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Rooftop Gardening

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Introduction:

Rooftop gardening is the practice of growing plants on the top of a building. It turns flat, empty roofs into green spaces for growing food, cooling buildings, and relaxing

Types of Rooftop Gardens

- **Container Gardens:** Using pots, grow-bags, and planters. This is the easiest method for homeowners.
- **Extensive Green Roofs:** A thin layer of soil (under 15 cm). It features low-maintenance plants like succulents.
- **Intensive Roof Gardens:** Deep soil beds (over 15 cm). It can support large plants, walkways, and even trees.
- **Hydroponic Systems:** Growing plants in water and nutrients without any soil.

Key Benefits

- **Fresh Food:** Grown locally on urban rooftops.
- **Cooler Buildings:** Vegetation acts as natural insulation. This lowers indoor temperatures and energy bills.
- **Stormwater Control:** Soil and plants absorb heavy rainfall. This prevents flooding in city drainage systems.
- **Cleaner Air:** Plants absorb carbon dioxide and filter urban pollutants

Crucial Setup Steps

- **Check Weight Limits:** Soil and water are heavy. Ensure the roof structure can handle the load.
- **Waterproofing:** Apply a reliable seal to the roof surface. This prevents water leakage into the building.
- **Lightweight Soil:** Mix garden soil with cocopeat, perlite, or vermiculite. This keeps the setup light and retains moisture.
- **Wind Protection:**

Popular Plant Choices

- **Veggies & Herbs:** Tomatoes, chili, spinach, and mint.
- **Hardy Ornamentals:** Bougainvillea, marigolds, and aloe vera

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Container Selection: Grow Bags vs. Clay Pots

- **Grow Bags Advantage/Disadvantage:** Advantage—lightweight, flexible, and easy to move. Disadvantage—less durable under strong sunlight compared to clay pots.
- **Clay Pots Advantage/Disadvantage:** Advantage—allows air and moisture movement to prevent waterlogging. Disadvantage—heavy, increasing the load on the rooftop.
- **School Recommendation:** Grow bags are recommended for school rooftops because they are lightweight, safe for building structures, and easy to rearrange.

Potting Mix Comparison

- **Mix A (Soil + Compost + Cocopeat) vs. Mix B (Soil Only):** Mix A is better. Compost provides essential nutrients, while cocopeat makes the mix lightweight and airy for root growth and drainage. Mix B becomes dense, heavy, and prone to waterlogging, which suffocates roots.



Managing Waterlogging and Yellowing Leaves

- **Problem:** Blocked drainage holes trap excess water, causing root suffocation and yellow leaves.
- **Preventive Measures:** Regularly check and clean drainage holes; elevate containers on bricks or stands to let water escape freely.

Harvesting and Post-Harvest Storage

- **Leafy Greens Storage:** Spinach wrapped in a clean, damp cloth stays fresh longer than in airtight plastic bags because the cloth maintains moisture and prevents wilting without trapping heat.

Choosing Plants for Small (6-inch) Pots

- **Selection:** Spinach and marigold.
- **Reasoning:** Spinach matures quickly (30–60 days) and fits shallow roots, while marigolds add decorative value and attract beneficial insects. Tomatoes require larger, deeper containers and staking.

Eco-Friendly and Budget Gardening

- **Recycled Containers:** Old plastic buckets, paint tubs, or broken storage bins (with drainage holes drilled).
- **Environmental Impact:** Reduces plastic waste and promotes sustainable living.

