

# Seasonal High Tunnel System for Crops

Interim Conservation Practice Job Sheet FL-798-JS

Natural Resources Conservation Service, Florida

April 2010



**Seasonal High Tunnel**

A seasonal high tunnel is a polyethylene covered structure with no electrical, mechanical ventilation or heating system. The structure must be at least 6 feet in height, and be capable of modifying the climate inside the tunnel to create more favorable growing conditions for vegetables and other specialty crops grown within the covered space. All crops produced in a high tunnel must be grown in the natural soil profile, not on benches, tables, or in pots. The purposes of the seasonal high tunnels are to improve plant quality, soil quality, water quality from reduced nutrient and pesticide transport, air quality through reduced transportation inputs, and reducing transportation costs and energy use through local consumption. Seasonal high tunnels can be used anywhere crops are grown in open field 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. The polyethylene shall be a minimum thickness of 6 mil. Ventilation is achieved by means of a combination of roll-up side vents, end vents, and occasionally, roof vents. 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 without disturbing the tunnel structure.

Water runoff from the high tunnels can cause erosion and drainage issues that may require the application of other practices such as diversions, underground outlets, and critical area plantings. Additional practices, such as nutrient and pest management and crop rotation, should be considered as a part of a conservation plan.

# Seasonal High Tunnel SITE SPECIFIC SHEET

Land User:		County:	Date:
Farm #:	Tract #:	Field # (s):	
EQIP Contract No.:			
<b>Purposes (check all that apply)</b>			
<input type="checkbox"/> Improve plant quality			
<input type="checkbox"/> Improve soil quality			
<input type="checkbox"/> Reduce nutrient and pesticide transport			
<input type="checkbox"/> Improve air quality through reduced transportation inputs			
<input type="checkbox"/> Reduce energy use through local consumption			

<b>Materials List</b>
<input type="checkbox"/> High Tunnel Structure, outside dimensions (ft): _____ <input type="checkbox"/> Polyethylene cover, 6 mil greenhouse grade or better, UV resistant; and a frame at least 6-feet high inside the tunnel. <input type="checkbox"/> Height in Center (ft): _____  <input type="checkbox"/> Structure Manufacturer: _____
<b>Supporting Practices Installed for Runoff Control:</b>
<input type="checkbox"/> Critical Area Planting (job sheet attached) <input type="checkbox"/> Diversion (construction plan attached) <input type="checkbox"/> Grassed Waterway (construction plan attached) <input type="checkbox"/> Underground Outlet (construction plan attached) <input type="checkbox"/> Surface Drainage, Field Ditch (construction plan attached) <input type="checkbox"/> Subsurface Drainage (construction plan attached) <input type="checkbox"/> Other _____

<b>High Tunnel System Location and Construction</b>
<ul style="list-style-type: none"> <li>• Locate your high tunnel structure on cropland that provides the best available growing conditions for your desired crops.</li> <li>• Select a high tunnel site after consideration of your land's slope, sun exposure, soil quality, soil fertility, water drainage, air movement, risk of herbicide carry-over, and risk of soil pests.</li> <li>• The site must be relatively level and well drained, so the tunnel can be installed without grading or water ponding between the rows.</li> <li>• Orient your tunnel in a direction that provides acceptable sunlight exposure for the crops to be grown; and good ventilation by the prevailing wind.</li> <li>• The site should be located in an area with adequate space that is easily accessible to farm equipment, harvesting vehicles, etc., to avoid damage to the structure and enhance management activities.</li> <li>• The site location must have access to enough clean irrigation water to meet your crop needs and allow you to carry out normal farming operations without damaging the structure.</li> <li>• At least 2 working days before you start building, request marking of underground utilities in the construction area by telephoning 811. This is a free service.</li> <li>• Prepare the site according to the manufacturer's instructions.</li> <li>• Assemble the high tunnel structure according to the manufacturer's instructions.</li> <li>• Install supporting practices as required, according to construction plans provided.</li> <li>• Contact NRCS when your work is completed, or before you make changes to your planned installation.</li> </ul>

# Seasonal High Tunnel SITE SPECIFIC SHEET

## Operation and Maintenance

- Grow crops under the high tunnel in the natural soil profile – not on benches, tables, or in pots.
- Operate the high tunnel to manage temperature and moisture according to the tolerances of crops grown.
- Do not use the high tunnel for storage of material or equipment.
- Follow manufacturer’s instructions for the operation and maintenance of the high tunnel structure.
- Periodically inspect the structure and cover for damage. Reinstall or repair promptly.
- Avoid damage to the structure from equipment operated in and around the high tunnel.
- Inspect runoff control measures after every significant rainfall event. Repair promptly.
- If the high tunnel’s cover is removed to protect it from damaging tropical storm, or hurricanes, replace the cover prior to using the tunnel again.
- If the high tunnel is relocated, re-install runoff control practices needed to prevent soil erosion and water ponding.

## Additional Specifications and Notes:


## CHECK OUT:

Amount Completed: \_\_\_\_\_ square feet. Mark As-Built location on plan map.

Remarks

\_\_\_\_\_

This practice as constructed meets NRCS standards and specifications  Yes  No

Certified by: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_\_\_