

Seasonal High Tunnel System for Crops

Interim Conservation Practice **798**



Photo Source: www.hightunnels.org

Definition

A seasonal high tunnel is a polyethylene-covered structure used to modify climatic conditions to extend the growing season. There are no electrical, ventilation, or heating systems associated with this practice. The practice does not include greenhouses or low tunnel systems that cover single crop rows.

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 will only be used on existing cultivated cropland when an extension of the growing season is needed due to climatic conditions.

Design Criteria

The seasonal high tunnel structure will be planned, designed, and constructed in accordance with manufacturer's specifications. The manufacturer's product warranty

will be at least four years. The tunnel frame must be constructed of metal, wood, or durable plastic and be at least six feet in height.

The plastic cover shall be of a significant thickness to withstand weather conditions during the period of use. As a minimum, a 6-mil greenhouse grade, UV resistant, polyethylene cover will be used. Where snow loads may damage the structure, the tunnel cover will be removed at the end of the growing season.

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.

Supporting Conservation Practices

Water runoff from the high tunnels or from other nearby sources can cause erosion and ponding issues which may require the application of other Conservation Practices such as Subsurface Drain, Diversion, Underground Outlet, Grassed Waterway, and/or Critical Area Planting. These additional practices may be planned and installed as a condition for the installation of a high tunnel as needed to address erosion and/or ponding issues.

For water quality and soil quality issues, additional Conservation Practices such as Pest Management, Nutrient Management, and/or Conservation Crop Rotation may be applied.

Seasonal High Tunnel System Design

Producer _____ Location _____

Field Office _____ Contract _____

Seasonal High Tunnel System Construction

- Seasonal high tunnel structure, size(s) _____
- Prepare site according to manufacturer's instructions.
- Lay out building location according to site plan.
- Assemble high tunnel structure according to manufacturer's instructions.

Planned Supporting Conservation Practices (Attach applicable forms)

- Subsurface Drain (606)
 - Critical Area Planting (342)
 - Underground Outlet (620)
 - Diversion (362)
 - Conservation Crop Rotation (328)
 - Nutrient Management (590)
 - Pest Management (595)
 - Irrigation System, Micro irrigation (441)
 - Irrigation Water Management (449)
 - Grassed Waterway (412)
- _____

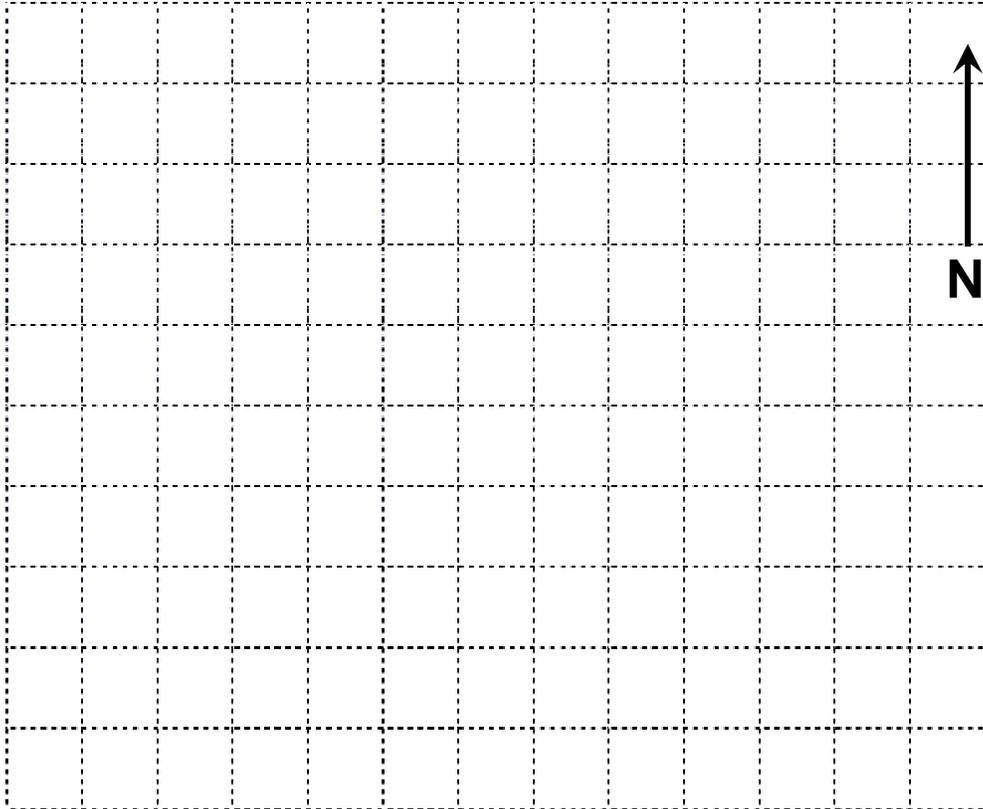
Operation and Maintenance

- 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.
 - Where damage from snow loads may be an issue, remove and store high tunnel cover at the end of each growing season. 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:

Natural Resources Conservation Service (NRCS) Representative or Technical Service Provider (TSP)

Layout by _____ Date _____

Designed by _____ Date _____

Checked by _____ Date _____

Approved by _____ Date _____

Producer's Statement

The design of this practice has been discussed with me, and I concur with the design. **No Changes are allowed without the approval of the NRCS Representative or the TSP.**

Signature _____ Date _____

Seasonal High Tunnel System – Construction Checkout

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

Supporting Practices Installed
<input type="checkbox"/> Subsurface Drain (606) <input type="checkbox"/> Critical Area Planting (342) <input type="checkbox"/> Underground Outlet (620) <input type="checkbox"/> Diversion (362) <input type="checkbox"/> Conservation Crop Rotation (328) <input type="checkbox"/> Nutrient Management (590) <input type="checkbox"/> Pest Management (595) <input type="checkbox"/> Irrigation System, Micro irrigation (441) <input type="checkbox"/> Irrigation Water Management (449) <input type="checkbox"/> Grassed Waterway (412)

Mark As-Built location on plan map.

Certification

This applied practice meets Kansas standards and specifications.

NRCS Representative or TSP

Date

This practice has been applied as designed.

Producer

Date

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