

Seasonal High Tunnel System for Crops

Interim Conservation Practice Job Sheet

NH-798

Definition

A seasonal high tunnel is a polyethylene covered structure at least 6 feet in height, which modifies the climate to create more favorable growing conditions for vegetable and other specialty crops grown in the natural soil within the covered space.

Purpose

The purpose of the seasonal high tunnel is to extend the crop growing season, improve plant quality, improve soil quality, and improve water quality from reduced nutrient and pesticide transport.

Where used

A seasonal high tunnel may be used where existing specialty commodity crops are grown in open field conditions, and extension of the growing season is needed due to climate conditions.

Commercially available high tunnel structures are made in numerous widths and lengths, and are typically constructed of metal bow frames that are covered with a single layer of polyethylene. Ventilation is achieved by means of a combination of roll-up side vents, end vents, and occasionally roof vents. The end walls are framed-in to create door and ventilation areas. The high tunnel structure covers several crop rows, is wide enough to allow the crops to grow to full maturity, and is tall enough to allow spraying, cultivation and harvest to occur with the tunnel intact.



Photo source: www.hort.cornell.edu/hightunnel

Conservation management system

Water runoff from the high tunnels or from other nearby sources can cause erosion and ponding issues that may require the application of other practices such as ground gutters, diversions, underground outlets and critical area plantings. These additional practices must be planned and installed as a condition for the installation of a high tunnel. Additional practices should be considered as a part of a conservation plan, such as nutrient and pest management and crop rotation

Client Name:		Date:	
Town:		Designed by:	

Purpose: This practice will be implemented in order to: <i>Check all that apply</i>	
<input type="checkbox"/> Extend the growing season	<input type="checkbox"/> Improve soil quality
<input type="checkbox"/> Improve plant quality	<input type="checkbox"/> Improve water quality from reduced nutrient and pesticide transport
<input type="checkbox"/> Other: (Describe)	

Materials List

High Tunnel Structure, size(s) _____

Supporting Practices:

Conservation Cover

Roof runoff structure with underground outlets (construction plan attached)

Diversion (construction plan attached)

Cover Crop

Crop Rotation

Nutrient Management

Pest Management

Filter Strip

Grassed Waterway

Subsurface Drains

Other _____

High Tunnel System Construction

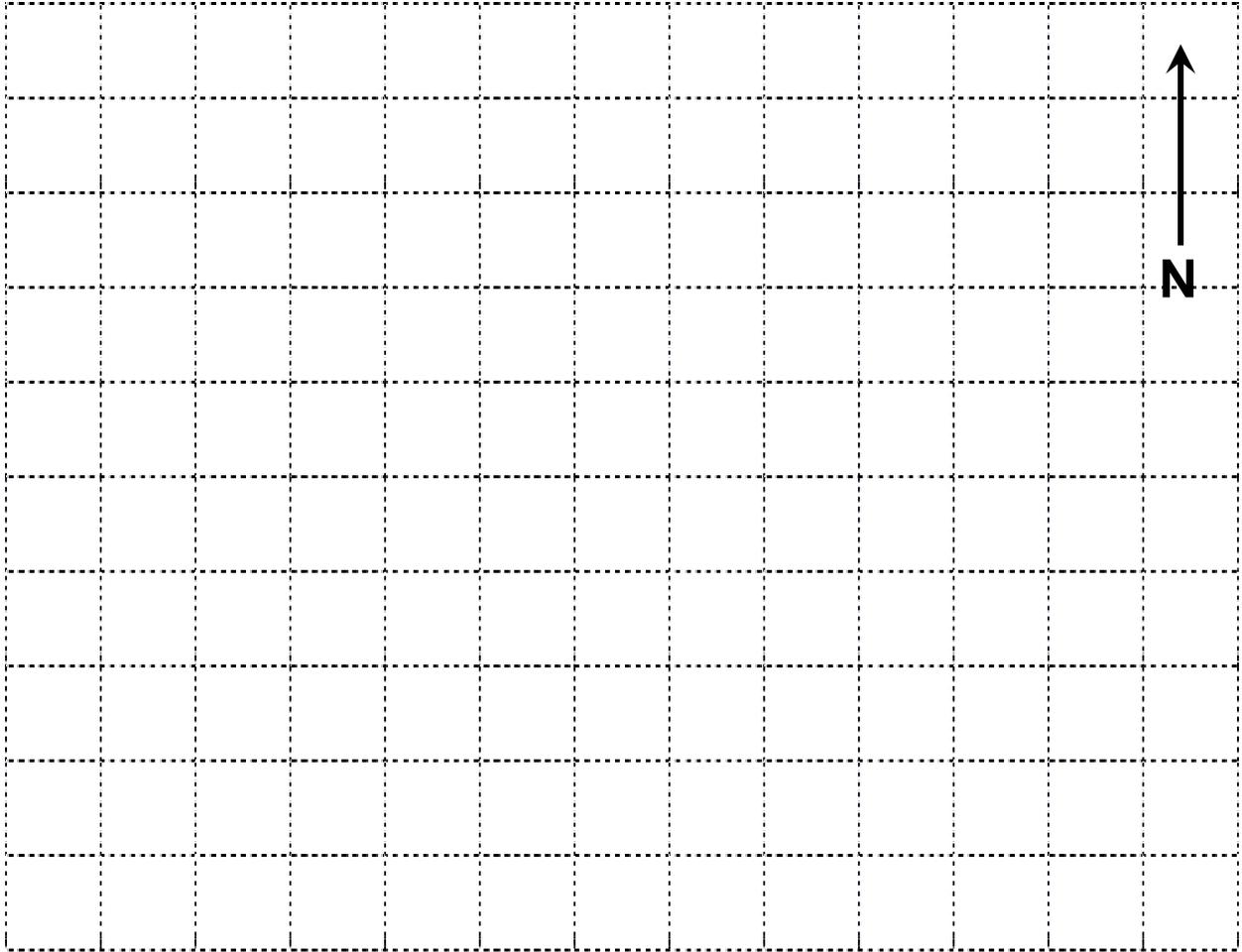
- Prepare site according to manufacturer's instructions. Sites should be level, well-drained, and clear of vegetation, large stones, and other debris. Consider using a site level/transit.
- Lay out tunnel location according to the site plan. Avoid shade from other structures by locating the tunnel a minimum of 12 feet away from other tunnels (on any side) or structures on the north side. The distance from the tunnel to a shading structure on the south, east, or west side should generally be twice the height of the shading structure (e.g. locate the tunnel approximately 40 ft. away from a 20 ft. high barn on the south side).
- Consider the orientation of the tunnel. The long axis of the tunnel should be oriented East-West if late and early season production is the primary goal. If improving plant quality during the main season is the goal, consider a North-West orientation. Also consider orienting the long axis of the tunnel perpendicular to the direction of the prevailing winds to increase ventilation through the sidewalls.
- Assemble high tunnel structure according to manufacturer's instructions. Avoid pounding ground posts directly with a sledge hammer, it will damage the ends. Use a large bolt or other material to protect the post from damage.
- Install supporting practices as required, according to construction plans provided.

Operation and Maintenance

- Follow manufacturer's instructions for operation and maintenance of the high tunnel structure.
 - Periodically inspect structure and cover for damage. Reinstall or repair promptly.
 - Avoid damage to structure from equipment operated in and around the seasonal high tunnel.
 - Inspect runoff control measures after every significant rainfall event. Repair promptly.
 - Remove snow on and around the structure.
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Seasonal High Tunnel System – Layout and Location

Scale 1"=_____ ft. (NA indicates sketch not to scale: grid size=1/2" by 1/2")



Additional Specifications and Notes:

Seasonal High Tunnel System – Construction Checkout

Seasonal High Tunnel Structure – as-built measurements	
Length (ft)	Height in Center (ft)
Width (ft)	Structure Manufacturer

Supporting Practices Installed (check all that apply)
<ul style="list-style-type: none"> <input type="checkbox"/> Conservation Cover <input type="checkbox"/> Roof runoff structure with underground outlets (construction plan attached) <input type="checkbox"/> Diversion (construction plan attached) <input type="checkbox"/> Cover Crop <input type="checkbox"/> Crop Rotation <input type="checkbox"/> Nutrient Management <input type="checkbox"/> Pest Management <input type="checkbox"/> Filter Strip <input type="checkbox"/> Grassed Waterway <input type="checkbox"/> Subsurface Drains <input type="checkbox"/> Other _____

CHECK OUT:	
Amount Completed: _____ square feet.	Mark As-Built location on plan map.
Remarks _____	
This practice meets NRCS standards and specifications found in the NH 798 Approved Product List and Selection Criteria	
	<input type="checkbox"/> Yes <input type="checkbox"/> No
Check out by: _____	Date: _____

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