

Agricultural Management Assistance (AMA) Program **Seasonal High Tunnels for Vegetables and Other Specialty Crops – Pilot Project**

What Are Seasonal High Tunnels? A seasonal high tunnel is a polyethylene-covered structure at least 6 feet in height, with no electrical, heating, and/or mechanical ventilation systems. A seasonal high tunnel uses passive solar heating to modify the climate to create more favorable growing conditions for vegetables, fruits, and other specialty crops. Crops can be grown in natural soil or permanent raised beds, but not on benches, tables, or in containers/pots. 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. Producers who want to use a seasonal high tunnel will also need a reliable source of water and a method for watering the crops.



Where Can This Practice Be Used? A seasonal high tunnel may be used only on existing cultivated cropland. “Existing cultivated cropland” is an area that is currently used to produce agricultural crops for harvest (e.g., corn, soybeans, vegetables, fruits, etc.) in open field conditions, including hay and/or legumes in a commonly-used rotation with these crops. Conventional, mulch-till, and no-till systems may be used to prepare the soil and plant crops.

Features of High Tunnels. High tunnels are constructed of metal or plastic arch frames, anchored to the ground, that are covered with a single layer of polyethylene that is at least 6-mil greenhouse-grade and UV-resistant. End walls are usually framed-in to provide doors and ventilation areas. Ventilation is achieved by manipulating a combination of roll-up side vents and end vents. For optimum ventilation, the high tunnel should be no more than 26 feet wide and have vertical roll-up sidewalls.

High tunnel systems are commercially available in a variety of widths, lengths, shapes, and frame spacing. Selection of the high tunnel type depends on climatic conditions, crops to be grown, and budget. In the mid-Atlantic region, snow and ice storms can overload covered structures, resulting in collapse. High tunnels with a “Gothic arch” (peaked roof) configuration tend to shed snow more effectively than “Quonset hut” (rounded) style structures.

Most high tunnels come with 6-foot bow spacing that is not sufficient to withstand heavy snow/ice loads. In Maryland, high tunnels funded by AMA must have a bow spacing of 4 feet to better withstand snow/ice. Gothic tunnels with arch spacing at 4 feet have performed well in Maryland, and with their vertical side walls, usually provide more interior space and better ventilation.

Conservation Systems Approach. Water runoff from the high tunnels can cause problems that require the implementation of other practices such as critical area plantings, heavy use area protection, roof runoff structures (infiltration trenches), and underground outlets. Additional practices must be planned and installed where needed along with the high tunnel. Other practices that should also be considered as a part of a conservation system include crop rotation, nutrient and pest management, micro-irrigation, and irrigation water management.

Financial Assistance for High Tunnels. In Maryland, seasonal high tunnels and associated system practices may be eligible for financial assistance through the Agricultural Management Assistance (AMA) program. To be eligible for AMA financial assistance, applicants must meet producer eligibility requirements. In addition, high tunnels must be commercially manufactured, meet NRCS minimum materials and lifespan requirements, and be installed,



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maintained, and monitored as required. Financial assistance for tunnels is limited to structures covering up to 2,178 square feet per farming operation – equivalent to a structure size of approximately 30 ft x 72 ft.

The seasonal high tunnel has an expected practice life of 4 years and needs to be maintained for at least that period of time. In addition, high tunnels that receive AMA financial assistance cannot be used to: (1) provide a feeding area and/or shelter for livestock or poultry, or (2) to store equipment and supplies. During the 4-year lifespan, the tunnel cannot be outfitted with electrical, heating, and/or mechanical ventilation systems.

Monitoring the Effectiveness of High Tunnels. High tunnels will be implemented in Maryland as part of a national “pilot project.” AMA program participants will be expected to keep records of annual maintenance costs; starting and ending dates for crops produced under the cover; quantity of crops produced; and the type and amount of nutrients (N-P-K) and pesticides applied. Participants will need to provide this information to NRCS annually for three years.

Potential Sources for High Tunnels.

Note: This list is for informational purposes only. It is not all-inclusive, nor is it intended to endorse these manufacturers and/or suppliers.

A.M. Leonard, Inc., 1-800-543-8955 <http://www.amleo.com/index/help-desk/subcat.cgi?Cat=D>

E. C. Geiger, Inc., Box 285, Rt. 63, Harleysville PA 19438-0332, 1-800-4GEIGER.

FarmTek – Growers Supply, 1-800-245-9881
http://www.farmtek.com/farm/supplies/cat1a;ft1_coldframes_hightunnels.html

Four Season Tools, 1-816-444-7330 <http://www.fourseasontools.com>

Haygrove Tunnels, <http://www.haygrove.com>

Ledgewood Farm, 1-603-476-8829 <http://www.ledgewoodfarm.com/>

Maryland Plants and Supplies Inc., 1-800-248-2818 <http://www.mdplantsandsupplies.com/>

Nolt's Produce Supply, 1-717-656-9764

Penn State Seed Co., Inc. 1-570-675-8585 <http://www.pennstateseed.com/>

Rimol Greenhouse Systems, 1-877-RIMOL-GH <http://www.rimolgreenhouses.com/>

Walker Plants, 1-856-358-6493 <http://www.walkerplants.com/>

For additional information concerning AMA program eligibility and to submit an application, visit your county NRCS Field Service Center. Addresses and contact information for Maryland NRCS Field Offices can be found at <http://www.md.nrcs.usda.gov/contact>.

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