Rhode Island

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, 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 condition; soil quality and 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_____ Tract/Field _____

Field Office _____ Conservation Planner _____

Materials List

☐ High Tunnel Structure w/end units

size(s) _____

Supporting Practices Required: Installed according to Conservation Practice Standard and job sheets and/or construction drawings.

☐ Mulching (484)

☐ Conservation Cover (327)

☐ Other _____

Seasonal High Tunnel Structure- design specifications

Structure	Planned	Installed
Length (ft)		
Width (ft)		
Height in center (ft)		

Structure Manufacturer _____

High Tunnel System Construction

- Prepare site according to manufacturer's instructions.
- Lay out building location according to an approved site plan.
- Assemble high tunnel structure according to manufacturer's instructions.
- Install supporting practices as required, according to job sheets and/or construction drawings provided.

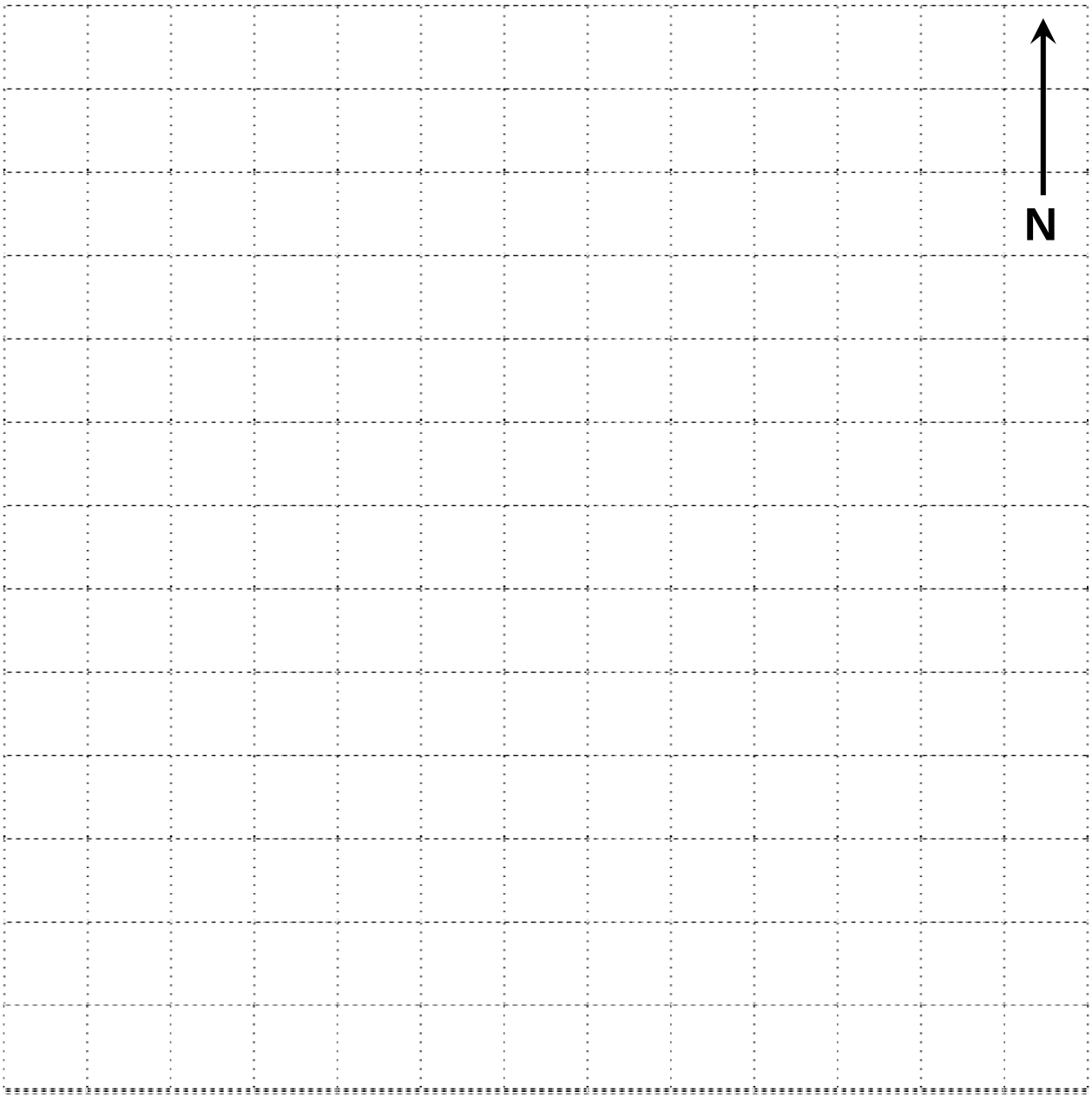
Operation and Maintenance

- 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 or manage snow loads immediately to ensure integrity of structure for the lifespan of the conservation practice OR
- Remove and store high tunnel cover at the end of each growing season to prevent damage from snow loads. Replace cover prior to use in the spring.
- Crops in High tunnel must be grown in soil profile. DO NOT use High Tunnel for crops grown in benches or pots.

Seasonal High Tunnel System – Layout and Location

Plan view of seasonal high tunnel system site shown below. **Note:** A JPEG image of the Conservation Practice map may be imported or attached in lieu of sketch.

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



The United States Department of Agriculture (USDA) prohibits discrimination in its programs on the basis of race, color, national origin, sex, religion, age, disability, political beliefs and marital or familial status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication program information (Braille, large print, audiotape, etc.) should contact the USDA Office of Communications (202) 720-2791.

To file a complaint of discrimination write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice or TDD). USDA is an equal opportunity provider and employer.

Producer_____ Tract/Field _____

Field Office _____ Conservation Planner _____

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: *(add more sheets if necessary)*

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

- 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)

(add more sheets if necessary)

- 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_____ Tract/Field _____

Field Office _____ Conservation Planner _____

Report Date _____

Report Due On or Before December 15, _____

☐ This year's maintenance requirements : *(add more sheets if necessary)*

Activity or Item *(list)*	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: (please provide comments on separate sheet)

Seasonal High Tunnel System – Third Year Annual Report

Producer_____ Tract/Field_____

Field Office _____ Conservation Planner _____

Report Date _____

Report Due On or Before December 15, _____

☐ This year's maintenance requirements : *(add more sheets if necessary)*

Activity or Item *(list)*	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: (please provide comments on separate sheet)

NRCS Natural Resources Conservation Service

Seasonal High Tunnel System for Crops – Job sheet RI - JS 798

Practice Installation Guidelines
It shall be the responsibility of the landowner to obtain all necessary permits and/or rights, and to comply with all ordinances and laws pertaining to this installation.
Practice designs and specifications shall be reviewed by NRCS planner with the landowner prior to start of work for practice installation.
Contact the NRCS planner _____at 401- _____ prior to installation. Keep NRCS planner updated throughout the installation process. Emergency # (401) 828-1300
Contact the NRCS planner _____at 401- _____ upon completion of practice. Emergency # (401) 828-1300

Practice specifications and special requirements
Installation shall be in accordance with the following specifications and special requirements. **NO CHANGES ARE TO BE MADE IN THE DRAWINGS OR SPECIFICATIONS WITHOUT PRIOR APPROVAL OF THE NRCS.**
1. Use Practice Specifications: **Manufacturer's installation instructions**
The landowner/operator acknowledges that:
A) He/she has received a copy of the practice specifications, and Operation and Maintenance plan, and that he/she has an understanding of the contents and the requirements.
B) He/she has or will obtain all of the necessary permits prior to construction.
C) No changes will be made in the installation of the job without prior concurrence of the NRCS technician.
D) This practice has a lifespan of 4 years.
E) Adherence to the Operation and Maintenance plan of the installed work is necessary for proper performance during the practice lifespan.
F) NRCS planner shall be contacted prior to installation for a review of the practice installation and at completion for practice certification.
Accepted by : **Date:**
Address :

Practice design approval
Lead Discipline for this practice: **Biological Conservation Sciences Division**
Job Classification:
☐ No design changes were made. ☐ Design changes were approved and are included
Design approved by: **Date:**

Practice certification
I have made an on-site inspection and have determined that the practice has been installed according to practice standard and specifications. The practice as-built has been appropriately completed on Conservation Practice Map included in job sheet.
Amount Installed:
Certified By: **Date:**