

VEGETABLE CROPS HOTLINE

A newsletter for commercial vegetable growers prepared by the Purdue University Cooperative Extension Service



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Welcome to a New Year of Vegetable Crops Hotline

(Wenjing Guan, guan40@purdue.edu, (812) 886-0198)

Welcome to a new year of the *Vegetable Crops Hotline (VCH)*, Purdue Extension's newsletter for people in the business of growing vegetables. As usual, we will have fifteen issues throughout the 2019 growing season. The first issue of the year is sent to all who subscribed to *VCH* via US-mail in 2018 as well as new subscribers for 2019. To continue receiving future copies through US-mail, renew your *Hotline* subscription using the form attached to this issue. Note that we provide an up-to three years' subscription of *VCH* with a reduced price.

If you receive the issue through email, you will continue to receive the newsletters on the issue dates. In addition, you will receive emails if there are articles or announcements that need your immediate attention. These articles will be posted under *Hot Topics* and be included in the next issue. All the previous articles published in *VCH* are available on the website.

Frequently we include links to websites or publications available on-line. If you aren't able to access these

resources, please contact us or a local Extension office to request a hard copy of the information.

We hope you enjoy the newsletter, and have a happy and productive season in 2019.

Welcome New Faculty Dr. Brock Harpur

Please welcome Dr. Brock Harpur as a new Assistant Professor in Pollinator Biology. He joins the Department of Entomology, Purdue University. A native of British Columbia, Canada, Brock is a specialist in honey bee genetics and the evolution of social insects. He will take up honeybee research program plus provide extension expertise to beekeepers both professional and amateur, and citizens concerned about bees and pollinator conservation. Please contact Dr. Harpur at bharpur@purdue.edu



How Do Growing Media for Organic Production Compare?

(Liz Maynard, emaynard@purdue.edu, (219) 548-3674), (Petrus Langenhoven, plangenh@purdue.edu, (765) 496-7955), (Wenjing Guan, guan40@purdue.edu, (812) 886-0198) & (Lori Hoagland, lhoaglan@purdue.edu)

Getting seedlings off to a good start begins with a good growing medium for transplants. Growing media for organic production must meet the guidelines set out by the National Organic Standards Board, including not containing any synthetic substances (unless they have been approved for that use) or any prohibited materials. A number of products meet those criteria, and many of them are listed by the Organic Materials Review Institute (OMRI) to document that they meet the criteria.

Last year, with funding from a USDA Specialty Crops Block Grant through the Indiana State Department of Agriculture, a group at Purdue began evaluating commercially-available, OMRI-listed growing media for vegetable transplant production (Table 1).

Table 1. Growing media used in transplant production trials, 2018.

Product	Abbreviation	Source
Johnny's 512	J512	Johnny's Selected Seeds
Morgan Composting 201	M201	Morgan Composting
Penn Valley Potting Soil	PENN	Penn Valley Farms
PromixMP Organik	PMPO	BFG Supply
Seed Catapult	SCOE	Ohio Earth Food
Sunshine #1 Natural & Organic	SUN1	BFG Supply
Vermont Compost Fort Light	VCFL	Vermont Compost

The goal is to identify which media produce transplants that establish well and identify media physical and chemical characteristics associated with good performance. In addition, we want to understand microbiological differences in the growing media and whether those differences might influence crop performance in the field. We compared media in trials at Pinney Purdue Ag Center near Wanatah, HLA Growth Facility in W. Lafayette, and Southwest Purdue Ag Center, Vincennes.

The preliminary analysis of results from 2018 suggest that when tomato seedlings are grown without any added fertilizer beyond what the media supplies, growing media made with compost (J512, M201, PENN, SCOE, and VCFL) performs better than media without compost (PMPO and SUN1). 'Better growth' means plants in compost-containing media were heavier (in terms of dry weight, Fig. 1), taller (Fig. 2), had thicker stems (Fig. 3), more leaves on the main

stem (Fig. 4), and bloomed and set fruit earlier after being transplanted to the field (Fig. 5). Figure 6 shows plants from the first trial at Pinney Purdue Ag Center, which were seeded on March 13, 2018.

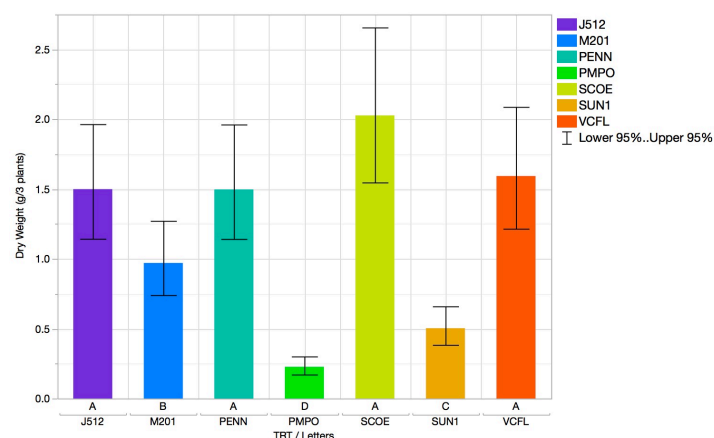


Fig. 1. Tomato seedling dry weight in seven transplant growing media, Indiana, 2018.

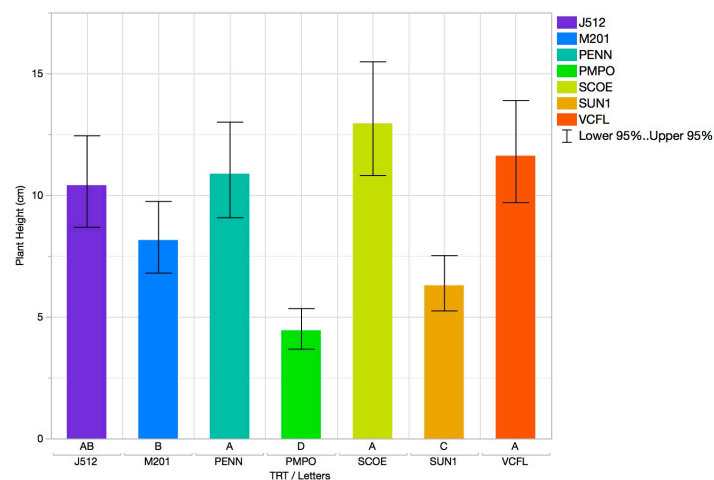


Fig. 2. Tomato seedling height in seven transplant growing media, Indiana, 2018.

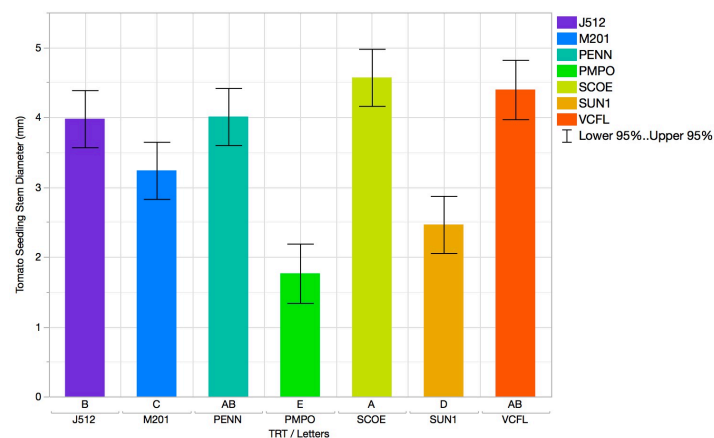


Fig. 3 Stem diameter of tomato seedlings grown in seven growing media, Indiana 2018.

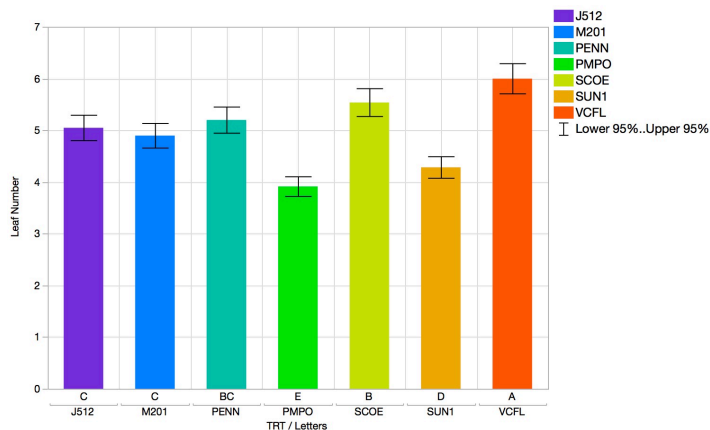


Fig. 4. Main stem leaf number 2 weeks after transplanting of tomato plants grown in seven transplant growing media, Indiana, 2018.

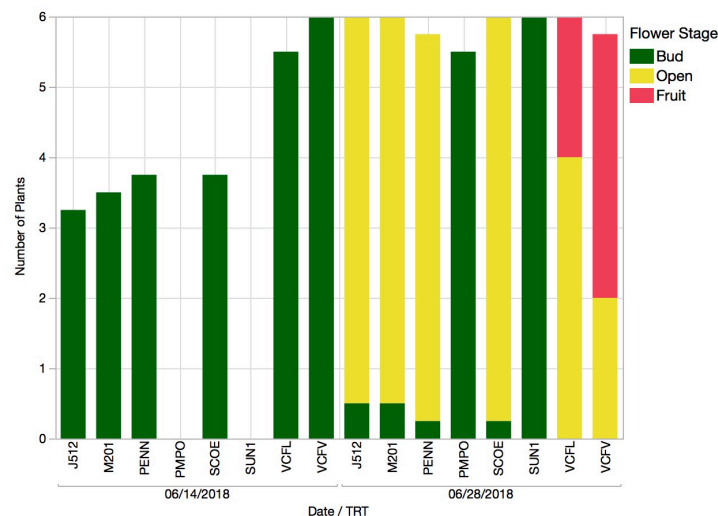
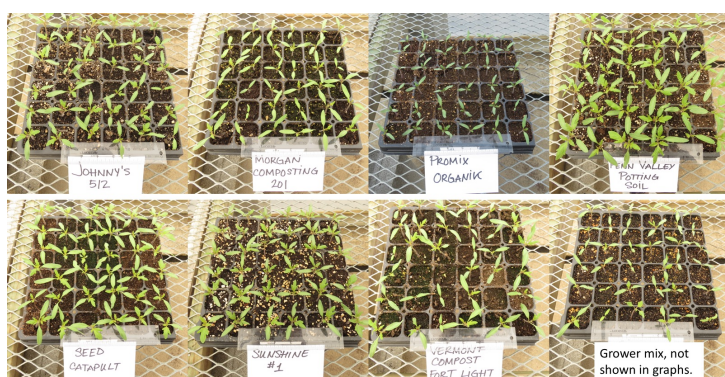
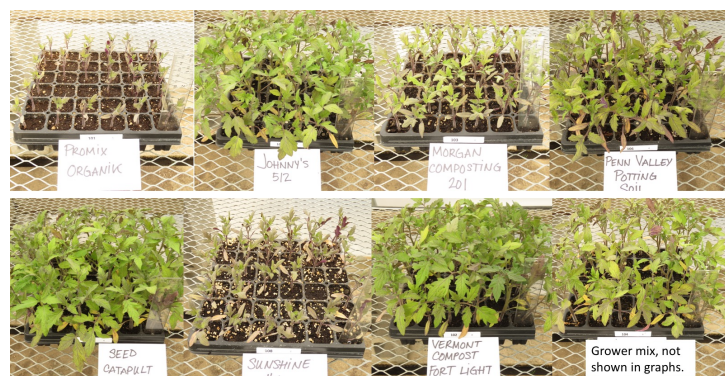


Fig. 5. Tomato plants with at least 1 bud, open flower, or fruit on first main stem truss, 2 and 4 weeks after transplanting, when grown in seven different media before transplanting. Pinney Purdue Ag Center, 2018.



Tomato Seedlings in Eight Transplant Growing Media, Pinney Purdue Ag Center, 2018. Trial 1. Seeded 3/13/2018, photo 3/30/2018.



Tomato Seedlings in Eight Transplant Growing Media, Pinney Purdue Ag Center, 2018. Trial 1. Seeded 3/13/2018, photo 4/23/2018.

Fig. 6. Tomato seedlings in eight transplant growing media, Pinney Purdue Ag Center, 2018. Trial 1. Seeded 3/13/2018, photo 3/30/2018 (top) and 4/23/2018 (bottom).

As is clear from Figs. 1-6, all growing media containing compost were not equal: seedlings grew faster in some than in others.

Averaged across all sites and trials, tomatoes performed best in SCOE and VCFL, followed by PENN, J512, and M201. Considering each site separately, the ranking of media differed. Figure 7 illustrates this for plant dry weight: VCFL performed very well at Pinney Purdue, but was in the middle of the pack at HLA. It isn't yet clear why particular media performed better at one location than at another, but one possibility is that different watering practices and/or temperature regimes could be responsible. We will be looking carefully at watering and temperature records to see if we can sort this out.

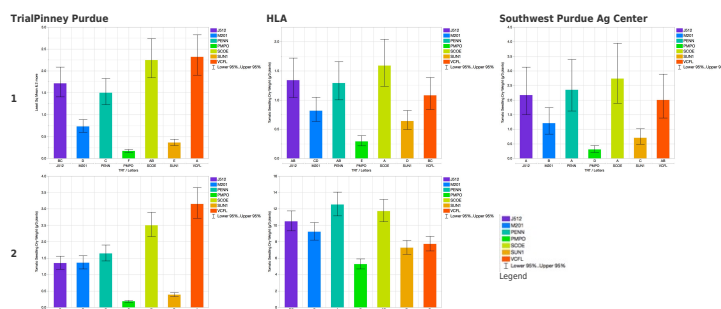


Fig. 7. Dry weight of tomato seedlings grown in seven growing media at three Indiana locations, 2018

This project is continuing in 2019. We will compare seedling growth and transplant establishment for plants grown in media with and without additional fertilizer supplied during transplant production. As in 2018, crops will include tomato at all locations, and cucumber, summer squash, and watermelon, spinach, and lettuce at one location each.

For now, we recommend choosing an organic growing medium that contains compost if no additional fertilizer will be applied during transplant production. If using an organic growing medium without compost, we suggest adding needed mineral nutrients (N-P-K) to the medium from an approved source. That source could be a solid fertilizer

mixed into the medium at an appropriate rate, or a liquid fertilizer applied regularly during transplant production. Nutrient deficiencies can develop very quickly, so we suggest applying fertilizers to media without compost as soon as plants emerge.

Collaborators on this project include Wenjing Guan, Lori Hoagland, Petrus Langenhoven and Liz Maynard.

Acknowledgment: This material is based upon work supported by the United States Department of Agriculture and the Indiana State Department of Agriculture under Award Number 16 SCBGPIN-0052.

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Dealing with Yield Decline in High Tunnel Tomatoes

(Wadih Ghanem, wghanem@purdue.edu)

High tunnels, though relatively new, have gained popularity over the past decade among specialty crop growers who want to extend their growing season. However, these environments can make crops vulnerable to the development of soil-borne diseases that reduce yield. This is particularly true for tomatoes, which are the most commonly grown high tunnel crop and can be highly susceptible to soil pathogens. For most field crops, rotation systems are already in place to combat a build-up of pests and pathogens. In field-grown tomatoes, for example, growers are advised to wait a period of 3 years before replanting tomato in a particular field to break the disease cycle. In high tunnels, rotation systems are more challenging to implement due to space limitations, which results in many growers employing a tomato-on-tomato system from one year to the next. This could be especially problematic for heirloom tomatoes, which are popular high tunnel tomato

varieties, that are prone to accumulating species specific soil-borne pathogens.

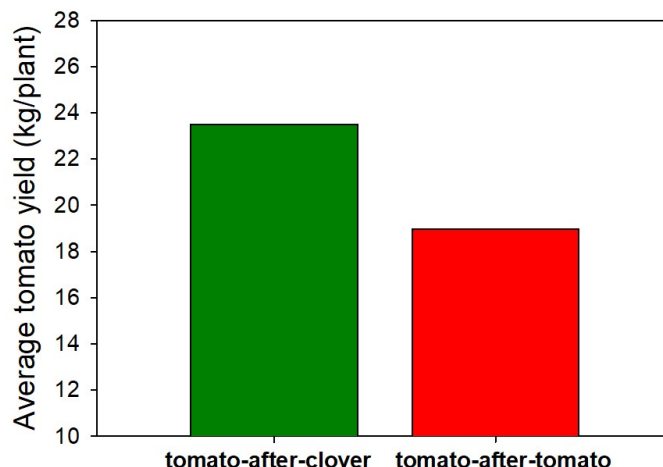


Figure 1. Tomato fruit yield after being planted in clover vs. tomato the previous growing season.

Figure 1 shows an experiment conducted over the course of 2 growing seasons 2017/2018, where in the initial year (2017) a variety of crops were planted including clover and tomato, while in the subsequent year (2018) tomato was planted and yields were compared. As indicated in Fig. 1, when tomato is planted after tomato, yields are approximately 20% lower than if tomato is planted after clover. The increase in yield is most likely due to a change in the microbial community of the soil after being cultivated with clover. Clover, a legume, alters the physical and biological nature of the soil by recruiting rhizobacteria for nitrogen fixation as well as providing competition for other soil borne pathogens detrimental to tomato.

To combat yield decline in high tunnel tomatoes, our research at the Meigs Horticulture Farm is exploring potential crop rotations within high tunnels that allow growers to still use a high intensity tomato rotation while incorporating more plant diversity to the system. To do so, we are incorporating a companion crop within the growing season (white clover) between the rows, and a winter crop in the off-season (winter hardy kale). We are also experimenting with grafting heirloom tomatoes onto wild relatives of tomato, as well as commercial rootstocks, to increase resistance to soil pathogens and stress. The reasoning behind these treatments is to alleviate the negative effects of growing tomato year in and year out, while still maintaining yield quality and quantity. This is an ongoing experiment that will span 3 growing seasons. We will update the research results of the project in the future issue of the Vegetable Crops Hotline newsletter.

For more information, please contact wghanem@purdue.edu

Yellow- and Orange-flesh Watermelons

(Wenjing Guan, guan40@purdue.edu, (812) 886-0198)

With the growing interest from consumers looking for new, unique products, yellow- and orange-flesh watermelons might create opportunities for small-sized growers to differentiate their products. This article answers a few questions you may have about growing and marketing these unique type of watermelons.

Yellow and orange-flesh watermelons usually have narrow strips with varying degree of green color as the background. The rind pattern is sometimes called tiger-striped rind pattern. There are also some cultivars that have similar outside appearance as the typical red-flesh watermelons.



Figure 1. An orange-flesh watermelon with the tiger-striped rind pattern

Like red-flesh watermelons, both seeded and seedless types of yellow- and orange-flesh watermelons are commercially available. Some examples of cultivars are listed in the table below.

Table 1. Example yellow- and orange- flesh seedless and seeded watermelon cultivars and their seed sources.

Cultivar	Flesh color	Size (lb.)	Shape	Seed Source
<i>Seedless cultivar</i>				
Amarillo	Yellow	13-15	Round	Jo, Si, Ru
Lemon ice	Yellow	10-12	Oval-round	NE, Ho
Orange crisp	Orange	17-19	Oval-round	Te, Jo, Si, Ru, St, Ha
Yellow buttercup	Yellow	14-16	Round	Si, Ru, St, Ha
Orchid sweet	Yellow	3-5	Round	Te
Treasure chest	Yellow	6-9	Round	Ho
<i>Seeded cultivar</i>				
Baby doll	Yellow	10-15	Oval	HM, Ho
New orchid	Orange	7-9	Oval-round	Jo
Orangeglo	Orange	25	Oblong	HM, BCH, Ho
Orange krush	Orange	17-20	Oval	NE, Ho

Sorbet swirl	Swirl of red and yellow	10	Oval-round	Jo
Sunshine	Yellow	8-10	Oval-round	Jo
New yellow baby	Yellow	6	Oval-round	St
Yellow doll	Yellow	5-7	Oval-round	St, Ha, Ho
Orange crunch	Orange to yellow	20	Round to slightly oblong	Te
New queen	Orange	5-6	Round	Te
Mountain sweet yellow	Yellow	20-35	Oblong	BHC
Desert king	Yellow	20	Oval	BHC
Early moonbeam	Yellow	5-8	Oval-round	BHC
Lemon krush	Yellow	16-18	Oval	NE

HM: High Mowing Organic Seeds; Te: Territorial Seed Company; Jo: Johnny's Selected Seeds; BCH: Baker Creek Heirloom Seeds; Si: Siegers Seed Co.; Ru:Rupp; NE:NEseed; Ho: Holmes Seed Company; St: Stokes; Ha:Harris

A few yellow- and orange-flesh watermelon cultivars were included in our 2018 watermelon variety trials conducted at the Southwest Purdue Ag Center in Vincennes, IN. Treasure chest (yellow flesh), Orange crisp (orange flesh), and Amarillo (yellow flesh) are seedless cultivars that were evaluated together with other 30 red-flesh commercial seedless watermelons. Baby doll (yellow flesh), Orangeglo (orange flesh) and Sorbet swirl (combination of yellow and orange flesh) were seeded watermelon cultivars that were evaluated together with other 6 red-flesh seeded watermelons. The trial was conducted in a fumigated field. Foliar diseases and insects were managed according to the Midwest Vegetable Production Guide for Commercial Growers.

The yield of the yellow- and orange-flesh watermelon cultivars

In the seedless watermelon trial, yields of the yellow- and orange- flesh varieties were higher than the average yield of 30 commercial red-flesh watermelons. Their yields were: Orange crisp (58,368 lb/acre), Treasure chest (53,884 lb/acre), Amarillo (53,561 lb/acre). It is encouraging to see that the three seedless yellow- or orange-flesh watermelon cultivars had an outstanding yield potential when they were grown under conditions without biotic and abiotic stresses. However, growers should be cautious that yellow- and orange-flesh watermelons tend to lack disease resistance, such as Fusarium wilt. In contrast, partial resistance to the pathogens have been incorporated into many popular red-flesh commercial watermelon cultivars. In our seedless watermelon trial conducted in 2010, Treasure chest was one of the most susceptible cultivars to Fusarium wilt.

Regarding the seeded cultivars, the yield of Baby Doll

(55,801 lb/acre) was comparable to other red-flesh cultivars, but the yield of Orangeglo (51,231 lb/acre) was lower. The yield of Sorbet swirl was the lowest in this trial (35,716 lb/acre), primarily because Sorbet swirl was an early variety with a very small canopy that leads to a significant yield loss caused by coyote damage in this trial.



Figure 2. A small canopy of Sorbet swirl, and the damaged fruit caused by coyotes.

Fruit size and quality of the yellow- and orange-flesh watermelon cultivars

Average fruit size of the cultivars were: Treasure chest (16.8 lb), Amarillo (14.7 lb), Orange crisp (15.4 lb), Baby doll (15.7 lb), Orangeglo (20.1 lb), Sorbet swirl (12.77 lb). Treasure chest produced much larger fruit than what was reported by seed companies (6-9 lb) in the short row trial. Orangeglo has oblonged fruit with average 15'-length and 9'-width. Other cultivars produce oval to round fruit. Sugar content of most of the yellow- and orange-flesh varieties were in the similar range as the red-flesh watermelons. Orangeglo had a higher Brix value (11.6 °Brix) compared to other red-flesh seeded watermelons. The value of flesh firmness of the yellow- and orange-flesh melons were lower compared to most red-flesh cultivars. Hollow heart symptom was frequently observed and more severe for the yellow- and orange-flesh watermelons compared to most red-flesh watermelons. Orangeglo, Amarillo and Treasure chest are particularly susceptible to hollow heart in the trial.

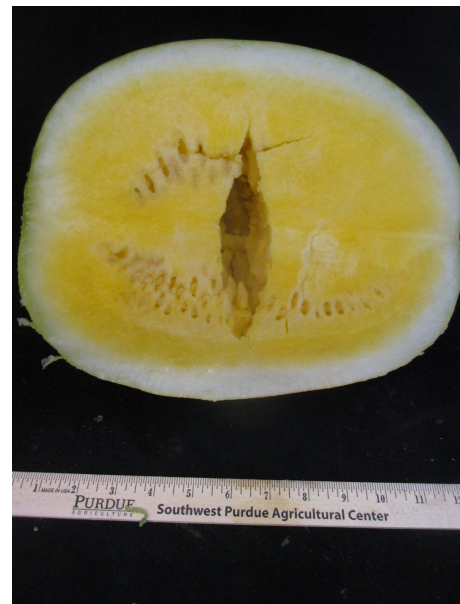


Figure 3. A yellow-flesh watermelon fruit with severe hollow heart symptom.

Consumers' response to the yellow- and orange-flesh watermelons

We conducted an informal taste test at the 2018 Knox County Watermelon Festival, where we served the above-mentioned yellow- and orange-flesh watermelons as well as Fascination, one of the most popular red-flesh watermelons. Not surprisingly, more people rated the red-fleshed watermelon Fascination as their favorite watermelon. The second highest rated watermelon was Treasure Chest and then followed by Amarillo. People told us that before tasting the yellow-flesh watermelon, they thought it appeared to be pineapple, while orange-flesh fruit reminded them cantaloupe. Several people commented that they were willing to purchase the yellow- or orange-flesh watermelons with good taste. Other people thought they probably won't purchase yellow or orange-fleshed watermelon if they had not tasted it before.

Watermelon Cultivar Update from the 2018 Indiana Watermelon Variety Trial

(Wenjing Guan, guan40@purdue.edu, (812) 886-0198)

Watermelon variety trials are conducted every year at the Southwest Purdue Agricultural Center in Vincennes, IN. In the 2018 trials, it included 38 standard-size seedless watermelon cultivars and 10 personal-size watermelons. This article discussed the top yielding varieties in our trials in 2018. The full report of the variety trials, and information about the previous trials can be found at <https://ag.purdue.edu/arge/swpap/Pages/SWPAPPDFPresentations.aspx>

Standard size seedless watermelons

Tailgate is a new cultivar from Seminis. First time entered into our evaluation in 2018. Tailgate had the top yield variety in the 2018 trial. It produced large-sized fruit, average fruit weight was 18.5 lb, 37% fruit in 36 counts and 20% in 30 counts category. Firm flesh, good quality. Tailgate was one of the five cultivars that did not have hollow heart fruit among the 12 fruit selected for the quality test.

Bottle Rocket had a consistent high yield in both 2017 and 2018 trials. Average fruit weights were 15.8 and 17.4 lb in 2017 and 2018 trials, respectively. Firm flesh, good quality. Bottle Rocket was also one of the five cultivars that did not have hollow heart fruit among the 12 fruit selected for the quality test.

Excursion has been evaluated in our trials in the last years, and it consistently had a high yield. Excursion also produces large size fruit, average fruit weight was from 17.4 to 17.7 lb. More than 50% fruit in 36 counts or 30 counts category. Excursion was an early ripening variety, it consistently had higher yield in the first harvest.

Red Amber was evaluated in our trials in 2017 and 2018, and had a high yield in both years. Average fruit sizes were 16.6 and 16.1 lb. About 40-45% in 45 count category, and 30-35% fruit in 36 or 30 count category.

Traveler was in our evaluations since 2013. It had high yields in 2015, 2016 and 2018. In 2015, the watermelon variety trial was affected by Fusarium wilt that affected the yield of several cultivars. While Traveler had a relatively higher yield. Traveler had smaller size fruit compared to other top yielding cultivars. Average fruit weight ranged from 12.9 to 15.1 lb, most fruit in 60 or 45 count category.

Embassy was in our evaluations in the past three years and it consistently had high yields. Average fruit weight of the cultivar ranged from 14.6 to 16.7 lb, majority fruit in the 45 count category.

9651 was a sugar baby type watermelon that has solid green rinds. Fruit shape is round to oval. It had a consistently high yield in both 2017 and 2018 trials. Average fruit weight was 17 lb in 2018, and 15.7 lb in 2017.

Personal (mini) size watermelons

It is generally agreed that the ideal size of mini watermelons is about 6-7 lbs. In the past three years, we found the top yielding cultivars in this group often produced 20-30% fruit with larger sizes that may prevent them from being marketed as personal (mini) size watermelons. Examples include cultivar Extazy, Sirius Mini, Tigris, and Krimson Kiss.

Ladybelle is a promising cultivar in our trial in 2018. It had a comparable yield (by weight) as cultivar Extazy, while it produced more fruit with smaller sizes and thinner rind

compared to Extazy.

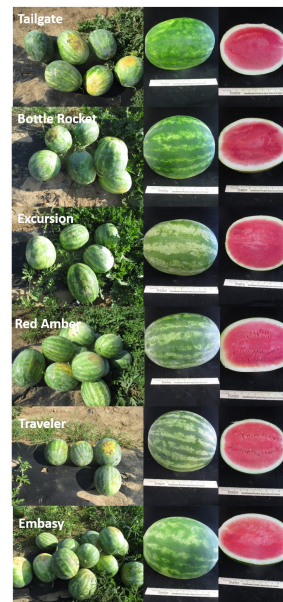


Figure 1. Standard size seedless watermelon cultivars.

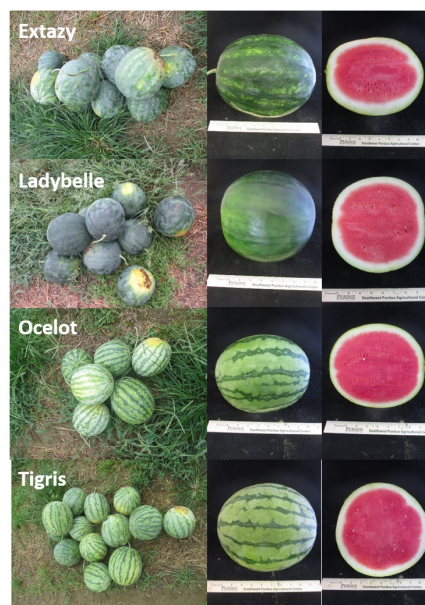


Figure 2. Personal size (mini) watermelon cultivars.

Cover Crop Recipes for Cover Crop Users in Indiana

Cover crops can be a useful conservation practice for improving soil health, scavenging and recycling nutrients, reducing erosion, and contributing to more resilient cropping systems over the long term. Two new extension publications about Cover Crop Recipes for Indiana are available at the Purdue Education Store:

https://edustore.purdue.edu/item.asp?Item_Number=AY-356-W

https://edustore.purdue.edu/item.asp?Item_Number=AY-357-W

There is also a webinar scheduled on Feb. 22 at 10 am EST

for a discussion of the new Indiana cover crop recipe. More information about this event and the publications are available at the Midwest Cover Crops Council website <http://mccc.msu.edu/getting-started/cover-crop-recipes/>

Learn How to Graft Cucumber and Tomato Plants

(Wenjing Guan, guan40@purdue.edu, (812) 886-0198)

Tomato and Cucumber growers who are interested in grafting tomato and cucumber plants by themselves may find this information helpful.

Step-By-Step instruction of how to graft tomato plants is available from Purdue Extension publication *Vegetable Grafting: Techniques for Tomato Grafting* https://mdc.itap.purdue.edu/item.asp?Item_Number=HO-260-W as well as a Purdue Extension video <https://www.youtube.com/watch?v=7Ufx66lsf88>

A cucumber grafting instruction was also recently released. It provides step-by-step guidance of cucumber splice grafting technique. The publication is available at <https://www.extension.purdue.edu/extmedia/HO/HO-328-W.PDF>



How to Splice Graft Cucumber Plants

Wenjing Guan
Purdue Horticulture and Landscape Architecture – ag.purdue.edu/H&A

report submission, tax payments and information on account issues.

The first phase of the redesign will be completed by April 30 and will include: online, printable copies of notices and mailings; intuitive menus featuring easier to read fonts and graphics; simplified user roles; consolidated wage and contribution reporting; and fully integrated electronic payment options.

“The redesign of the ESS is a much needed and welcome upgrade to the ESS user experience,” said Gina Ashley, DWD Chief Unemployment Insurance and Workforce Solutions Officer. “These upgrades are the result of two years of conducting employer surveys and identifying of best practices. Businesses that use the ESS to access their Unemployment Insurance account, submit reports and make payments will find a more intuitive and user-friendly tool.”

Beginning in the first quarter of 2019, employers will file one quarterly report, and electronic filing will be required. A fully integrated electronic payment system with a free e-check option eliminates the need to go to a separate website to pay.

In the future, employers will be able to use their email addresses to access the ESS system, use shared services for payroll and reporting, and designate multiple people to receive critical DWD communications like merit rate notices via online access.

DWD launched ESS in 2007 to provide employers with online access to their Unemployment Insurance account information, which includes submitting reports, making tax payments and learning about any issues affecting their accounts.

DWD embarked on the redesign after surveying employers to learn what changes they would most like to see to the ESS system. The purpose of the effort is to deliver better government service (one of Gov. Holcomb’s pillars of his NextLevel Agenda) to employers and their agents with an easy-to-use system that promotes a paperless environment.

The improvements to the ESS system also will lead to increased reporting accuracy, reduced opportunities for benefit fraud and better data for informed decision-making.

For more information, visit www.in.gov/dwd/ess_faqs.htm.

Major Redesign Coming to Uplink ESS

The Indiana Department of Workforce Development is undertaking a major redesign of its Uplink Employer Self-Service system (ESS) to better meet the needs of employers.

ESS provides employers with online access to Unemployment Insurance account information, including

Midwest Vegetable Trial Reports from 2018 are Online

(Liz Maynard, emaynard@purdue.edu, (219) 548-3674)



Looking for information about new crop varieties? Reports from trials conducted in 2018 are available online at <https://ag.purdue.edu/hla/fruitveg/Pages/mvtr2018.aspx>. You will find reports on variety performance of widely-grown crops such as sweet corn, pumpkin, summer squash and zucchini, melon, watermelon, picking cucumber, and bell pepper, as well as specialty crops including heritage beans, and mole and other specialty peppers.

Crops evaluated in high tunnels included Italian eggplant, colored sweet pepper, summer squash and zucchini, and tomato. One of the tomato trials evaluated varieties in a no-till system following cover crops. The other tomato trial compared soil blocks and pots for transplant production, and included six varieties grown to harvest in both high tunnel and field.

The Midwest Vegetable Trial Reports are just one place to find vegetable research reports from Land Grant Universities. The list below provides links to reports from other programs in the Great Lakes Region, Midwest, and Northeast.

Delaware Variety Trial Results

<http://extension.udel.edu/ag/vegetable-fruit-resources/vegetable-small-fruits-program/variety-trial-results/>

Kentucky Univ. Kentucky – Dept. of Horticulture – Commercial Vegetables – Research Reports

<http://www.uky.edu/hort/documents-list-commercial-vegetable>

Maine Cooperative Extension at Highmoor Farm

<https://extension.umaine.edu/highmoor/research/>

Massachusetts UMass Vegetable Program – Field

Trials <https://ag.umass.edu/vegetable/outreach-project/field-trials>

New Hampshire Applied Vegetable & Fruit Research in New Hampshire

<https://extension.unh.edu/tags/applied-vegetable-fruit-research-new-hampshire>

New Jersey Rutgers Variety Trials Archive

<https://nj-vegetable-crops-online-resources.rutgers.edu/variety-trials-archive/>

New York

Cornell Processing Vegetable Variety Trials

<https://hort.cals.cornell.edu/research/labs/reiners-lab/process-ing-vegetable-variety-trials/>

Cornell Cooperative Extension – Vegetable Program

Database, search for ‘variety’

https://cvp.cce.cornell.edu/search_results.php?q=variety&x=0&y=0

Ohio The Ohio State University – CFAES – VegNet

<https://vegnet.osu.edu/pest-management/vegetable-trials>

Ontario Univ. of Guelph – Muck Crops Research Station

<https://www.uoguelph.ca/muckcrop/annualreport.html>

Rhode Island Univ. of Rhode Island Vegetable Production Research Reports

https://digitalcommons.uri.edu/riaes_bulletin/

Wisconsin

Northern Organic Vegetable Improvement Collaborative (NOVIC) <http://www.uworganic.wisc.edu/novic/>

Seed to Kitchen Collaborative

<https://seedtokitchen.horticulture.wisc.edu/trial-results.html>

U.S. Organic Organic Variety Trial Reports

<https://varietytrials.eorganic.info>

Vegetable Meeting Presentations Online

(Liz Maynard, emaynard@purdue.edu, (219) 548-3674)

Presentations from many past Purdue educational programs for vegetable growers are available online at

<https://ag.purdue.edu/hla/fruitveg/Pages/presentations.aspx>.

Slides from the 2019 Illiana Vegetable Growers Symposium are available now. Indiana Hort Congress presentations will be available soon.

Upcoming Events

2019 Indiana Small Farm Conference

Date: February 28 to March 2, 2019

Location: Hendricks County Fairgrounds in Danville, Indiana

Registration ends 2/20/19. More information about the conference can be found at

<https://www.purdue.edu/dffs/smallfarms/>

Michiana Greenhouse & High Tunnel Growers Meeting

Date: March 5, 2019 9:00 am – 3:30 pm

Location: Elkhart County 4-H fairgrounds. 17746 County Rd 34, Goshen, IN

Topics of the grower meeting include: Update on current research in greenhouse and high tunnels – what is new and emerging for 2019? How to use greenhouse lighting to improve quality and reduce production time; High tunnel irrigation and fertility management considerations; Disease and disorders from seed to transplant; Insect pest control & how effective are predators; Driftwatch update

More information about the meeting can be found at <https://extension.purdue.edu/Elkhart/article/31851>

Southeastern IN Vegetable Growers Meeting

Date: March 7, 2019 6:00 pm – 9:00 pm EST

Location: Floyd County 4-H Fairgrounds, 2818 Green Valley Road, New Albany, IN 47150

Topics include: Vegetable disease management update, vegetable grafting, personal protective equipment. Registration from 5:30 to 6:00 pm. Please contact Gina Anderson (812) 948-5470, gmanders@purdue.edu for more information about the meeting.

Southwest Melon and Vegetable Growers Annual Meeting

Date: March 8, 2019 8:30 am – 4:00 pm EST

Location: 8670 W. State Rd. 56, French Lick, IN 47432

Topics include: watermelon production in Georgia, food safety update, irrigation of cucurbits, pollinator safety, health of watermelon transplants, and putting the sprayer on the road. Those who attend the afternoon session, from 1:30 until 3:30 will receive Private Applicator Recertification Credit (PARP). Registration is \$15 and includes lunch. Individuals who want PARP certification should bring \$10. Please direct questions to Dan Egel, (812) 886-0198;

egel@purdue.edu.

Cover Crop Workshop & Field Tour

Date: Thursday, April 4, 2019 9:00 – Noon

Location: SEPAC – 4425 E. 350 N., Butlerville, IN 47223

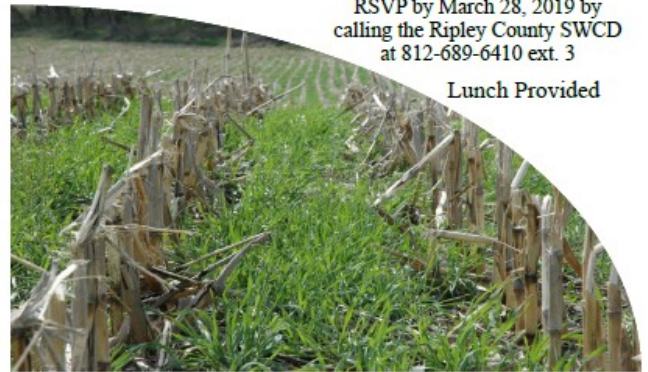


Cover Crop Workshop & Field Tour

Thursday, April 4, 2019 9:00 – Noon
SEPAC – 4425 E. 350 N., Butlerville, IN 47223

Topics to Include:

Drainage & Cover Crop Success - Eileen Kladvik, Purdue University
Drainage Videos & Lessons Learned - Wes Summers, Wesley's Excavating
Benefits & Challenges - Shalamar D. Armstrong, Purdue University
Soil Basics - David Osborne—Purdue Extension & Alex Helms—SEPAC, & Dena Anderson, NRCS



RSVP by March 28, 2019 by
calling the Ripley County SWCD
at 812-689-6410 ext. 3

Lunch Provided

Sponsored By:
Central Muscatatuck Watershed, Ripley Soil & Water Conservation
District, & Ripley County Purdue Extension
FREE Lunch

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