

Seasonal High Tunnel



A High Tunnel is one of many conservation practices you can add to your conservation plan to improve plant health & vigor.

FAQ

What is a high tunnel?

High tunnels are enclosed polyethylene, polycarbonate (plastic), or fabric covered structures used to cover plants to extend the growing season.

What are the benefits of a high tunnel?

High Tunnels provide an intermediate level of environmental protection and control compared to open field conditions and heated greenhouses. They create a micro-climate inside the tunnel that raises the temperature and protects crops from potentially damaging weather. Crops tend to be of higher quality and produce higher yields than field-grown crops. Overall, high tunnels provide an energy-efficient way to extend the growing season, reduce or avoid use of pesticides, and reduce runoff and leaching of nitrogen into the soil.

What are high tunnels made of?

The frame can either be metal or wood. Polyethylene covers must be UV (ultraviolet light) protected. High tunnels are usually covered with a single layer of plastic and are passively-ventilated using roll-up side and end walls which can be opened or removed.

Conservation Planning First

If you're interested in installing a high tunnel, the first step is to develop a conservation plan with the USDA Natural Resources Conservation Service (NRCS). A certified conservation planner will visit your property and assess the condition of the soil, water, habitat, plants and other natural resources on your operation. Your conservation plan will recommend actions to improve any natural resource concerns on the property. A high tunnel is one of many NRCS conservation practices that may be recommended in your conservation plan to improve plant health and vigor.



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EQIP Eligibility

The High Tunnel System is a conservation practice funded through the Environmental Quality Incentives Program (EQIP).

EQIP is open to individuals, businesses, non-profits, Indian Tribes, legal entities, or joint operations who are currently engaged in agricultural production on cropland, rangeland, pastureland or non-industrial private forestland.

In Alaska, lands managed for subsistence hunting, harvesting and gathering are considered agricultural lands and may be eligible for EQIP.

Other EQIP Eligibility criteria apply.

Are high tunnels the same as greenhouses?

No. Greenhouses usually contain heaters and the plants inside them are grown in containers such as pots and trays. High tunnels don't use heaters and the plants inside them grow directly in the ground in the natural soil profile. Unlike greenhouses, high tunnel systems are seasonal and are considered temporary structures.

How are crops grown in a high tunnel?

Crops must be grown in the natural soil profile or by installing permanent raised beds up to 12 inches in depth/height. Crops may not be grown on tables or benches, in pots, or hydroponically, for the NRCS conservation practice.

Are low tunnels the same as high tunnels?

No. The structure must be six feet or greater in height in the center; therefore, row covers and low tunnels do not qualify as high tunnels.

Can I design my own high tunnel?

No. To receive financial assistance from NRCS, you must purchase a high tunnel kit, also called a manufactured high tunnel, from a commercial source. You may install a commercially-obtained kit yourself.

What is a "manufactured" high tunnel?

The NRCS High Tunnel conservation practice requires a manufactured high tunnel obtained from a commercial source. These structures are sold as kits and generally contain all of the required materials and hardware to erect the structure except for the lumber needed for baseboards and end walls. Individual kits vary by supplier and manufacturer. High tunnels must be planned, designed and constructed in accordance with the manufacturer's recommendations. Not all manufactured kits meet NRCS specifications. See the NRCS Implementation Requirements Sheet for more information.

What are the structure requirements for a high tunnel?

Wood-frames and metal-frames have different requirements. Geodesic dome structures are not approved as a high tunnel system. Please see the NRCS Implementation Requirements Sheet for specifications. Vendor claims of meeting NRCS specifications must be verified by the participant. NRCS does not endorse any product, company or brand of high tunnel.

Can I install a used high tunnel?

No. NRCS prohibits the use of used materials for constructing a high tunnel.

What is the life span of a high tunnel?

5 years according to the NRCS conservation practice standard. However if maintained properly, high tunnels may continue to function longer.

Is there a size limit for the high tunnel system?

No. There is no maximum size limit to the high tunnel system, but there is a minimum height requirement of 6-feet at the peak of the structure.

Can I install electricity to power heating or cooling units in the high tunnel system?

Yes, but NRCS financial assistance is provided only for the structure itself. Electricity, venting systems, lighting etc. can be installed providing the additions meets manufacturer's designs and specifications. However, the grower is responsible for those costs.

Can I leave the high tunnel up all year?

NRCS strongly recommends that the plastic high tunnel cover be removed after each growing season to prevent the structure from collapsing under extreme snow loads. Management of the high tunnel will depend on climatic conditions. Consult the manufacture's specifications and climate condition management in your area.

Am I responsible for repairing damages to the high tunnel?

Yes. Your NRCS conservation plan specifies that you must maintain the high tunnel for 5 years and replace any damaged parts at your own cost. You are responsible for repair or replacement of a high tunnel damaged by ice, snow, wind, fire, flood, animals, or other causes. Failure to do so may result in termination of your contract and payback of liquidated damages.

Are there limitations on where I can install a high tunnel system?

Since the high tunnel conservation practice is used to treat a natural resource concern, it must be placed on land where crops are growing in the natural soil profile, and where there is a demonstrated resource concern. Crops must have been growing in the soil for at least one growing season so that NRCS may identify and document any resource concerns associated with that cropland. The maximum ground slope allowed is 5 percent.

What can't a high tunnel be used for?

High Tunnels may not be used for:

- Growing crops on benches or in pots
- Producing a substance that is federally restricted, such as marijuana.
- Livestock or poultry production
- Storage of equipment, furniture or supplies.

If I already have a high tunnel, can I apply for another one?

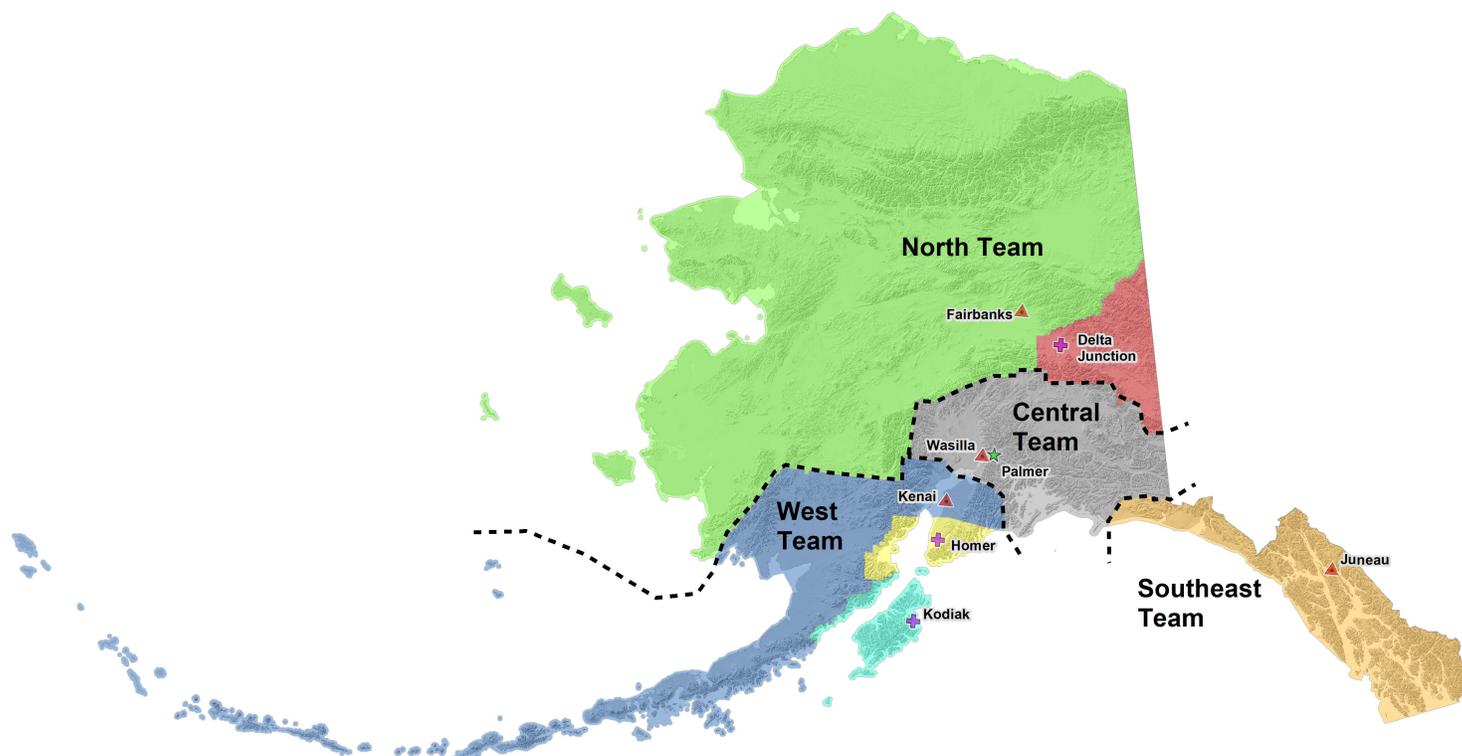
Yes, but only if the additional high tunnel would be placed in a separate growing area (not the same location as an existing high tunnel or replacing a current high tunnel) and if there is a demonstrated natural resource concern on the site. The high tunnel must be included in your conservation plan.



Related Conservation Practices

Many Alaska growers who install a high tunnel with NRCS also adopt other conservation practices to improve soil health and water management. Ask your conservation planner about these related practices that may work well with a high tunnel system:

- Nutrient Management
- Irrigation Water Management
- Micro-Irrigation
- Pollinator Habitat
- Crop Rotation



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