

AGRICULTURAL ENGINEERING

LOW COST GREENHOUSE



A typical low cost Green House

The greenhouse technology is one of the surface covered cultivation technologies, in which a structure is constructed in different shapes suiting the local environmental conditions of the area. The All India Coordinated Project on Application of Plastics in Agriculture has developed technology of constructing low cost green houses. The basic structures are constructed using bamboo/wood/GI pipe for low cost greenhouses. These structures are covered with a cladding material of ultra violet (UV) stabilized low density polyethylene plastic sheets, which allow only short wave length light to pass through it and it is opaque for long wave radiations.

The short wave radiations are helpful for crop production and therefore are allowed to fall either on crops or soil surface, and get reflected as long wave radiations. These are then allowed to remain within the greenhouse thereby, enhancing the inside temperature.

RAW MATERIALS

Bamboo/wood/GI pipe and UV stabilized film (200 μ). Normal carpentry tools are needed for its construction.

COST

The cost of construction varies as per cost of raw material i.e. bamboo/wood/GI pipe for different locations. The total cost varies from Rs 80–150/m². The technology is best suited for growing of off-season vegetables/flowers and nursery. Depending upon the crop, it was possible to achieve 2 to 5 times more productivity and also 8–21 days earliness. Higher benefit cost ratio was found for Capsicum–Cabbage–Green Onion, Tomato–Pea–Tomato, Chilli (nursery)–Chilli, and Spinach (one cut) –Broccoli–Sweet Pepper crop sequences.

AVAILABILITY

Necessary design is available from Project Coordinator, AICRP on Application of Plastics in Agriculture, Central Institute on Post Harvest Engineering and Technology, Punjab Agricultural University Campus, Ludhiana (Punjab).

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