

## Comparison of Hoop Houses with Other Season Extension Techniques

The use of hoop houses provides a better working area and less temperature fluctuation than row covers and hot caps. If the ends of the structure can be opened and the sides roll up and down, then expensive heating and cooling are not needed for the adapted crops. This requires more timely management but can be economical. Conventional fully-controlled greenhouses are difficult to pay for with winter production of vegetables because the light intensity during winter is so low in this humid region and fuel costs are so high. Also insect and disease problems are often less in spring in the cold house than in either fully heated greenhouses or in the fields.

Sections of the house or growing benches in the hoop house can be covered with additional plastic and heated for fast germination and early growth without having to heat the whole space. Larger hoop houses can even be tilled with tractors or horses. The smaller moveable ones can be moved over three to five different plantings per year and be paid for that year while optimizing rotation benefits.

Hoop houses are comparative in cost per square foot with glass or fiberglass cold frames and more comfortable for working. The hoop houses are particularly well suited for fall and winter production and late winter starting of summer crops. The key is in crop selection and planting date.

Narrow high tunnels (8' high) work well for berries providing frost and bird protection and for tall stature flowers providing wind protection and earlier growth resulting in longer stems. Low tunnels (4' high) have been used effectively by the Amish for children to tend cool season greens and winter peas. Row covers (<3' high) and hot caps and even planting in old tires have all worked well to give a couple of weeks head start to field plantings.

### Season extension structures

Structure	Area	Material	Duration
Hotcap	1 plant	Paper or plastic	Brief in spring
Cloche	1 plant	Glass or plastic	Brief in spring
Solar cone	Cluster of plants	Fiberglass cone	Brief in spring
Coldframe	Small block of plants	Glass or plastic	Brief in spring
Hotbed *	Small block of plants	Glass or plastic	Brief in spring
Solar pod	Small block of plants	Insulated fiberglass	Through winter
Mobile coldhouse	Moderate block of plants	Plastic	Brief but sequential
Rowcover	1 row	Plastic	Brief in spring
Low tunnel	2 rows	Plastic	Seasonal
High tunnel	4 rows	Plastic	Seasonal
Hoophouse	4-8 rows	Plastic	Permanent
Greenhouse (supplemental heat)	Various sizes	Plastic, glass, fiberglass	Permanent