crop support will enable growers to diversify beyond low-margin traditional crops.

2.2 Technology & Infrastructure Support

The Budget narrative emphasises digital transformation, climate resilience, precision agriculture, and post-harvest infrastructure strengthening. In particular:

- Investments are being channelled toward agri-tech solutions such as drone-based crop monitoring, precision irrigation, and AI-assisted forecasting tools.
- Initiatives such as Bharat-VISTAAR, a multi-lingual AI platform designed to democratise agricultural knowledge and

extend real-time advisory services to farmers in Indian languages, signal the Government's intent to mainstream digital adoption across farming communities.

- A continued focus on cold chain, processing facilities, reefer logistics, and panchayat-level storage infrastructure is expected to reduce post-harvest losses — a chronic challenge for perishable horticultural produce.

2.3 Fertiliser Subsidy & Input Cost Relief

Alongside sectoral allocations, the Budget reinforces the ongoing fertilizer subsidy commitment of over **Rs. 1.7 lakh crore** to cushion small and marginal farmers from input cost volatility — indirectly benefitting horticulture by improving profitability margins for intensive, high-input crops.

2.4 Education, Research & Innovation

The allocation for agricultural education and research — nearly Rs. 10,000 crore — offers an opportunity for the horticulture sector to benefit from improved seed technologies, crop genetics research, pest and disease management breakthroughs, and sustainable cultivation practices.

3. The Viksit Bharat Vision: A Framework for Sectoral Transformation

The Viksit Bharat @2047 mission, which forms the philosophical core of Budget 2026, envisions India as a developed, inclusive, resilient, and globally competitive economy by the centenary of independence. Under this theme:

- Rural prosperity is given priority through enhanced employment schemes and infrastructure development.
- Rural governance institutions, including Panchayats, receive direct budgetary transfers to strengthen grassroots implementation.
- Statutory rural employment security has been re-engineered through the Viksit Bharat–Guarantee for Rozgar and Ajeevika Mission (Gramin) Act, replacing earlier models and aligning workforce deployment with agrarian cycle requirements.

For horticulture — a predominantly rural and smallholder-centric industry — these foundations matter. When rural households gain secure income streams, better credit access, and more predictable employment opportunities, they are more likely to invest in perennial horticultural enterprises, organic cultivation practices, and technological upgrades.

4. Opportunities & Challenges for Horticulture Under Budget 2026

The Budget's overarching strategy generates several opportunities for horticulture:

4.1 Diversification & Income Growth

Encouraging cultivation beyond basic food grains toward nutritionally dense, high-value, and export-oriented horticultural crops aligns with farmers' aspirations for higher incomes. The Rs. 350 crore allocation for high-value agriculture triggers sectoral diversification and innovation.

4.2 Market Integration & Export Potential

India's horticulture production has gained global prominence in fruits, spices, and floriculture exports. Enhanced logistics, certification support, and digital marketplaces — anticipated as part of broader agricultural reforms — could substantially expand export earnings and create new supply chains.

4.3 Inclusive Innovation & Technology Penetration

Digital platforms and AI-led advisory systems will democratise access to advanced cultivation practices and climate-smart inputs, reducing barriers for small growers and strengthening predictive farming.

However, the Budget also highlights challenges:

- Concerns have been raised about modest direct allocations for traditional horticultural sub-sectors such as fruits and vegetables relative to the overall agricultural budget, pointing to the need for stronger, dedicated policy instruments.
- Cuts in agricultural research funding in specific areas might slow long-term knowledge generation, requiring private-public research partnerships and targeted institutional support.
- Infrastructure gaps and regional disparities still persist and will require coordinated state and central efforts to fully realise horticulture's potential.

5. Aligning Budget 2026 with the Horticulture Sector's Strategic Needs

For horticulture to fulfil its promise under the Viksit Bharat framework, policymakers, industry stakeholders, and growers must pursue a shared agenda:

Strategic Interventions Needed

1. **Dedicated Horticulture Fund:** Establishing a tiered support fund focused exclusively on fruits, vegetables, spices, and floriculture for targeted investments.
2. **Strengthening FPOs:** Empowering Farmer Producer Organisations (FPOs) with credit, market linkages, and aggregation infrastructure to negotiate pricing power.
3. **Cold Chain Expansion:** Accelerating investment in cold storage networks and rural-centric distribution hubs to reduce spoilage and improve returns.

4. **Export Acceleration Cells:** Creating dedicated cells to assist horticultural exporters with compliance, quality standards, and market access.
5. **Climate-Smart Practices:** Scaling micro-irrigation, protected cultivation, precision nutrient management, and regenerative practices across the value chain.
6. **Conclusion: Budget 2026 as a Springboard for Horticulture Growth**

Union Budget 2026 delivers a credible blueprint for agricultural modernisation, rural empowerment, and inclusive economic progress. Through enhanced allocations, a technology-led transformation agenda, and a strong rural development focus under the Viksit Bharat vision, the Government has laid fertile ground for horticulture to expand its footprint.

However, the true impact will be realised when budgetary commitments are operationalised on the ground — through policy instruments, public-private partnerships, investor confidence, and sustained value chain development.

For the horticulture industry, the Budget offers both a challenge and an opportunity — a challenge to innovate, integrate, and adapt; and an opportunity to lead India's journey toward sustainable, profitable, and globally competitive agricultural growth.

As we gather for Horti India Expo 2026, let us collectively embrace these opportunities, translate national aspirations into sectoral milestones, and sow the seeds for a **greener, prosperous, and Viksit Bharat** tomorrow.

Cultivating More Than Plants: The Behavioural Shift Powering Urban Gardening in India

The urban gardening segment in India is undergoing a structural shift. What was once a niche, largely informal category is emerging as a commercially significant market with measurable consumer depth and growing repeat-purchase behaviour. The demand drivers are well-documented: rapid urbanisation, shrinking living spaces, and the psychological pressures of high-density city life have converged to create strong tailwinds. Consumers — particularly urban professionals — are turning to home gardening not as a pastime, but as an active response to lifestyle stress. The category benefits from a rare combination of emotional pull and functional utility, which signals durable long-term potential.

Spend on potting media, plant nutrition, and pest management is rising and the urban gardening consumer is increasingly brand-conscious and outcome-oriented, placing a premium on product reliability over price — the characteristics of a category transitioning from impulse to intent.

The Aspiration–Execution Gap

Despite strong demand fundamentals, the category faces a structural challenge: the gap between consumer intent and successful outcomes. The urban gardening consumer is, on average, digitally informed and motivated. Social media has made horticultural knowledge widely accessible — tutorials, community forums, and influencer-led content have lowered the perceived barrier to entry. But accessible information and reliable outcomes are not the same thing, and this distinction is where the category currently struggles. The first-purchase experience is frequently its weakest link: new consumers enter with clear intent, investing in plants, soil, and nutrition products, only to encounter inconsistent results within weeks. Yellowing foliage, stunted growth, and pest pressure are common outcomes — almost always a consequence of product inconsistency, incorrect application, or poorly matched inputs.

The commercial implications are significant. Quality inconsistencies and fragmented advice drive high churn among new entrants. When initial results disappoint, repeat purchase rates fall and category disengagement follows. The primary growth constraint in urban gardening is not demand generation — it is retention. Converting a first-time buyer into a sustained, habitual gardener is the metric that will define category winners over the next decade.

Encouragingly, the market is self-correcting. Consumer sophistication is increasing, and with it, the willingness to trade up. Urban gardeners are moving away from unbranded inputs toward products that offer standardised quality, clear dosage guidance, and transparent. The purchasing conversation is also shifting: from "Which fertilizer should I buy?" to "What does my plant need across its lifecycle?" This lifecycle orientation increases average basket size, improves product attachment, and creates a more durable commercial relationship between brand and consumer.

The Shift Toward Organized Gardening

This transition from product-led to system-led purchasing mirrors well-documented patterns in adjacent lifestyle categories. Skincare evolved from individual, need-based purchases to structured daily regimes, with significant value accruing to brands that positioned themselves as end-to-end routine providers. Pet care followed a comparable arc: commodity spend on food and basic supplies has matured into a high-involvement category defined by breed-specific nutrition, preventive health protocols, and premium branded inputs. In both cases, systems thinking expanded category value considerably and rewarded early movers. Urban gardening is at a similar inflection point.

IFFCO Urban Gardens: Building a Structured Gardening Culture

It is within this evolving market context that IFFCO Urban Gardens finds its strategic positioning. Underpinned by decades of agricultural science and R&D infrastructure developed at scale, the brand is uniquely placed to bring technical credibility to a segment that has historically lacked it. Its primary opportunity — and its competitive differentiator — lies in translation: converting agronomic expertise developed for commercial farming into product solutions that are

accessible and effective at the urban, small-plot level.

Rather than positioning individual SKUs as standalone solutions, IFFCO Urban Gardens has developed an integrated product architecture where soil health, plant nutrition, and crop protection are formulated to work in concert across a plant's growth cycle. Standardised formulations, evidence-based application protocols, and consistent quality controls reduce failure rates at point of use — improving consumer outcomes and, by extension, brand loyalty and repeat purchase rates. The brand is not simply a participant in this market; it is actively engaged in shaping its infrastructure. As the segment scales, the need for credible, scientifically-backed players will intensify, and those that have established trust through demonstrated efficacy will be best placed to capture the long-term value on offer.

Looking Ahead

The long-term trajectory of urban gardening in India will be determined by the rate at which consumers are retained and deepened within the category. Sustained growth will require more than product availability - Consumer education, knowledge-sharing, and community-led engagement are increasingly important commercial levers — not just as brand-building tools, but as mechanisms for improving success rates and reducing churn. The businesses that build ecosystems rather than simply fulfilling transactions will define the competitive landscape of Indian urban gardening over the coming decade.

IFFCO Urban Gardens enters this next phase not merely as a product brand, but as a category development partner. Our strategic intent is to help build the organisational and knowledge infrastructure that the urban gardening market needs to scale sustainably — through standardised inputs, structured consumer guidance, and platforms that support shared learning and community engagement. By doing so, we aim to contribute to a more confident, more capable generation of urban gardeners, and to the emergence of a category that is as commercially robust as it is culturally significant.

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For Details See Page 5

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