



IN THIS ISSUE:

- [Message From the Director](#)
- [Agents Corner](#)
- [What's That Bug?](#)
- [Basic Irrigation Management for Vegetables](#)
- [Grower Collaborators Needed](#)
- [Soil Fertility Office Hours](#)
- [Contact Us](#)



The Stalk

VOLUME I ISSUE IX



MAY 2021

ESAREC Participates in Virtual 5K



ESAREC faculty, staff, students and summer assistants came together to pay respect to the 32 individuals who lost their lives on April 16th, 2007 at Virginia Tech by participating in the 2021 Virtual Run for Remembrance.

**HELP
Wanted**

From The Director

We are looking forward to further expanding research and extension programming as restrictions related to the COVID-19 pandemic are relaxed. We enjoyed seeing many of you in-person at our cover crop field day in April and look forward to our Summer Research Field Day that is tentatively scheduled for July 21, 2021. Mark your calendars and stay tuned for more information in the next month's newsletter. As we expand, we are also expanding our team at the Eastern Shore AREC. We are currently advertising to hire a new classified staff position as Assistant Farm Manager (Job Number: 515922). This person will assist Tommy Custis, Farm Manager, and James Warren, Farm Mechanic, with research implementation, maintenance, harvest, and data collection. The candidate should be expected to have or be able to receive a commercial driver's license and category 10 pesticide license within 6-months of employment. Experience managing production of various grain, oilseed, and vegetable crops is required with an associate's degree or higher in an agricultural related field preferred. To find more information and to apply, please visit: <https://tinyurl.com/ycc64b7h>. We look forward to finding additional team members to further support extension and research activities here on the Eastern Shore and across Virginia! Let us know if you have any needs to assist you further as you feed the world. — Mark

Agents Corner

Thanks to all the producers who were able to come out and participate in the ESVA Cover Crop Workshop on April 20th, we shared some important information from the ES Soil and Water Conservation District about cost-share sign up and extended fall planting dates. We appreciate the financial support from the General Assembly that goes directly to helping growers get cover crops planted in the ground.

As more Virginia residents become vaccinated and the Governor relaxes restrictions, our VCE offices will be able to host more in-person events and maybe the ES Ag Conference in 2022. We will keep you updated on our planning processes and hope that you will consider attending some of our future events. As for now we have a few things planned....



Ursula & Theresa

Soil Fertility Office Hours

Soil Fertility "office hours" are being offered at the Eastern Shore AREC with Dr. Mark Reiter and Smith Ag and Environmental on Wednesday, May 26th from 9am - 11am. Dr. Reiter will be on hand to answer questions regarding side dressing corn, fall nutrient applications, and Christy Smith will speak to manure applications and the new transport program. Due to COVID restrictions, we request that you register for this event. You can call/text or email your County Agent to register. See [Page 4](#) for additional information.

Eastern Shore Pest Management Program

VCE Agents will continue our annual pest management program by placing bug traps in corn and soybean fields and monitoring insect thresholds. We will monitor traps weekly and share our findings via email with growers who are interested. If you do not currently receive emails from Ursula or Theresa, please consider sharing your email address with them in order to receive this timely information. If you would like to have a trap placed in your field, please let your County Agent know.

VA Household Water Quality Testing Clinic

The Accomack and Northampton VCE offices will be hosting the VA Household Water Quality Testing Clinic here on the Shore in July 2021. If you or someone you know would like to have their household well tested for contaminants, please contact your County Agent for more information.



WHAT'S THAT BUG?



The Entomology Department at the Eastern Shore AREC invites you enter May's "What's That Bug?" contest. Email responses to hdoughty@vt.edu for your chance to win a prize!

*Quick tip, you can also email H el ene pictures of your field or garden pests to identify!

APRIL'S BUGS



Did you guess a Colorado Potato Beetle & a Two Spotted Stink Bug? Click [here](#) to learn more!

Basic Irrigation Management for Vegetables

Dr. Emmanuel Torres , Horticulture

The Horticultural science lab at the ESAREC is up and running! This summer we are going to focus on developing sustainable strategies for improving water management in vegetable production on the shore, and with that in mind we wanted to refresh a couple of basic concept of irrigation management.

Irrigation management is the backbone of many vegetable production systems. Water is essential for tissue development and maintenance, temperature regulation, and nutrient uptake since fertilizer can only move inside the plant through the existing water near the roots. However, defining the correct irrigation volume can be challenging. Fortunately, there are several simple concepts and methods we can use to determine this parameter.

First, let's estimate how much water the plant needs: the basic premise is that we need to supply enough water to satisfy our crop requirement. The problem is that the soil and the air surrounding the plants will also retain some of the water applied. Therefore, if a plant requires one gallon of water per day for transpiration, chances are that some of the applied water will be retained by the soil and/or evaporate. Given that all these processes happen at the same time, we commonly refer to their combined interaction as reference evapotranspiration (ET_o).

We then used this parameter to estimate the real crop water requirement. How do we do that? Through many years of investigation, researchers have been able to determine numerical relationships between ET_o and water requirements of different vegetables through their growing stages. These numbers are commonly called crop coefficients (K_c). So back to the original question, how much water the plant needs? The answers can be found by multiplying the ET_o at your location by your corresponding crop K_c as follows:

Crop water requirement (ET_c) = Crop coefficient (K_c) x Reference evapotranspiration (ET_o)

$$ET_c = K_c \times ET_o$$

Many growers rely on historical weather data to determine crop evapotranspiration and supply a predetermine irrigation volume once a day. The only problem with this approach is that it does not take into consideration your soil texture. Therefore, sandy soils could easily be depleted of water before the end of the day, while soils with a heavy clay content could stay saturated for a long time and promote losses due to runoff and low oxygen content near the roots. Some alternative approaches to determine your irrigation scheduling would be the use of tensiometers or soil moisture sensors.

Here is a list of single (time-averaged) crop coefficients (K_c) for non-stressed, well-managed crops in sub-humid climates for use with the FAO Penman-Monteith ET_o, for traditional crops in the Eastern Shore.

Crop	Initial K _c	Mid-season K _c	End K _c
Broccoli	0.7	1.05	0.95
Tomato	0.6	1.15	0.90
Squash	0.6	0.95	0.75
Potato	0.5	1.15	0.75
Sweet corn	0.7	1.15	1.05

Adapted from FAO Irrigation and drainage paper No. 56 (<http://www.fao.org/3/x0490e/x0490e00.htm>).

Lengths of crop development stages may vary substantially from region to region, with climate and cropping conditions, and with crop variety. The reader is strongly encouraged to obtain appropriate local information.

Grower Collaborators Needed

Tomato season is here and the ESAREC needs your help to improve irrigation and pest management practices. Grower collaborators are wanted to conduct on-farm evaluations in 2-3 locations across the Eastern Shore this summer. We will determine the relationship between spider mite infestations and water management in tomato crops with the ultimate purpose of improving irrigation practices that mitigate spider mite outbreaks.

Two irrigation regimens will be evaluated in each location: 1) growers common irrigation practice, and 2) irrigation based on soil water sensors. The hourly water content will be recorded, as well as soil and air temperature around the tomato canopy.

Approximately 2 acres per location will be under a reduced (2 insecticide applications max.) insecticide applications for 5 weeks. Spider mites will be monitored weekly to identify regions of early infestations and to generate distribution maps.

If you would like to participate, please contact Lorena Lopez at lorelopezq257@vt.edu or 954/529-9042.



Pre-Registration required
Don't forget your mask!!

Soil Fertility Office Hours

WITH DR. MARK REITER, SMITH AG AND ENVIRONMENTAL & VIRGINIA COOPERATIVE EXTENSION

Soil Fertility office hours are being offered at the Eastern Shore AREC with Dr. Mark Reiter and Smith Ag & Environmental on **Wednesday, May 26th from 9am - 11am**. Dr. Reiter will be on hand to answer questions regarding side dressing corn and fall nutrient applications and Christy Smith will answer questions on manure/biosolid applications, the new transport program



Virginia Cooperative Extension
Virginia Tech • Virginia State University
www.ext.vt.edu

Virginia Cooperative Extension programs and employment are open to all, regardless of age, color, disability, gender, gender expression, national origin, political affiliation, race, religion, sexual orientation, genetic information, veteran status, or any other basis protected by law. An equal opportunity/affirmative action employer. Issued in furtherance of Cooperative Extension work, Virginia Polytechnic Institute and State University, Virginia State University, and the U.S. Department of Agriculture cooperating. Edwin J. Jones, Director, Virginia Cooperative Extension, Virginia Tech, Blacksburg, M. Ray McKinnis, Administrator, 1800 Extension Program, Virginia State University, Petersburg.



TO REGISTER: CONTACT YOUR COUNTY AGENT
THERESA PITTMAN - TPITTMAN@VT.EDU//757-787-1361
URSULA DEITCH - URSULA@VT.EDU//757-678-7946



Eastern Shore Agricultural Research and Extension Center

33446 Research Dr.

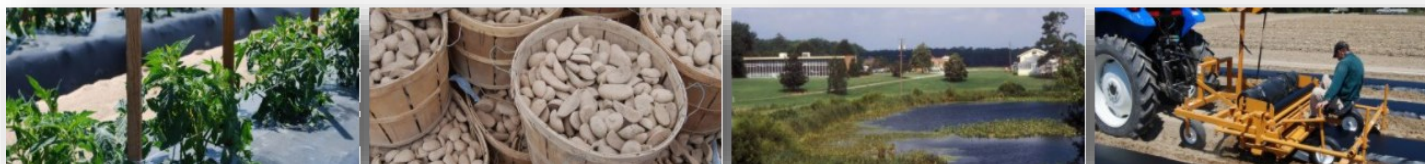
Painter, VA 23420

Phone: 757-807-6586

<https://www.arec.vaes.vt.edu/arec/eastern-shore.html>

The Virginia Tech, Eastern Shore AREC is committed to supporting commercial vegetable, grain, oilseed, and fiber production throughout the Commonwealth of Virginia. Centrally located on Virginia's Eastern Shore, the center conducts basic and applied research on more than 25 agricultural crops.

If you are a person with a disability and desire any assistive devices, services or other accommodations to participate in any activity, please contact Lauren Seltzer at 757-807-6586* (*TDD number is (800) 828-1120) during business hours of 7:30 a.m. and 4:00 p.m. to discuss accommodations.



ESAREC & VCE Contact Information

ESAREC Faculty	Email	Work Phone	Cell Phone	Title
Mark S. Reiter	mreiter@vt.edu	757/807-6576	757/693-2556	Director/Associate Professor, CSES
Vijay Singh	v.singh@vt.edu	757/807-6579	479/713-0094	Assistant Professor, Weed Science
Emmanuel Torres	etorres@vt.edu		352/682-0708	Associate Professor, Horticulture
Lorena Lopez	lorelopezq257@vt.edu		954/529-9042	Postdoctoral Associate, Entomology

ESAREC Staff	Email	Phone	Title	
James Custis	jcustis@vt.edu	757/807-6596	Farm Manager	
Hélène Doughty	hdoughty@vt.edu	757/807-6592	757/999-0780	Research Specialist, Entomology
John Mason	masonje@vt.edu	757/807-6582		Research Specialist, CSES
Lauren Peyton Seltzer	mlpeyton@vt.edu	757/807-6586	757/710-5701	Executive Secretary
Joy Zuchel	jzuchel@vt.edu	757/807-6583	757/710-1761	Research Specialist, Horticulture

VCE Faculty	Email	Phone	Address	Title
Ursula Deitch	ursula@vt.edu	757/678-7946	16392 Courthouse Road Eastville, VA 23347	ANR Agent, Northampton County
Theresa Pittman	tpittman@vt.edu	757/787-1361	23185 Front Street Accomac, VA 23301	ANR Agent, Accomack County

Virginia Cooperative Extension programs and employment are open to all, regardless of age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, genetic information, veteran status, or any other basis protected by law. An equal opportunity/affirmative action employer. Issued in furtherance of Cooperative Extension work, Virginia Polytechnic Institute and State University, Virginia State University, and the U.S. Department of Agriculture cooperating. Edwin J. Jones, Director, Virginia Cooperative Extension, Virginia Tech, Blacksburg, VA 24061, United States; M. Ray McKinnie, Administrator, 1890 Extension Program, Virginia State University, Petersburg, VA, United States.

