

Seasonal High Tunnel System for Crops

Interim Conservation Practice Job Sheet **798**



Photo Source: www.hightunnels.org

Definition

A seasonal high tunnel is a polyethylene covered structure with no electrical, mechanical ventilation or heating system, 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. The high tunnels are constructed of metal or plastic 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. Generally, 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 crop growth to full maturity under the tunnel, and is tall enough to allow spraying, cultivation and harvest to occur with the tunnel intact.

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 infiltration trenches, 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.

Seasonal High Tunnel System – Job Sheet

Producer _____ Location _____

Field Office _____ Conservation Contract _____

Materials List

- High Tunnel Structure on IL NRCS approved list, size(s) _____
- Polyethylene cover, 6 mil greenhouse grade or better, UV resistant
 - 4 year cover warranty
 - 1 year cover warranty, to be replaced annually by producer

Supporting Practices Required:

- Manufactured Gutter System (included with high tunnel kit)
- Critical Area Planting (job sheet attached)
- Infiltration Trench along each side (construction plan attached)
- Underground Outlet (construction plan attached)
- Diversion (construction plan attached)
- Other _____

High Tunnel System Construction

- Contact the Illinois OneCall System (JULIE) at 1-800-892-0123 at least 2 working days in advance of construction, for location of underground utilities.
- Obtain any required permits.
- Prepare site according to manufacturer’s instructions.
- Lay out building location according to site plan.
- Assemble high tunnel structure according to manufacturer’s instructions.
- Install supporting practices as required, according to construction plans provided.

Operation and Maintenance

- Periodically inspect structure and cover for damage. Reinstall or repair promptly.
- Follow manufacturer’s instructions for operation and maintenance of the high tunnel structure.
- 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 and store high tunnel cover at the end of each growing season, unless manufacturer warrants the cover for snow loads. Replace cover prior to use in the spring.

Seasonal High Tunnel System – Layout and Location

Plan view of seasonal high tunnel system site shown below.

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



Additional Specifications and Notes:		
Design Certification		
This Seasonal High Tunnel System plan meets the requirements of NRCS Conservation Practice Standard 798.		
Signature _____	Title _____	Date _____

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	
<input type="checkbox"/> Manufactured Gutter System <input type="checkbox"/> Critical Area Planting <input type="checkbox"/> Infiltration Trench along each side <input type="checkbox"/> Underground Outlets <input type="checkbox"/> Diversion <input type="checkbox"/> Other _____	Quantities and detailed checkout information for supporting practices shall be documented separately.

CHECK OUT:	
Amount Completed: _____ square feet.	Mark As-Built location on plan map.
Remarks _____	
This practice as constructed meets NRCS standards and specifications <input type="checkbox"/> Yes <input type="checkbox"/> No	
Check out by: _____	Date: _____

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Seasonal High Tunnel System – First Year Annual Report **page 1 of 2**

Producer _____ Location _____
 Field Office _____ Conservation Contract _____
 Report Date _____

Report Due On Or Before December 15, _____

- Actual cost of Seasonal High Tunnel System \$ _____ (attach copies of bills)
- First year maintenance requirements : (add more sheets if necessary)

Activity or Item (list)	Cost
	\$

- Two years of cropping history before installation of Seasonal High Tunnel:
(add more sheets if necessary)

Crop (type)	Crop Year	Yield	Nutrients (Fertilizer)			Pesticide(s)		
			Type	Rate	Timing	Type	Rate	Timing

- First year's crop in Seasonal High Tunnel:

Crop (type)	Crop Year	Yield	Nutrients (Fertilizer)			Pesticide(s)		
			Type	Rate	Timing	Type	Rate	Timing

Seasonal High Tunnel System – First Year Annual Report **page 2 of 2**

- Growing season (2 past years, plus the first year in the Seasonal High Tunnel):

Crop (type)	Crop Year	Season Dates	Length of Growing Season (Days)

- Benefits for plant quality: _____
- Benefits for soil quality: _____
- Benefits for water quality: _____
- Producer’s recommendations and observations:

Seasonal High Tunnel System – Second Year Annual Report

Producer _____ Location _____
 Field Office _____ Conservation Contract _____
 Report Date _____

Report Due On Or Before December 15, _____

- This year’s maintenance requirements : *(add more sheets if necessary)*

Activity or Item <i>(list)</i>	Cost
	\$

- This year’s crop in Seasonal High Tunnel:

Crop (type)	Crop Year	Yield	Nutrients (Fertilizer)			Pesticide(s)		
			Type	Rate	Timing	Type	Rate	Timing

- This year’s growing season:

Crop (type)	Crop Year	Season Dates	Length of Growing Season (Days)

- Benefits for plant quality: _____
- Benefits for soil quality: _____
- Benefits for water quality: _____
- Producer’s recommendations and observations:

Seasonal High Tunnel System – Third Year Annual Report

Producer _____ Location _____
 Field Office _____ Conservation Contract _____
 Report Date _____

Report Due On Or Before December 15, _____

- This year’s maintenance requirements : *(add more sheets if necessary)*

Activity or Item <i>(list)</i>	Cost
	\$

- This year’s crop in Seasonal High Tunnel:

Crop (type)	Crop Year	Yield	Nutrients (Fertilizer)			Pesticide(s)		
			Type	Rate	Timing	Type	Rate	Timing

- This year’s growing season:

Crop (type)	Crop Year	Season Dates	Length of Growing Season (Days)

- Benefits for plant quality: _____
- Benefits for soil quality: _____
- Benefits for water quality: _____
- Producer’s recommendations and observations:

