SWMREC Mission: Enhance the economic viability of the agriculture in the state of Michigan through the development and practical demonstration of technological advances in plant materials and cultural practices.
Five MSU Research Centers with emphasis on fruit

- NW Station
- SWT Station
- Clarksville
- Trevor Nichols
- Main campus
Established in 1987, 350 acres

**Staff**
- Vegetable specialist
- Grape specialist
- Tree fruit specialist

Full time farm manager and 2 crew
1 full time technician
~ 10 summer crew
New Staff Members

Dr. Mike Reinke
New Fruit and Vegetable IPM Educator
Berrien County Extension
New Staff Members

Dr. Katherine East
New grape specialist

High yielding juice grape trellis system

Developing mechanical efficiencies
Equipment and Facilities Upgrade

New drainage tile to be installed

Extended irrigation in 2018
Equipment and Facilities Upgrade

Real-Time PCR  
Elisa Reader  
Tenney programmable step freezer for bud hardiness studies

Laboratory conversion
Equipment and Facilities Upgrade

Automatic irrigation station controller

Storage barn

Platform

Deer fence

Concrete floor for indoor meetings

Narrow profile tractor for high density plot work
40 to 50 projects underway each year
DEPARTMENT OF
ENTOMOLOGY

DEPARTMENT OF
PLANT, SOIL AND MICROBIAL SCIENCES

Department of Geography, Environment, and Spatial Sciences

DEPARTMENT OF
HORTICULTURE

DEPARTMENT OF BIOSYSTEMS & AGRICULTURAL ENGINEERING

DEPARTMENT OF AGRICULTURAL, FOOD, AND RESOURCE ECONOMICS
SWMREC External Funding / Collaborators

Syngenta
Monsanto
RiceTec
Rogers Seed
Harris Moran
Seminis Seeds
Sakata
Abbott & Cobb
Rispens
Valent
Bayer
US Agriseeds
Gowan
Nunhems
Bejo Seeds
Biogenic
Johnny’s Seeds
Crop Production Services
Wilbur-Ellis

Michigan Peach Sponsors
Michigan Apple Committee
Michigan Plum Advisory Board
Michigan State Horticultural Society
Michigan Grape Society
Michigan Grape and Wine Industry Council
Michigan Tree Fruit Commission
National Grape
Michigan Vegetable Council

& Many local companies and equipment dealers
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High tunnel research
Organic Raspberry Production in Three-Season High Tunnels
by Eric Hanson¹, Vicki Morrone², Rufus Isaacs³, Michigan State University Extension
¹MSU Department of Horticulture, ²MSU Department of Community Sustainability, ³MSU Department of Entomology

High tunnels offer several potential advantages for production of raspberries in humid regions such as the Midwest, including:
- Improved plant vigor and yields.
- Extended harvest and marketing season.
- Improved berry quality.
- Reduced damage from several pests and diseases.

For organic producers, these benefits may be particularly valuable since pesticide options are limited. This bulletin integrates knowledge on conventional culture of high tunnel raspberries (see Cornell publication in references) with information collected from a Michigan State University organic high tunnel research project. Initiated in 2009, the project tested cultural methods for organic production of fruits under high tunnels.

The high tunnel research included nine, 26-by-200-foot, multi-bay tunnels from Haygrove Tunnels, Ltd., constructed on a sandy loam soil on the Michigan State University campus in East Lansing, Michigan. Three bays were each planted with raspberries, sweet cherries and mixed raspberry and sweet cherry plantings. This publication provides guidance for growers interested in high tunnel production of organic raspberries, though the information is of value to non-organic growers as well. Here are some suggestions based on this and other’s work.

Site selection
Sandy loam or loamy sand soils are best because they provide good drainage. Poor drainage promotes root rot in brambles.

With loam and clay loam soils, modify drainage by using raised beds and installing drain tiles under sidewalls. Flooding and erosion can also occur since during rain storms, large volumes of water run off the tunnel sides. If soil does not drain adequately, subsurface drain tile should be installed along each side of the tunnel to help direct rain water away from the plants. Tilling is especially important if the soil has a high percentage of clay or if the slope is negative from surrounding areas.

The year before planting, be sure to test the soil and adjust the pH to 6.0 to 6.5 with lime or sulphur additions. Soil preparation should also include planting cover crops for a year prior to planting brambles to reduce weeds and improve soil quality. Short-lived cover crops such as buckwheat and oats work well as they can be grown and incorporated twice in one season to add organic matter and suppress weeds. Sorghum-sudangrass is another good option for smothering weeds and producing large quantities of organic matter. Sites may also benefit from applications of 1 to 2 tons of manure per acre the year prior to planting canes.

Tunnel and plastic types
Raspberries grow well in multi-bay tunnels and stand-alone tunnels. Multiple bay tunnels consist of interconnected bays and are relatively inexpensive per area covered, but they can be damaged by snow and need to be uncovered...
Experience with high tunnel production: Annual crops that have done well in southwest Michigan

Tomatoes are usually the crop of greatest interest to many tunnel producers, but other crops perform well and should be considered, including many flowers, leafy greens, herbs, cucumbers, pole beans and lesser known crops like okra.

Posted on January 7, 2013 by Ron Goldy, Michigan State University Extension

Even though the main crop in our tunnel trials at the Southwest Michigan Research and Extension Center (SWMREC) has been tomatoes, we have planted other crops to observe how they perform. Vegetable crops performing consistently well include beit alpha cucumbers, pole beans (Photo 1) and okra.

Photo 1. High tunnel-grown pole beans (left) and cucumbers (right). Photo credit: Ron Goldy, MSUE

Dr. Ron Goldy
Tomato production strategies in high tunnels
Trials of vegetable varieties for tomatoes, russet potatoes, Harris Moran zucchini, pickle cucumbers, slicing cucumbers and russet potatoes.

Dr. Ron Goldy
Dr. Ron Goldy

Optimizing Irrigation
Dr. Greg Lang – High tunnel fruiting wall production systems
Dr. Bill Shane

Peach breeding

Rootstocks

precision tree production systems

Peach, apple, plum, pear variety evaluation

Predictive models
Dr. Zachary Hayden

Cover crop & organic fertility management in vegetables
Nematode community structure, soil health and pest management in edible crops. Alternative treatments for managing nematodes in the soil.
Dr. Rufus Isaacs

Pollinators, insect management in small fruit, blueberry gall wasp, spotted wing drosophila, marmorated stinkbug.
Dr. Dan Brainard

Long-term rotation of field crops - effects on weed problems

Dr. Bernie Zandstra

Weed management in small and tree fruit
Dr. Jim Hancock
- retired -

New blueberry varieties: Aurora, Draper, Huron, Liberty

Strawberry breeding

Dr. Patrick Edger
Downy mildew and Phytophthora research in vegetables and hops, new chemical tools for disease management

Dr. Mary Hausbeck
Dr. Dennis Fulbright

Chestnut research

Asian gall wasp damage

Variety trials
Breeding and genetics of Steevia

Ryan Warner