

In cucurbits, hand-pollination in a small polyhouse is must. In large polyhouses, colonies of insect pollinators may be used for pollination. Yield of cucurbits mainly depends on pollination. Harvesting of polyhouse is dependent on market demand.

Polyhouse grown vegetables are handled much more carefully than other field grown vegetables. Exposure to direct sun of poly house produce particularly that of leafy vegetables should be avoided.



Low cost bamboo poly shade

Tomato fruits under poly shade



Poly house pest and diseases:

In temperate climate, plant pests and diseases are comparatively less than tropical climates. In polyhouses, insects are very few while diseases are many. Some of the insects and diseases observed in cultivation of vegetables in polyhouses in temperate regions are given below:

Insects/Diseases	Crops affected
Aphids	Cabbage, Radish, Turnip and vegetable mustard
Fruit fly	Cucurbits
Fruit borer	Tomato and Brinjal
Jassids	Ladies finger and Brinjal
Blight	Tomato, Chilly and Capsicum
Fusarium wilt	Tomato, Onion, Chilly and Capsicum
Damping off	Tomato, Onion and Cauliflower
Virus diseases (Mosaic and leaf curl)	Cucurbits and Tomato
Powdery mildew	Cucurbits, seed crops of carrot and radish
Root knot	Brinjal, Tomato and cucurbits
Nematode	



Prepared by
Rinku Bharali
Division of Horticulture
and
Dr.R.K Singh
Programme Co-ordinator

Published by
Director, NRC on Mithun (ICAR) Medziphema
for
Krishi Vigyan Kendra,
Phek - Nagaland
Phone No. 03865-281436

Off-season vegetable production under Poly shade



KRISHI VIGYAN KENDRA
NRC ON MITHUN (ICAR)
PORBA, PHEK-797107
NAGALAND



Web: kvkphek.nic.in
Email: kvkphek@gmail.com

INTRODUCTION

Off season vegetable cultivation refers to cultivation of vegetables in a season which does not favour the growth and development of crops under open field condition. Therefore, vegetable are cultivated under protected condition such as green house, poly house and shade net house.

Polyhouse:

A polyhouse is a framed structure covered with UV stabilized low density polythene or other transparent plastic films in which crops could be grown under controlled or partially controlled poly house environment and which is generally large enough to permit a person to work within it to carry out cultural operations easily.

Benefits

The major benefits of poly house are:

- ✍ Vegetable crops can be grown under adverse climatic conditions when it is not possible to grow them in open fields.
- ✍ Certain vegetables crops can be grown round the year in the particular place.
- ✍ Poly house provide an excellent opportunity to produce uniform vegetable crops for export.
- ✍ Productivity is manifold in poly houses compared with open field.
- ✍ Poly houses are ideally suited for raising nurseries of vegetables both sexually and asexually.
- ✍ Management of insects, pests and weeds is easier in poly houses.
- ✍ Poly houses are ideally suited for farmers having very small holdings.
- ✍ Organic farming of vegetable is easier in poly houses.
- ✍ Poly houses are ideally- suited for producing genetically engineered and micro propagated vegetable varieties and hybrids.

Plastic Low Tunnel

Tunnels are made of either low density polythene or plastic sheets. Tunnels are considered ideal for raising vegetable nurseries and certain vegetable crops. These are called miniature polyhouses.



Soil Trench

This structure is underground solar polyhouse. Solar trench of 5ft width and 3ft depth with different length depending on the availability of land is made for raising vegetables in extreme cold condition.

Site Selection

East west orientation of polyhouse ensures maximum hours of sunlight, Shadow of trees hillocks and other objects should not fall on the site of polyhouse during or part of the day.

Polyhouse Structures

Iron or aluminum frame, farmers who are unable to afford aluminum structures can make polyhouses frame of locally available wood, bamboo etc.

Vegetables and their varieties suitable for polyhouse cultivation

Leafy vegetables	Varieties
Amarant	Green types
Celery	All varieties
Chinese cabbage	Open headed
Coriender	All varieties
Fenugreek	Kasuri
Lettuce	Dhum(FRL), Great lake
Mint	Vegetable types
Parsley	All varieties
Spinach	Mongol(FRL)

Other vegetables	Varieties
Bottle gourd	PSPL
Brinjal	ARU-1,2c
Capsicum	HC202
Carrot, Beans	FRL-sel, VL Boni 1
Chilly	Pant 1c
Cucumber	DARL 1
Knol-khol	White viena
Musk melon	Hara madhu
Okra	Harbachan
Sponge ground	Pusa chikni
Squash	Australian green
Tomato	All varieties
Water melon	Sugar baby