The Ohio State University Extension

VegNet

The Vegetable and Fruit Crops Teams Newsletter

http://vegnet.osu.edu

Lead Editor and Contributing Author: Brad Bergefurd
Graphic Designer & Editor: Abigail Fuhrmann

Vol. 23 Number 18 August 15, 2016

In this issue:

Does the Base Cation Saturation Ratio (BCSR) Philosophy Affect your Crops, Soils, Weeds, and Bottom-line?

From Matt Kleinhenz, Department of Horticulture and Crop Science, The Ohio State University

The August 24, 2015 and July 19, 2016 editions of VegNet (http://vegnet.osu.edu/newsletter), our program website (http://organicfarmingresearchnetwork.org.ohio-state.edu/), and many other references explain that using the BCSR philosophy calls for maintaining target ratios of calcium, magnesium, and potassium on the soil cation-exchange complex, often by applying gypsum and other materials. Farmers and others say that by taking that approach they can improve soil health and crop quality and limit weed pressure. That said, growers, educators, and scientists still have many questions about the BCSR philosophy and its influence on soils, crops, weeds, and the farm's bottom-line.

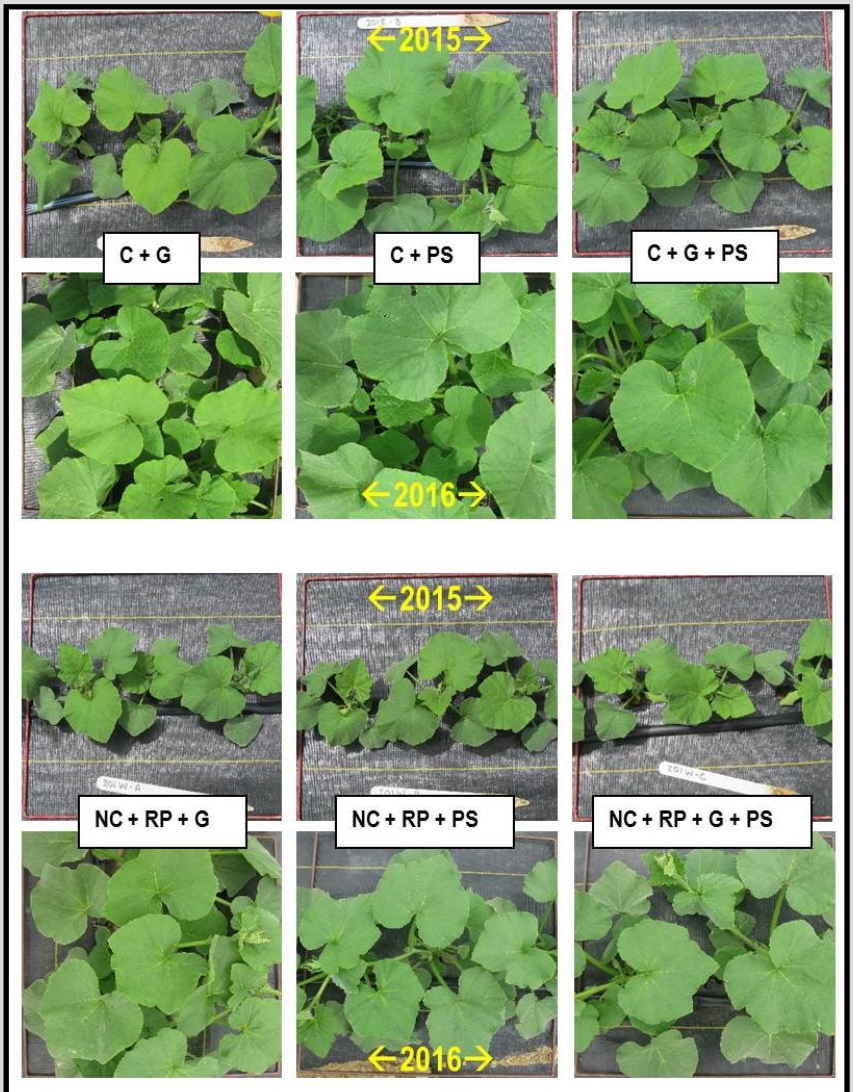
Support from the USDA-Organic Agriculture Research and Extension Initiative is allowing an OSU-farmer team to address these questions through experiments completed on farms and at OARDC sites. **(Continued on next page)**

Does the Base Cation Saturation Ratio (BCSR) Philosophy Affect your Crops, Soils, Weeds, and Bottom-line? Continued

From Matt Kleinhenz, Department of Horticulture and Crop Science, The Ohio State University

One experiment at the OARDC in Wooster began in 2015 and includes butternut squash, edamame soybean, and popcorn and six BCSR-based soil amendment treatments. In May-2016, the second application of gypsum, potassium sulfate, rock phosphate and compost was made to selected plots. The effects of these treatments is being recorded throughout the year using a large set of measurements including weed counts, crop development, plant tissue and soil testing, and crop yield and quality (emphasizing aspects of visual appeal and potential eating quality and nutritional value). A portion of these measurements is depicted in the figure. Similar experiments are being conducted on Ohio farms and findings will be available in multiple ways.

For example, study plots can be viewed and discussed during the upcoming OFFER Organic Field Day (September 8, beginning at 2:00 pm; contact Kathy Bielek at bielek.4@osu.edu for directions and more information). Also, don't hesitate to contact Matt Kleinhenz (ph. 330.263.3810; kleinhenz.1@osu.edu) or see our Facebook (https://www.facebook.com/pages/The-OSU-Vegetable-Production-Systems-Laboratory155936034478066) for more information.



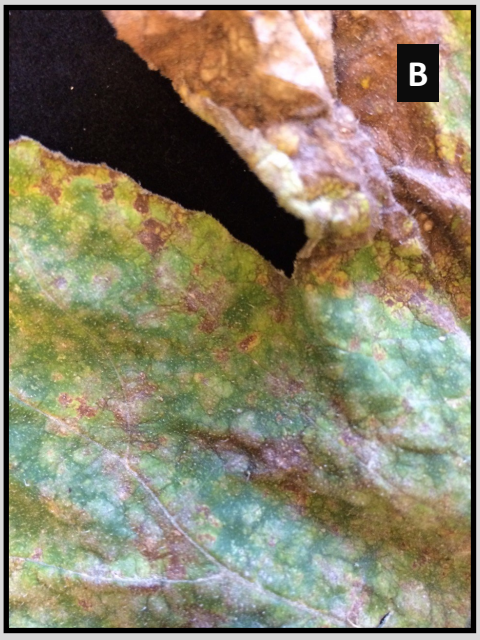
Using the same plants each week, quarter square meter quadrate pictures of 'Waltham' butternut squash were taken in each sub-subplot. The pictures are used to track the growth of the plants by analyzing the leaf area using computer software. These pictures were taken 3 weeks before the leaf sampling occurred each year and show obvious differences in leaf and plant size between years and fertility, but not much between the soil amendments. Treatment key: Compost (C), No compost (NC), Gypsum (G), Potassium sulfate (PS), Rock phosphate (RP).

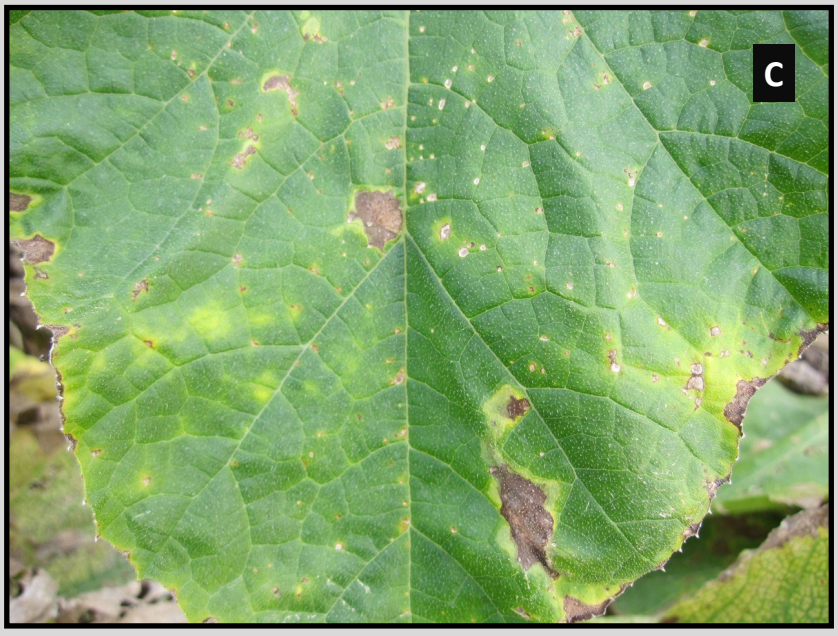
Cucurbit Downy Mildew Update

From Sally A. Miller, Professor, Department of Plant Pathology, The Ohio State University, Wooster, OH 44691

So far downy mildew has been confirmed on cucumbers in Wayne, Huron, Sandusky, Medina, and Fulton counties in Ohio. We also found it on cantaloupe in our sentinel plots in Huron County on July 28. We have not had reports of downy mildew on squash or pumpkins in Ohio to date. With dry or very dry weather in much of Ohio (1/3 of Ohio is currently under moderate drought conditions), we expect that downy mildew will continue to be less frequent and less severe than in previous years. However, in gardens and fields where it has occurred and fungicides have not been applied, downy mildew has been very damaging. We are recommending Orondis Opti alternated with Ranman, Gavel, Zing! or Zampro (tank mixed with a protectant fungicide like chlorothalanil or mancozeb if not included in the product). Presidio has been an effective fungicide in the past, but several studies have shown that it has lost efficacy in the last few years. Growers should be aware, especially with pumpkins, of other diseases that may be confused with downy mildew. Bacterial spot of pumpkin can cause leaf spots that converge and kill the leaves; however, fungicides are ineffective against bacterial spot. Despite the dry weather, we have seen bacterial spot of pumpkin and other bacterial diseases of vegetable crops this year in Ohio. Bacterial diseases are best managed in vegetables by using clean seed and reducing bacterial populations during transplant production by limiting moisture and applying bactericides.

If in doubt about what ails your cucurbit (or other vegetable) crop, submit a sample to the OSU Vegetable Pathology Lab for diagnosis, free of charge to Ohio growers. Instructions and sample submission forms can be found here (u.osu.edu/BXhG) or through your OSU Extension Educator.





Photos:

A. Map of downy mildew outbreaks in cucurbits as of August 9, 2016 (http://cdm.ipmpipe.org/)
B. Bacterial spot of pumpkin.
C. Downy mildew of pumpkin

Wayne County IPM Report — August 11th

From Rory Lewandowski, Extension Educator Wayne County

The hot, dry weather continues in Wayne and surrounding counties. Some growers are being forced to make decisions about which crops and plantings are going to get water. Blossom end rot (influenced by watering practices) continues to be noted by scouts in tomatoes and peppers. Another weather related condition, sunscald, is also being noted on a number of peppers. Disease wise, powdery mildew in cucurbits continues to be prevalent and downy mildew is present in a number of cucumber and melon plantings. Anthracnose is being found by the scouts in fall squash, pumpkins, summer squash and zucchini. Bacterial blight is taking a toll in some melon patches. Bacterial soft rot was found in peppers and bacterial spot was found in tomatoes. Early blight is becoming more common in tomatoes.

Moving on to insects, scouts are finding evidence of stink bug damage on field and high tunnel tomatoes and on peppers. Scouts noted lots of moth flight in cole crop plantings and found both eggs and some larvae. Flea beetles and their damage were also noted on cole crops and eggplant. Squash bug nymphs and eggs were found in fall squash and pumpkins. Some green snap bean plantings were being attacked by bean leaf beetles, potato leaf hoppers and grasshoppers. In sweet corn, damage from flea beetles (scraping on leaves), Japanese beetles (silk clipping) and European corn borer (ECB) and fall armyworm (FAW) was noted. Despite some places in the state registering an influx of corn earworm (CEW) moths in traps, our Wayne County trap counts remained at 0 this week. Moth numbers did increase in our ECB pheromone traps with 17 moths recorded in 3 traps with the Iowa lure and 8 moths recorded in traps with the NY lure.

On a discouraging note, some sweet corn growers are struggling with raccoon damage to their crop. Options to control raccoons are limited. Some growers have minimized damage with trapping. Another option that may work in some instances is exclusion, and that really boils down to some type of electric fencing. The following is an excerpt from a University of California IPM fact sheet entitled: “Pests in Gardens and Landscapes: Raccoons”

“Ordinary fences will not keep raccoons from gardens or yards, as the animals will either dig under or climb over them. Raccoons readily locate weaknesses in fences and will rip off loose boards or enlarge holes in wire fences for easy access. By exploiting the raccoon’s sensitivity to electric shock, an ordinary fence can be made raccoon-proof by adding a single electrified strand of wire 8 inches above the ground and about 8 inches out from the base of the fence. A pulsating high-voltage, low-amperage fence charger, similar to that used for confining cattle, is used to electrify the fence. Electrified wire wrapped around the trunk of a tree will discourage climbing. A low, two-wire electric fence can be very effective for excluding raccoons from sweet corn, melons, and other highly preferred crops. The two wires are fastened on evenly spaced wooden posts; one wire is 6 inches above the ground and the other is 12 inches above the ground. The fence charger needs to be activated only from dusk to dawn.”

(Continued on next page)

Wayne County IPM Report — August 11th Contineud

From Rory Lewandowski, Extension Educator Wayne County

For those producers who might want to try electric fencing to control raccoons in sweet corn, there are some electric netting fence options that are lightweight, portable and give a lot of flexibility in fence size and shape. One company that I know of that markets a raccoon electric netting is Premier 1 Fence. They have a nice web site with good product explanations. I'm sure there are probably other fence companies and products that will work; I just provide this as an example.

Photos:

A. Imported cabbage worm larva feeding on cabbage plant, photo by Chris Smedley, IPM Program Scout.
B. Pumpkin turning color, photo by Chris Smedley, IPM Program Scout.
C. Rodent damage to pumpkins and secondary white mold, photo by Chris Smedley IPM Program Scout.

Southern Ohio Vegetable and Fruit Update
IPM Report — August 11, 2016

From Zach Charville, OSU Extension IPM Crop Scout Intern

Irrigation systems have been running almost non-stop in areas of Southern Ohio as the deficit for rainfall increases. Rainfall has been an issue this growing season across the area, with some farms getting little to no rain, with others getting more than five inches in one storm over the past weekend. In areas with heavy rainfall, harvest has been slowed down due to exceptionally wet field conditions. Many farmers across the area will find relief from dry conditions with rainfall forecasted over much of this next week.

Fungal and bacterial diseases continue to be an issue in pumpkins across the area, as the fruit continues to grow and come closer to harvest. Many farmers develop tight fungicide regimens to try to combat the diseases and keep them from spreading. Bacterial wilt still remains the most common disease found on area pumpkin farms, and growers are being urged to continue insecticide use to keep cucumber beetles out of the fields. The weather conditions have been ideal for the spread of septoria leaf spot, and many farms have had issues with the disease in their tomatoes.

Harvest continues for peppers, cucumbers, squash, zucchini, sweet corn, greens, eggplant, string beans, and tomatoes. Early blackberry varieties are reaching the end of harvest, while mid - and late-season varieties continue to be harvested with exceptional yields. The last plantings of sweet corn have emerged from the soil and continue to show healthy growth.

Photos:

A. These pumpkins are thriving on this farm in Scioto County.
B. Septoria leaf spot in a tomato field in Pike County.

Pumpkin & UAV Field Day

From Jim Jasinski, IPM Program

There will be something for both experienced and new pumpkin growers at this year's field day, especially if you have an interest in technology. Mark your calendar now for the annual Pumpkin / UAV Field Day on Thursday, August 18th from 6-8 p.m. at the Western Ag Research Station at 7721 S. Charleston Pike, near South Charleston.

Featured at the field day will be some traditional stops including a powdery mildew fungicide demonstration trial with new products Evito, PHD, Fontelis, and Luna Experience, plus standards such as Quintec, Merivon, Procure, Microthiol Disperss, Flint, and Manzate Pro.

We will also have a Harris Moran powdery mildew tolerant/resistant variety trial highlighting 12 hybrids including small fruit (Mischief, Cannon ball, Field Trip, Little Giant), medium fruit (Gladiator, Magic Wand, Magic Lantern, Magician), and large fruit (Apollo, Kratos, Ares, Rhea).

State specialists for insects and diseases will be present at the field day to answer your questions about diagnosis and management.

Some new research will also be highlighted including the basics of using multi-spectral imagery and Unmanned Aerial Vehicles (UAVs) to detect diseases like powdery and downy mildew on pumpkins and cucumbers. A demonstration of the UAV surveying a field will follow the presentation.

Pre-registration for the field day is required by August 15th. Handouts and liquid refreshments will be served. The field day fee is $5 per person, payable at the field day. To pre-register, send an email to Jim Jasinski (Jasinski.4@osu.edu) or leave a message at the research station on the answering machine (937-462-8016). The Western Ag Research Station is located at 7721 South Charleston Pike, South Charleston, 45368.

Photo: Partial map of pumpkin field taken using Normal Difference Vegetative Index (NDVI) to look for diseases.

OHIO AGRICUTURAL RESEARCH AND DEVELOPMENT CENTER

OHIO STATE UNIVERSITY EXTENSION

Maps & Apps

Mobile Media Marketing

Hosted by the OSU Direct Agriculture Marketing Team

Gain a degree of control with your owned, earned, and paid online presence.

See how consumers:

- Find your business online
- View your business on mobile devices
- Use social media to access your content, as well as to post comments, photos, videos, reviews, and location-based check-ins
- Utilize apps and GPS devices to find and navigate to your business
- Access the latest apps

Date: Thursday, August 25, 2016

Time: 8:30 a.m. —1:00 p.m.

Location: Nationwide and Ohio Farm Bureau 4-H Center
2201 Fred Taylor Dr.
Columbus, OH 43210

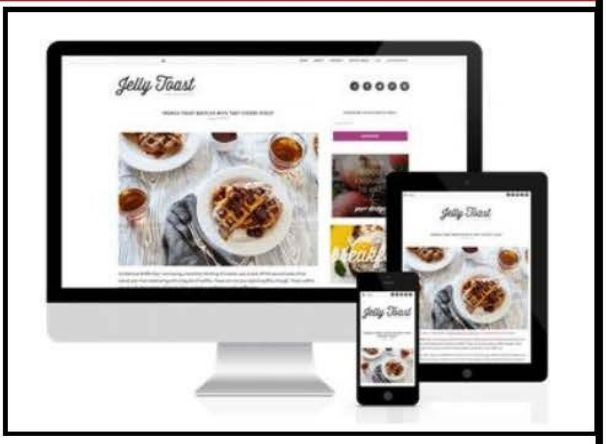
Cost: $15.00 (Lunch will be provided)

Register: Contact Charissa Gardner
gardner.1148@osu.edu
740.289.2071 ext. 132

Deadline to register: Monday, August 22

All attendees will receive educational materials including a workbook.

NOTE: Please bring your mobile device with you.



go.osu.edu/MapsAndApps

THE OHIO STATE UNIVERSITY
COLLEGE OF FOOD, AGRICULTURAL, AND ENVIRONMENTAL SCIENCES

Ohio Development Services Agency

OHIO STATE UNIVERSITY EXTENSION

Orchard Sprayer Technology Field Day

THURSDAY, AUGUST 18 ▪ 3:00 - 7:30 pm

Moreland Fruit Farm ▪ 1558 Moreland Rd, Wooster OH 44691

Featuring:

- Sprayer demonstrations with new and current sprayer technology
- Education and discussion on how sprayers can be used more effectively and efficiently
- A glimpse of the future: Introducing the Intelligent Sprayer technology
  - Prototype sprayer designed by USDA-ARS/OSU using laser guidance to automatically adjust spray volume and nozzle pattern based upon tree size, leaf density and plant spacing.
  - Trials have shown reductions in pesticide use of 47-70% compared to conventional orchard air blast sprayers
  - Annual chemical savings can amount to $140 to $280 per acre
- Resource people: Heping Zhu - USDA-ARS, Lead Scientist of the Intelligent sprayer and Erdal Ozkan - OSU Extension Sprayer Technology Specialist
- Sponsor displays, orchard equipment and supply exhibits

Registration: includes handout materials, refreshments, and a light supper for only $5.00 per person, pre-register by **Thursday August 11**

For more information:

Rory Lewandowski, 330-264-8722, Lewandowski.11@osu.edu, wayne.osu.edu

Presented by:

Moreland Fruit Farm ltd

USDA ARS Agricultural Research Service

The Ohio State University
College of Food, Agricultural, and Environmental Sciences

Orchard Sprayer Technology Field Day

Registration cost is only $5/person. Pre-registration requested to the Wayne County Extension Office at 330-264-8722 or email Lewandowski.11@osu.edu by **Thursday, August 11**. Make checks payable to Ohio State University Extension and mail to Ohio State University Extension – Wayne County, 428 W. Liberty St. Wooster, OH 44691. Please detach and return this form with payment. Thank you.

Name: _____

Address: _____

Phone Number: _____ E-mail: _____

The Ohio State University
College of Food, Agricultural, and Environmental Sciences

wayne.osu.edu

USDA
United States Department of Agriculture

Attention Specialty Crop Producers!

Free NAP Workshop

Non-Insured Crop Disaster Assistance Program (NAP)

August 18, 2016

6:30pm - 8:00pm

Madison County USDA Service Center
829 US Highway 42 NE
London, Ohio 43140

Come Learn!

No Cost!

What is NAP?

The Farm Service Agency administers NAP which provides financial assistance to producers of non-insurable crops when low yields, loss of inventory, or prevented planting occur due to damaging weather.
To read more about NAP coverage visit www.fsa.usda.gov/nap.

Workshop Highlights

Workshop highlights include:

- Explanation of NAP requirements, benefits, coverage levels, application, & payment processes.
- Discussion of reporting requirements and presentation by loss adjustor
- Overview of other FSA programs

To register, contact your local Farm Service Agency County Office, or email joseph.howard@oh.usda.gov by **August 5th**.
Registration is encouraged, though walk-ins are welcome!

Persons with disabilities who require accommodations to attend or participate in this meeting should contact Joe Howard at 740-852-4003 or Federal Relay Service at 1-800-877-8339 by August 5, 2016.

USDA is an equal opportunity provider, employer and lender.

OHIO STATE UNIVERSITY EXTENSION

PUMPKIN / UAV FIELD DAY

TOPICS:

- UAV and imagery basics
- Update on UAV / Downy & Powdery mildew project
- UAV flight & mapping demonstration
- Insect update
- Disease update
- 8 Powdery mildew fungicide demonstration plots
- 12 Powdery mildew tolerant/resistant hybrids variety trial

PRESENTERS:

Logan Dyer
John Fulton
Sally Miller
Claudio Vrisman
Lisa Fiorentini
Jim Jasinski
Wladimiro Villarroel
Celeste Welty

THE OHIO STATE UNIVERSITY
COLLEGE OF FOOD, AGRICULTURAL, AND ENVIRONMENTAL SCIENCES

THURSDAY
AUG. 18TH
6 - 8 P.M.

Western Ag Research Station
7721 South Charleston Pike,
South Charleston, OH 45368

Cost: $5 / person

Pre-register by August 15th
send email to:
Jasinski.4@osu.edu

OHIO STATE UNIVERSITY EXTENSION, SANDUSKY COUNTY
NORTH CENTRAL AGRICULTURAL RESEARCH STATION

OSU Vegetable Workshop Series

Join the staff at the North Central Ag Research Station near Fremont and OSU Extension on the 2nd Thursday of each month, April through October for catered breakfast, industry updates, and in-depth tips, tricks, and information from researchers to help make your 2016 growing season a profitable one! Attend when the topic suits you, or come each month and stick around after the speaker to view the OARDC field trials or network with peers and industry reps.

2nd Thursday: April – Oct.

Bring your plant disease and insect samples for identification and same day delivery to the OARDC lab, free of charge!

7:00 a.m Breakfast
with OSU and industry updates

7:30 a.m. Featured speaker

8:00 a.m. Field walk / networking

Held at NCARS office, No rsvp, No cost!

For more information contact:

Allen Gahler, OSU Extension Sandusky County
419-334-6340
gahler.2@osu.edu

Matt Hofelich, North Central Ag Research Station
419-332-5142
hofelich.4@osu.edu

Aug. 4: ***Sweet Corn Evaluation/tasting and insect management***
Mike Gastier, Extension Educator – Huron County
Celeste Welty, Extension Entomologist

Sept. 8: ***Pepper Evaluation and field walk***
Allen Gahler, Extension Educator – Sandusky County
Non-Insured Crop Disaster Assistance Program Briefing
Brenda Turley, CED – Henry County Farm Service Agency

Oct. 13: ***Soil Health and Water Quality - How does it affect me?***
A look at edge of field studies and NCARS water samples
Libby Dayton, OSU Soil Scientist

THE OHIO STATE UNIVERSITY
COLLEGE OF FOOD, AGRICULTURAL, AND ENVIRONMENTAL SCIENCES

oardc.osu.edu | sandusky.osu.edu

OHIO AGRICUTURAL RESEARCH AND DEVELOPMENT CENTER

OHIO STATE UNIVERSITY EXTENSION

Ohio State University Direct Marketing

Food & Agriculture

2016 Webinar Series

One-hour webinars will be offered to bring exceptional speakers to your home, office or local Extension center. If you're interested in finding out more about marketing issues, visit the website for details.

2016 Direct Marketing Webinar Series
All webinars begin at 12 noon

Date	Topic	Lead Presenter	Connection
Feb. 18	Marketing Trends Learned from the Super Bowl	Eric Barrett & Rob Leeds	http://carmenconnect.osu.edu/marketingtrends2016/
Mar. 2	Using All Your Senses in Branding Your Business	Eric Barrett & Rob Leeds	http://carmenconnect.osu.edu/brandingyourbusiness/
Apr. 21	Enhancing Your Web Presence	Melissa Carter	http://carmenconnect.osu.edu/enhancingwebpresence/
May 26	Product Recall & Traceability	Eric Pawlowski	http://carmenconnect.osu.edu/productrecallandtracibility/
June 16	Product Labeling	Emily Adams	http://carmenconnect.osu.edu/productlabeling/
July 21	Celebrate Ohio Local Foods Week	Heather Neikirk & Patricia Barker	http://carmenconnect.osu.edu/localfoodsweek/
Aug. 18	Produce Auctions	Brad Bergefurd	http://carmenconnect.osu.edu/auctionsforproduce/
Sept. 15	Pricing Your Products	Megan Leffew	http://carmenconnect.osu.edu/pricingproducts/
Oct. 20	Cooperatively Marketing Your Products	Hannah Scott	http://carmenconnect.osu.edu/marketingyourproducts/
Nov. 17	Using Facebook for Your Business	Duane Rigsby	http://carmenconnect.osu.edu/facebookforyourbusiness/
Dec. 15	Survey Results for Ohio Produce Marketers	Direct Marketing Team	http://carmenconnect.osu.edu/surveyresultsformarketers/

For recordings of all webinars go to go.osu.edu/DirectMarketingWebinars

THE OHIO STATE UNIVERSITY
COLLEGE OF FOOD, AGRICULTURAL, AND ENVIRONMENTAL SCIENCES

http://directmarketing.osu.edu

Bayer CropScience

THE OHIO STATE UNIVERSITY
COLLEGE OF FOOD, AGRICULTURAL, AND ENVIRONMENTAL SCIENCES

VegNet Newsletter

COLLEGE OF FOOD, AGRICULTURAL, AND ENVIRONMENTAL SCIENCES

Editor, **Brad Bergefurd**
Bergefurd.1@osu.edu
740.289.2071 Ext. 136

Co-Graphic Designer and Editor, **Charissa Gardner**
Gardner.1148@osu.edu
740.289.2071 Ext. 132

Co- Graphic Designer and Editor, **Abigail Fuhrmann**
Fuhrmann.13@osu.edu
OSU Student

http://vegnet.osu.edu/newsletter

Submit Articles:

To submit an article to the VegNet newsletter please send the article and any photos to **Brad Bergefurd** at bergefurd.1@osu.edu or for questions regarding the newsletter call 740.289.2071 ext.132

About the editor

Brad Bergefurd

Bergefurd is an Extension Educator, Agriculture and Horticulture Specialist with Ohio State University Extension, with statewide responsibilities for outreach and research to the agriculture and commercial fruit and vegetable industries Brad has offices at the OSU Piketon Research & Extension Center in Piketon and at OSU Extension Scioto County in Portsmouth.

Brad Bergefurd, MS

Extension Educator, Agriculture and Horticulture Specialist with Ohio State University Extension