Seasonal High Tunnels for Food and Other Specialty Crop Production

Why Seasonal High Tunnels

A seasonal high tunnel is a polyethylene covered structure with no electrical, ventilation, or heating system, at least 6 feet in height, which modifies the climate to create more favorable growing conditions for vegetable and other specialty crops grown in the natural soil beneath it. Evidence suggests conservation benefits associated with these structures, though scientific research is scarce. This 3-year pilot will test the validity of potential conservation benefits.

Potential Resource Benefits of High Tunnels

Potential natural resource benefits from using tunnel structures include: (1) improved plant quality, (2) improved soil quality, and (3) improved water quality through methods such as reduced nutrient and pesticide transport.

Features of High Tunnels

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. 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. 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.

Interim Conservation Practice Standard

NRCS will use an interim conservation practice standard to field test this new technology. Participating states will prepare annual reports to discuss the resulting strengths and weaknesses, and to provide recommendations about whether to develop a national conservation practice standard or to discontinue the use of the interim conservation practice standard.

Systems Approach

Water runoff from the high tunnels can cause issues that will require the application of several other practices such as roof runoff structures and critical area plantings. These additional practices must be planned and installed as a condition for the installation of a high tunnel. Additional practices should be considered as a part of a conservation plan, such as nutrient and pest management and crop rotation.

Financial Assistance for High Tunnels

During the pilot period, high tunnel systems may be eligible for financial assistance through the Environmental Quality Incentives Program (EQIP). Financial assistance will be limited to tunnels covering up to 5% of one acre (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.