United States Department of Agriculture

Natural Resources Conservation Service

High Tunnel Conservation Practice

High tunnels make it possible to grow warm season crops in Alaska.

Overview

High tunnels (seasonal tunnel systems for crops) are enclosed polyethylene, polycarbonate (plastic), or fabric covered structures used to cover plants to extend the growing season. High tunnels depend on the covering to raise temperatures for the plants growing inside.

The growing season can be extended by two to four weeks by protecting crops from potentially damaging weather conditions. Due to the micro-climate inside the tunnel, crops tend to be of higher quality and produce higher yields than field-grown crops. Crops are planted in the ground and not in containers.

Assistance

Contact your local NRCS office to learn about conservation planning.

NRCS High Tunnel Conservation Practice Specifications

Structures shall be obtained from a commercial source. These structures, sold as kits, 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.

The structure cover, at a minimum, shall be a made of 6-mil greenhouse-grade, UV resistant material. Center height of structure shall be a minimum of 6 feet. Bow spacing shall be a maximum of 4 feet. All materials shall be of significant thickness to withstand the temperature modification for a minimum of four years. To prevent damage from heavy snow loads, tunnel covers should be removed at the end of the growing season.

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Contact NRCS in Alaska

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Delta Junction
(907) 895-4241

South Hub, Kenai
(907) 283-8732

Homer
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Juneau
(907) 586-7220

Central Hub, Wasilla
(907) 373-6492

State Office, Palmer
(907) 761-7760

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Questions and Answers

Are high tunnels the same as greenhouses?
No. Both high tunnel systems and greenhouses can depend on plastic covering and often heaters to raise temperatures within the structure. However, plants in greenhouses usually grow in containers. Plants in high tunnels grow directly in the soil. Unlike greenhouses, high tunnel systems are seasonal and are considered temporary structures.

How are crops grown in a high tunnel?
Crops can be grown in the tunnel by either using conventional tillage in the natural soil profile or by installing permanent raised beds up to 12 inches in depth/height. Cannabis production is prohibited by USDA-NRCS.

Are low tunnels the same as high tunnels?
No. In order to qualify as a high tunnel system the tunnel system must be 6 feet or greater in height in the center; therefore, row covers and/or low tunnels do not qualify as high tunnels.

What are the structure requirements for a high tunnel?
The high tunnel system must be obtained as a pre-fabricated kit directly from the manufacturer or from a supplier. The frame shall be constructed of metal, wood, or durable plastic and be at least 6 feet in height in the center. The cover must be, at a minimum, a 6-mil greenhouse-grade, UV resistant material. NRCS does not have a size limitation for high tunnels.

What usually comes in a high tunnel kit?
Basic kits usually include the frame structure and assembly hardware; cover with roll-up or drop-down side assemblies and heavy duty ground posts. Optional items include manufactured end panels and/or door assemblies as well as top and bottom baseboard kits. Most kits will require the use of locally purchased lumber to construct baseboards, door frames, and some additional anchoring equipment.