



MSU Agriculture Innovation Day

Focus on Fruit and Vegetable Technologies

Create Your Own Climate Change with High Tunnels

High Tunnels Can Change the Production Climate

Air temperature - reduce frost risk, increase growing degree days, avoid excessive summer heat

Precipitation - protect plants from rain and hail, optimize soil moisture with irrigation, manage nutrients and soil salts,

Light quantity and quality - reduced quantity, some plastics differentially affect wavelengths - PAR, UV, IR

Humidity - can be lower or higher than outside, depending on management)

Wind - lower or minimal windspeed.

High Tunnels Can Change Plant Growth

Plant development - earlier germination or budbreak and bloom, increased shoot growth, and earlier harvests

Plant processes - reduce environmental stress which promotes more optimal photosynthesis and plant water relations

Risks - protect plants from frost, rain, hail, or wind Extend reproduction phase - flowering and fruiting periods for crops such as primocane raspberries and tomatoes

Better products - achieve higher yields, larger fruits, brighter flower colors, better fruit appearance (blemish-free)

Pest pressure

Suppress - some insect pests and diseases, reducing pesticide applications, facilitating organic production

Enhance - some insects (e.g., mites, aphids) thrive under tunnels and must be managed accordingly