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MUSHROOM TRAINING

A 5-DAY INTENSIVE COURSE ON BUTTON MUSHROOM COMPOSTING AND GROWING



Supported by

naayom

November 18th - 22nd, 2026

Theory: Sing n Swing Resort, conference hall, Panipat, Haryana 132104, India
Practice: M/S Thakkar Agro Farms, Panipat, India

partners:

Amycel · AGRO PROJECTS · GROWtime engineering · ChampFood MUSHROOM SUPPLEMENTS Supplementary to your mushroom business! · ATMO-CONTROL · RUBCOAT SPECIAL COATINGS · Christiaens Group · RibbStyle · DMP · MUSHCOMB · McDon Substrates · e-nema · CHAMPLIFY

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Who Should Attend?

- Compost Producers
- Farm Managers
- Mushroom Growers
- Investors & Owners



Trainer

Omar Haqqi is a **compost consultant** with more than 25 years of international experience in mushroom cultivation and agri-food technologies. His expertise covers the entire production cycle, with a special focus on compost quality as the foundation for stable and high yields.

Omar Haqqi

Farm

THAKKAR AGRO FARMS (PANIPAT)
Modern high-capacity mushroom production facility. The practical part of the course takes place here.

- Phase 1 Composting: 4 Bunkers
- Phase 2 Pasteurization: 3 Tunnels
- Growing Rooms: 16 climate-controlled rooms (30 tons of compost each)

FARM TO FEAST
Takkar Agro Farms

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PROGRAM

Day – 1

Raw Material Physiology, Formulation Calculations, and Phase 0 (Pre-wetting)
Day Format: Theory only - classroom sessions at Sing n Swing Resort.

Module 1 | Mushroom Compost as an Artificial Selective Ecosystem

- Biological classification of the button mushroom: Studying its nature as a secondary decomposer to understand why it requires a pre-prepared, competitor-protected nutrient medium.
- Substrate selectivity parameters: Analyzing how to establish a strong biochemical barrier that blocks dangerous molds and secures the safety of the future crop.
- Scalability of biological requirements: Recognizing how microflora needs for oxygen, moisture, and nitrogen apply across both seasonal Low-CAPEX farms and high-tech High-CAPEX tunnels.

Module 2 | Specifics of Indian Raw Materials and Phase 0

- Anatomical differences in straw varieties: Comparing paddy straw and wheat straw structures to accurately calculate pre-wetting duration and prevent over-watering.
- Leaf-to-stem ratio management: Analyzing structural proportions of raw materials to avoid anaerobic compaction and undesirable substrate textures.
- Rigidity, aeration, and ash content dynamics: Managing irrigation strategies for soft paddy straw to preserve pile structure and ensure proper natural ventilation.
- Strategies for raw material blending: Evaluating operational choices and wetting pathways when handling diverse or mixed straw varieties.
- Carbon-to-nitrogen (C:N) formula calculations: Determining the correct dosing of dry poultry manure to achieve optimal energy levels for the mushroom.
- Mineral nitrogen application risks: Evaluating the boundaries, benefits, and structural hazards of using synthetic nitrogen sources like urea.
- Gypsum functionality and dosage: Examining the chemical and physical effects of calcium sulfate on compost flocculation and structural aeration.
- Recycled water ("goody water") utilization: Introducing starting thermophilic microflora from composting yard drainage to activate essential fermentation processes.



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PROGRAM

Day – 2

Active Fermentation, Pasteurization, and Control of Phases I and II
Day Format: Theory and practice - classroom sessions and practical work at M/S Thakkar Agro Farms.

Module 3 | Phase I (Fermentation) as a Biochemical Reactor

- High-temperature biological processes: Analyzing the effects of peak thermal windows and ammonia release on softening rigid straw fibers for easier mycelial assimilation.
- Ligno-humus complex formation: Studying the binding of volatile ammonia with degraded lignin to secure a stable and accessible nutrient source.
- Cycle optimization for different straw types: Determining the ideal retention times in Phase I piles to safeguard the fragile physical structure of the compost.
- Pile aeration methodologies: Comparing forced and passive aeration systems to completely eliminate oxygen-free zones that harbor toxins and molds.

Module 4 | Phase II (Leveling, Pasteurization, Conditioning) and Control Methods

- Main stages of Phase II composting: Reviewing the execution of temperature curves across all sub-stages to eradicate pathogens and convert ammonia into digestible protein.
- The leveling stage for temperature equalization: Analyzing the biochemical necessity of uniform heat distribution prior to pasteurization to eliminate dangerous cold spots.
- The pasteurization phase dynamics: Studying thermal and biological boundaries during peak heat treatment to ensure the complete eradication of pests and competitor molds.
- Organoleptic indicators of readiness: Evaluating visual, tactile, and aromatic signs to confirm when the substrate is fully clear of free ammonia.
- The practical "Squeeze Test": Demonstrating manual moisture assessment techniques for instantaneous evaluation of mass readiness before spawning.
- Instrumental ammonia measurements: Utilizing Dräger tubes to precisely verify safe ammonia concentrations before introducing expensive spawn.



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PROGRAM

Day – 3

Spawning, Incubation, and Specifics of Casing Soil in India
Day Format: Theory only - classroom sessions at Sing n Swing Resort.

Module 5 | Spawning (Inoculation) Technology and Hygiene

- Technology and hygiene of spawning: Ensuring strict sterility and uniform distribution of the seed material for rapid colonization of the substrate volume.
- Environmental optimization for the spawn run: Reviewing climate protocols within the growing room to protect the developing mycelium from heat stress and competitor molds.

Module 6 | Incubation Period

- Main goals of incubation: Defining the essential parameters required to support aggressive and healthy vegetative growth of the mushroom mycelium.
- Identifying incubation completion: Monitoring key physiological milestones and visual indicators that confirm the substrate is fully colonized and ready for casing.
- Climate parameters during incubation: Managing the balance of air temperature, compost temperature, and relative humidity to sustain steady mycelial development.
- Key success factors during incubation: Prioritizing strict hygiene protocols and metabolic heat removal to prevent localized overheating and mycelial damage.



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Day – 3

Module 7 | Preparation of Local Casing Layer Ingredients

- Specifics of Indian casing soil materials: Compounding a highly porous casing layer using available local materials like coco peat and clay.
- De-acidification and pH adjustment: Calculating the application of chalk or sugar-beet lime to create an optimal alkaline environment that blocks mold development.
- Chemical disinfection protocols: Utilizing formalin to destroy hidden pathogens, bacteria, and wild mushroom spores in local casing soil components prior to application.
- The role of Calcium: Selecting and applying appropriate calcium sources to stabilize soil structure and optimize chemical properties for crop stimulation.

Module 8 | Casing Application, "CACing" Technique, and Initial Watering

- CACing (Compost Added at Casing) technology: Integrating colonized compost into the casing layer to accelerate pinning uniformity and shorten the production cycle.
- Specifics of bed watering at the initial stage: Achieving deep moisture saturation of the compost without the risk of washing away or destroying the structure of the casing layer.
- Preventing clogging of the casing: Preserving air pores within the coco peat and clay structure to maintain unobstructed mycelial respiration under heavy watering conditions.

Module 9 | Ruffling and the Recovery Phase

- Technique and timing of ruffling: Restoring casing soil porosity at the precise physiological moment to encourage uniform mycelial movement and maximize yield potential.
- Microclimate of the Recovery phase: Managing environmental parameters to promote quick, strong regrowth of the mycelial network after physical disruption.
- Physiology of carbon dioxide accumulation: Determining optimal carbon dioxide thresholds to regulate timing and prevent premature pinhead formation below the surface.



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Day – 4

Vegetation Management and Fruiting Initiation
Day Format: Theory and practice - classroom sessions and practical work at M/S Thakkar Agro Farms.

Module 10 | Water Management

- Targets of watering: Understanding the physiological goals of moisture application during key growth stages to support cell elongation and high pin density.
- Watering schemas: Designing structured, reproducible irrigation schedules adapted to the unique water-retention traits of local Indian casing soils.
- Climate during watering: Coordinating air circulation and relative humidity to ensure steady evaporation and proper water absorption without crop stress.

Module 11 | Cooling and Managing Pinhead Generations

- Induction of fruiting (Microclimatic Shock): Reviewing the gradual reduction of air temperature and CO2 levels to transition the mycelium from growth to fruiting.
- Protecting beds from ambient air drying: Controlling the temperature delta between the air and the compost to retain moisture inside the casing layer under Indian climate conditions.
- Managing flush density (generations): Applying the temperature spike method to stimulate the simultaneous and uniform development of pinheads.

Module 12 | Pinheading Stage Essentials

- Pinheading stage essentials: Mastering the environmental variables that govern the transition from primordia to viable young mushroom fruits.
- Paradigm change in cultivation strategy: Shifting climate management focus as the crop requirements change from structural initiation to rapid growth.
- Humidity control during pinheading: Defining precise relative humidity boundaries to protect young pinheads from abortion or drying out.
- Other climate parameters during pinheading: Fine-tuning fresh air introduction, airflow speed, and ambient temperatures to sustain the rapid daily growth of the young crop.



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PROGRAM

Day – 5

Harvesting Technology and Disease Protection
Day Format: Theory only - classroom work and final technical review.

Module 13 | Harvesting Technology and Protection Against Bacterial Blotch

- Physiology of weight gain in button mushrooms: Organizing the harvesting schedule based on daily mass expansion rates to maximize commercial yield.
- Thinning out dense clusters on the shelves: Practicing the timely removal of specific mushrooms to provide growing space and increase total flush tonnage.
- Watering on mushrooms and rapid drying: Implementing safe hydration methods for the growing flush and defining post-watering drying windows to eliminate bacterial blotch risks.

Module 14 | Transition Between Flushes

- Managing the inter-flush period: Re-saturating the compost with moisture between harvests and managing CO2 to ensure heavy, dense mushroom development for upcoming waves.

Module 15 | Course Overview and Certification

- Comprehensive course synthesis: Reviewing critical control points across all production phases to consolidate operational knowledge for the individual farm scale.
- Certification and diplomas ceremony: Awarding official course credentials to validate professional training completion.





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Reserve Your Spot!

€600
(Per Person)

Contact & Information:

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