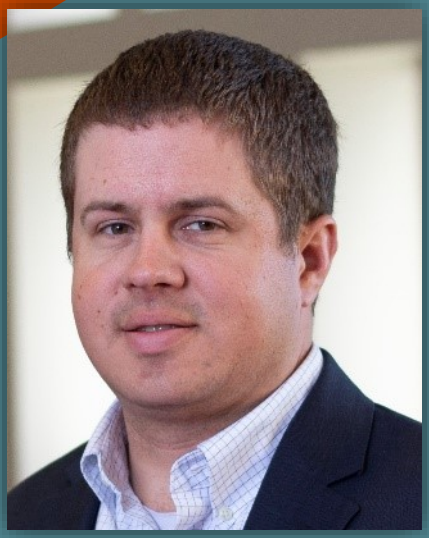
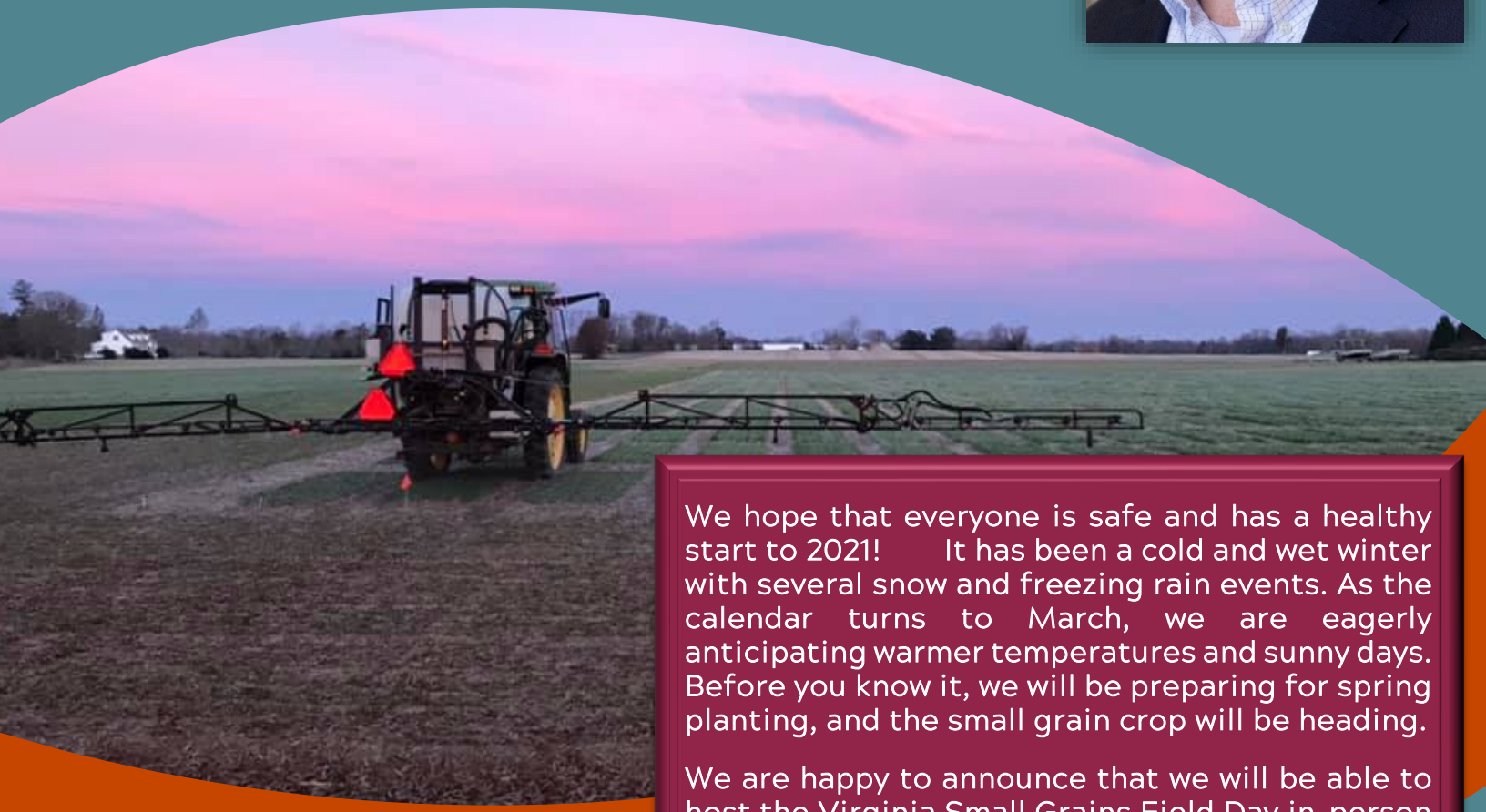
VIRGINIA AGRICULTURAL EXPERIMENT STATION
EASTERN VIRGINIA AGRICULTURAL
RESEARCH AND EXTENSION CENTER
VIRGINIA TECH

EASTERN VIRGINIA AREC NEWSLETTER

VOLUME II, ISSUE I
March 2021

Dr. Joseph Oakes
Superintendent
Eastern Virginia AREC





We hope that everyone is safe and has a healthy start to 2021! It has been a cold and wet winter with several snow and freezing rain events. As the calendar turns to March, we are eagerly anticipating warmer temperatures and sunny days. Before you know it, we will be preparing for spring planting, and the small grain crop will be heading.

We are happy to announce that we will be able to host the Virginia Small Grains Field Day in-person on May 20, 2021. Join us that morning for a look at the latest research from the small grain breeding team, and a look into SmartFarm Innovation Network™ research projects here at the center. This event will be conducted in a safe manner as CDC and state guidelines for physical distancing and masking will be followed. This will be a hybrid event, so if you are unable to join us, the field stops will be available on YouTube.

- Joseph

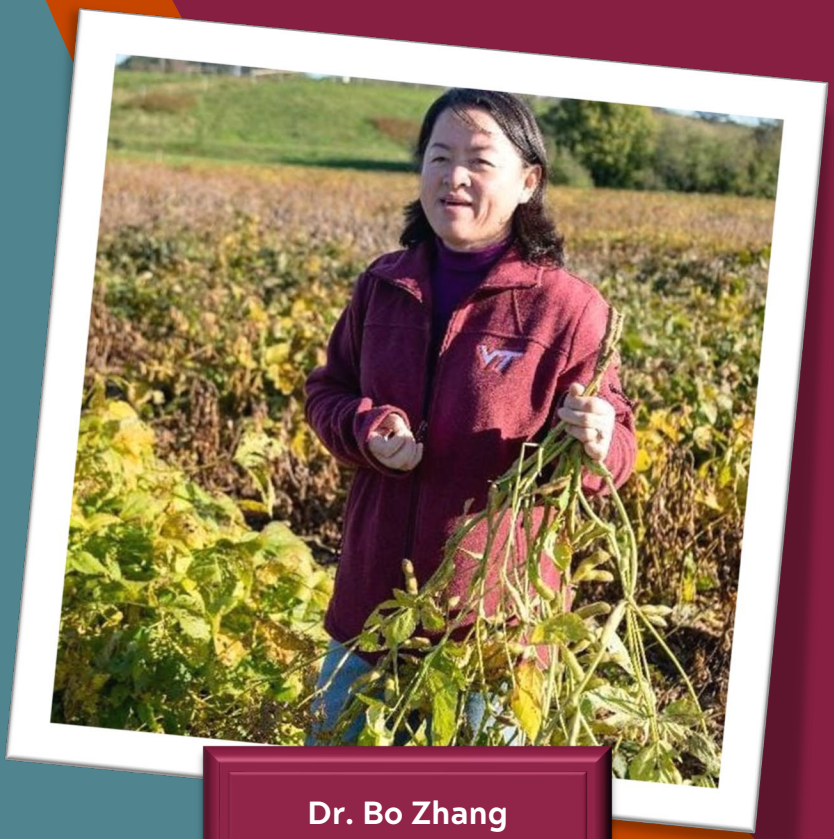
follow us:

YouTube

March Research Highlight!

Soybean Breeding Program

One of the current research projects led by Dr. Bo Zhang, soybean breeder in the Virginia Tech School of Plant and Environmental Sciences, involves the development of soybean varieties and germplasm with added values. Soybean meal is widely used in animal feed; however, soybean has several anti-nutritional factors such as trypsin inhibitors (TI), phytic acid, raffinose family of oligosaccharides, and antigenic factors that prevent animals from digesting protein efficiently. The most economic and reliable way to improve animals' protein digestibility is to feed them with meal made with soybeans that contain naturally low concentrations of anti-nutritional factors. Currently, few commercial soybean varieties possess these characteristics. Fortunately, with the support of the *Virginia Soybean Board*, our group has made great progress in meeting this important market need.

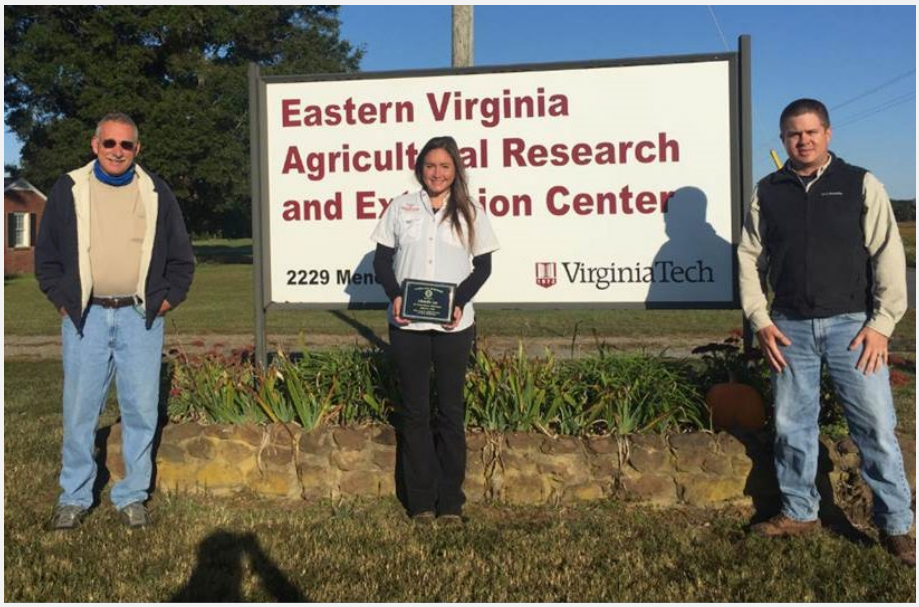


Dr. Bo Zhang
Soybean Breeder

In 2014, we started to combine multiple traits such as implemented multiple breeding lines containing high protein, low trypsin inhibitor, low phytate, and low raffinose family oligosaccharides in order to provide stakeholders with soybean varieties that contain significantly improved feed efficiency.

Recently, we begun to incorporate genome editing (such as CRISPR-Cas9) into our breeding program, in order to edit TI genes(s) to produce germplasm with ultra-low or absent levels of TI in soybean seed. Ultimately, these projects can position us to make a major impact on the soybean industry by adding value to current soybeans, expanding market share, and enhancing U.S. soy value proposition in key feed markets in the world. Moreover, this project particularly helps to increase Virginia soybean growers' feed market share since VA farmers will firstly have access to the value-added varieties adapted to Virginia.

Congratulations to recent CALS Employee of the Month, Michelle Lee, Agricultural Specialist at the Eastern Virginia AREC!!



SAVE THE DATE!

The 2021 Virginia Small Grains Field Day will be

May 20, 2021 from 8:00 am - 12:00 pm.

For more information and to register, click here:

2021 Small Grain Field Day | Virginia Agricultural Research and Extension Centers | Virginia Tech (vt.edu)

Recent Publications

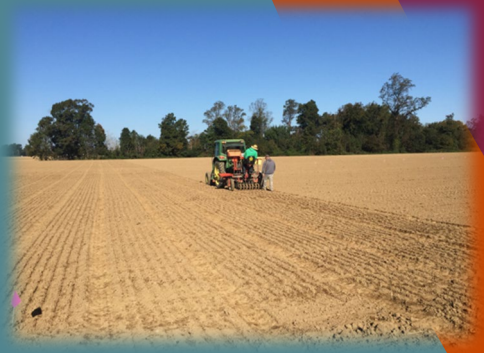
Virginia Soybean Performance Tests 2020. Virginia Soybean OVT 2020-Preliminary Yield Summary.pdf

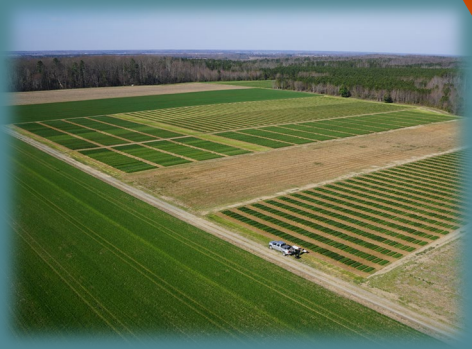
Oakes, J.C., Balota, M., Jordan, D.L., Hare, A.T., Sadeghpour, A. Peanut Response to Seeding Density and Digging Date in the Virginia-Carolina Region. Peanut Science. 1 November 2020; 47 (3): 180-188. doi: https://doi.org/10.3146/PS20-16.1.

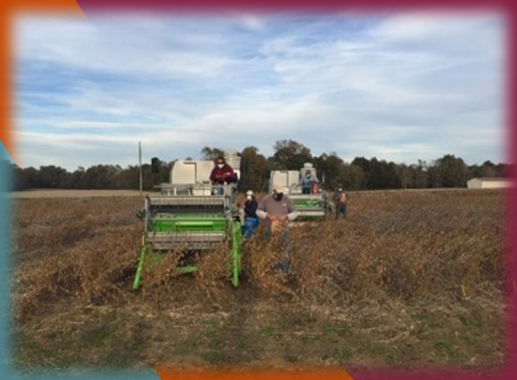
WE ARE HIRING!!

We are seeking a motivated and innovative Agricultural Specialist. The individual will be expected to perform a wide variety of tasks at the center including being the primary equipment operator, equipment mechanical work, and field and laboratory data collection. Click here to apply: Details | Agricultural Specialist (pageuppeople.com), or for more info contact Joseph Oakes: jcoakes@vt.edu.

Eastern Virginia AREC's mission is to serve Virginia's grain and soybean industries through research and educational programs leading to improved varieties and crop management practices. Our research objectives are to support the Virginia Tech soybean and small grain breeding programs, and to conduct agronomic research that contributes to economically and environmentally sound crop production in the Commonwealth and beyond.







A COLLABORATIVE NETWORK

The ARECs are a network of 11 centers strategically located throughout the state that emphasize the close working relationships between Virginia Agricultural Experiment Station, Virginia Cooperative Extension, and the industries they work with. The mission of the system is to engage in innovative, leading-edge research, to discover new scientific knowledge, and create and disseminate science-based applications that ensure the wise use of agricultural, natural, and

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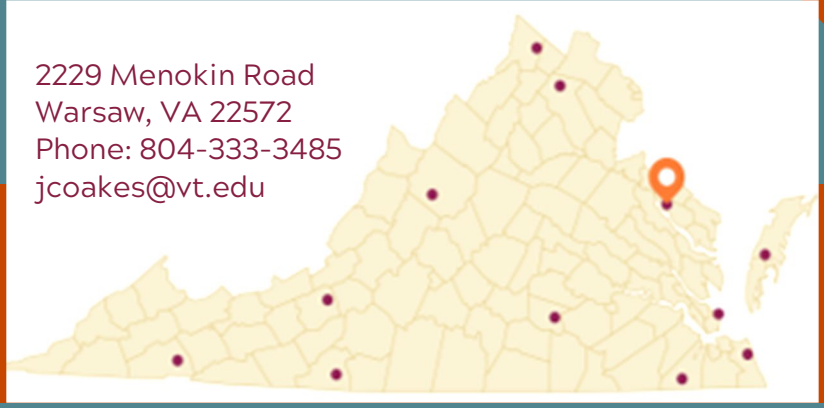

Eastern Virginia Agricultural Research and Extension Center

www.arec.vaes.vt.edu/arec/eastern-virginia.html