

Summer Holiday Homework

CLASS - VIII

Kaushal Bodh Project Work

Project 1

All the students are required to complete this project during summer break.

Take pictures of the steps mentioned below, paste it in the project file and write the steps also.

Hydroponics: Growing plants without Soil

I. Grow Microgreens:

- 1) **Prep the Trays:** Fill your tray with about an inch to an inch and a half of pre-moistened soil, gently pressing down to create a flat, even surface.
- 2) **Sow the Seeds:** Sprinkle the seeds densely across the surface of the soil. They should be close together but ideally not overlapping. For large seeds (like peas or sunflowers), soak them in water for 8-12 hours before planting to speed up germination.
- 3) **Cover and Germinate:** Press the seeds lightly into the soil. Mist them gently with water, and cover the tray with a humidity dome, a dark cloth, or an inverted tray to block out the light. Keep the trays at room temperature for 3-5 days. Check daily and mist if the soil feels dry.
- 4) **Introduce Light:** Once the seeds germinate, push up the cover, and move the tray to a bright location (a sunny window or grow light). The tiny plants will turn from pale yellow to vibrant green.
- 5) **Water Consistently:** Keep the soil moist but not waterlogged. Water from the bottom (by pouring water into an outer tray and letting the soil soak it up) to prevent mold from growing on the fragile stems.
- 6) **Harvest:** Your microgreens are ready to harvest in 1–3 weeks when they are 2-4 inches tall and have developed their first set of "true" leaves. Use clean kitchen scissors to snip the greens just above the soil line, rinse them, and enjoy.

II. Prepare a liquid organic manure using kitchen waste and garden waste.

Procedure

To make liquid compost, also known as compost tea, you will need a good quality compost from kitchen/garden waste. A good compost is dark brown to black with a pleasant earthy smell and crumbly (like tea leaves) texture.

You can make compost tea by following the steps as shown in

Step 1: Get 100 to 150g of ready to use compost. Compost has essential plant nutrients, like nitrogen, phosphorus, potash, magnesium, sulphur, etc.

Step 2: Add compost to a muslin cloth and place it in a bucket of 15L capacity. Add around 10L of water in the bucket.

Step 3: Add 50g jaggery or sugar, stir with a wooden stick to mix it. Jaggery or sugar will act as food for microbes in compost. Microbes help plant roots to absorb plant nutrients faster.

Step 4: Put an aerator to brew it for 2-3 days. Aerator provides oxygen, essential for microbial growth.

After 2-3 days you will get a brown liquid ready to use for hydroponics. You can add 1 L liquid compost to 10L hydroponic water.