Sub-Irrigated Grow System For Corridors / Balconies

Description:

Configuration : The basic system comprises of the following modules:

1. **2 x Vertical Stacks** : This comprises of a 1M High Pot Stand (101) with 1 Medium Sub-Irrigated Pot (201) on 2 levels and an optional water collection pot(301) at the lowest level. The top pot (202) is used for growing bushy plants while the lower pot (201) is for creepers and other climbing plants. Above the Pot Stand is a 900mm high Vines Climber(102) for creepers to grow upwards.

2. **1 x Horizontal Rack (103)** : This has adjustable levels to cater to different needs. The top level holds 4 Tiny Sub-Irrigated Pots(203) for leafy edibles. The next 3 lower levels are for growing micro-greens(204) that do not need direct sunlight. The lowest level holds the 25 Litre Water Collection Reservoir (302). All water from the above pots overflow into this reservoir. A hand pump is used to pump the water back to the plants.

3. **Sub-Irrigated Pots (201, 202)** : Each Sub-Irrigated Pot has a water storage reservoir (401), soil-water separator (403), drainage outlets (402), water level indicator (405) and water input pipe (404)

Options : In addition to the above elements, the user has the option to replace with the following modules :

1. **Worm Bin** to replace the 3 levels for micro-greens. This is for vermicomposting and producing fertilizers for the plants.

2. **Rain Water Funnel** at the top level of the rack to harvest rain water and flow into the water collection reservoir.

3. **DC Pump in Water Reservoir And Irrigation System** for automatically watering the plants.

4. **Solar Panel System** to power the DC Pump.

Claims :

The system is unique and innovative because:

1. **Compact & Dense** : It takes up only 250mm from the face of the parapet wall and has several levels for growing edibles. This ensures sufficient clear width for fire access.

2. **Conserves Water :** No water gets spilled onto the ground and wasted. Every drop is collected in the Water Reservoir and reused. There is also less watering required as each pot holds a reservoir of water.

3. **Easy to Maintain / Clean :** Since no soiled water gets spilled onto the floor, it does not require constant cleaning.

4. **Ergonomics :** The pots are all at the right level and there is no need to bend down. It is ideal for seniors and even those on wheelchairs.

5. **Expandable** : The system is easily expandable by adding more modules.