Historic precipitation from autumn 2018 through summer 2019 created Ohio’s worst planting year on record and contributed to a near-record low level of hay to feed livestock in the state and across the Midwest. Coupled with low commodity and feed prices, and uncertainty with international tariffs on American agricultural goods, many Ohio farmers and producers are struggling.

Out of this tremendous need and at the discretion of Cathann A. Kress, Ohio State vice president for agricultural administration and dean of CFAES, the Agriculture Crisis Task Force was convened.

The task force comprises CFAES experts who can connect farmers, producers, and their families with OSU Extension specialists or specialists within the community to offer the best science-based recommendations for solutions to current issues.

Whether it is adapting to varied environmental conditions, changing insurance policies, navigating new tax laws, or understanding the U.S. trade policy’s impact on agriculture, CFAES encourages farmers and producers to #LeanOnYourLandGrant.

Steady rains and delayed harvests from autumn 2018 and continuing through 2019 threatened feed quality and quantity for Ohio’s beef, dairy, poultry, and other livestock.

As a result, Ohio’s 2019 average corn yield was 164 bushels per acre, down 23 bushels from 2018, according to the U.S. Department of Agriculture. Total corn production for grain in 2019 was 421 million bushels, down 32% from 2018.

Likewise, Ohio soybean production was 209 million bushels in 2019, down 15% from 2018, according to the USDA. The yield was 49 bushels per acre in 2019, down seven bushels from 2018.

“Challenging growing conditions, exacerbated by a very wet spring, led to fewer corn and soybean acres planted and lower overall yields in Ohio,” Cheryl Turner, state statistician with the USDA National Agricultural Statistics Service Ohio Field Office, said in a written statement.

The Agriculture Crisis Task Force developed go.osu.edu/agcrisis as a resource that links all CFAES team websites into one portal where farmers and producers can quickly find answers to their emerging questions.

At the page, resources are available for:
- grain and forage production.
- livestock and dairy production.
- grape, fruit, and vegetable production.
- digital agriculture.
- farm stress.

“We appreciate Ohio State’s ag crisis initiative to not only help farmers facing challenges, but to also be a resource to those who want to offer a hand, a shoulder, or even an ear,” said Adam Sharp, executive vice president of Ohio Farm Bureau Federation. “Those efforts can make all the difference in the world.”
The goal is to really understand how human factors affect pollinators, and where to best add habitat for them.”

Sarah Scott
CFAES entomology doctoral student

CFAES student aims to find out how bumble bees pick up heavy metals

Doing good for bumble bees takes finding out what’s bad for them.

Sarah Scott, a CFAES entomology doctoral student, is studying how the fuzzy, buzzy, black-and-yellow pollinators get exposed to heavy metals in their environment, and what it means to their survival.

Supported by a highly competitive National Science Foundation graduate research fellowship, Scott hopes to contribute to what’s known about pollinator decline: the mysterious drop-off in bumble bees, honey bees, and other insect pollinators around the world, including in the United States and in Ohio.

Scott’s goal, she says, is to “really understand how human factors affect pollinators, and where to best add habitat for them.”

Wild bumble bees, like honey bees, collect pollen from flowers and live in colonies.

Heavy metals, which are toxicants, come from both natural and human sources, including factory emissions, vehicle exhaust, and dust from old lead paint. Sometimes, in urban areas, they can get in the soil, where plants may take them up. Do foraging pollinators take them up, too?

To find out, Scott keeps several hundred bumble bees inside each of 12 room-sized tents at CFAES’ Waterman Agricultural and Natural Resources Laboratory, located at Ohio State’s Columbus campus.

Eventually, she collects the bees, measures the heavy metals in their bodies, and counts the numbers of pupae, larvae, and adults—signs of the colony’s health, or lack of it.

For now, Scott isn’t certain how wild bumble bees get exposed to heavy metals. It could be from pollen, water, or dust. One possibility: the bees’ hairy bodies, which carry a slight electrical charge, might serve as “flying Swiffer,” she said.

Pollinator decline, whose possible causes also include pesticides and parasites, is a problem for more than pollinators. Food crops that need insect pollination—about a third of the crops grown around the world, including in America—are at risk, too.

Scott, whose first field research experience (as a Michigan State University undergraduate) involved elephants and other large mammals in Uganda, said she’s happy to be working with their tiny friends now. She said she hopes her findings get put to use in creating new, healthy habitat for them.

“The strength of science is how far its impact goes,” Scott said. “What’s the point of learning something if it’s just going to sit on a bookshelf?”
The gardens where hope and produce grow

In the gardens at CFAES’ Waterman Agricultural and Natural Resources Laboratory, people come to plant, tend, and harvest.

From training veterans in farming techniques to supplying produce to those who otherwise would have struggled to afford it, each gardener at Waterman has his or her own individual purpose.

Children, adults, cancer survivors and their caregivers, military veterans, and others share in the joy of working across Waterman’s 8 acres of gardens to discover the taste of the fresh produce they picked.

Though there are seven gardens at Waterman, each run by a different group, the intent is the same: encouraging people to eat more fruits and vegetables. Grow and actively pick produce, and you’re probably more open to tasting it and cooking with it.

Two of the gardens within Waterman offer a respite to cancer survivors, children, and adults, promoting healthy diets to lower the risk of cancer complications. For those individuals, gardening can be a welcomed interruption from the daily stress of treatments, doctors, and waiting rooms.

Last summer, young cancer survivors and their family members grew several varieties of potatoes among other vegetables. When it came time for harvest, they could not dig up enough of them.

If you think kids are most enthralled with video games or apps, consider this: “For them, it was like finding Easter eggs on Easter morning,” said Anna Biggs, Waterman’s program coordinator.

Each time parents thought their children were finished digging, the kids would seek out another potato and pluck it from the ground.

On that same plot, people eligible to receive federal food assistance and their family members can come to plant, harvest, then take home as much as they can carry and eat in a week. Clients of local food pantries receive the fruits and vegetables picked from the gardens at Waterman. And Ohio State students also benefit, though many might not realize the produce they’re served in a meal on campus was grown nearby.

Besides carrots, tomatoes, beans, and the typical farmers market offerings, there’s a couple of wild cards planted in the gardens at Waterman. Take kohlrabi, for example: a vegetable that looks like a turnip and tastes like a cross between a broccoli stem and a radish.

“If I sent you home with kohlrabi, would you know what to do with it?” Biggs asked.

That’s why showing people how to cook with little-known or even common vegetables is so helpful.

“It’s one thing to give someone produce,” Biggs said. “It’s entirely different to have them harvest it and learn how to cook with it.”
CFAES’ sesquicentennial

Its pronunciation is a mouthful. Its meaning is mindful.

The sesquicentennial is the 150th anniversary of the founding of Ohio State—and CFAES—on March 22, 1870.

Back then, the university was named the Ohio Agricultural and Mechanical College. For 150 years, Ohio State has delivered its land-grant mission to bring Ohioans knowledge of agriculture, science, and engineering.

The sesquicentennial is a celebration of all that Buckeyes are, all that they’ve accomplished, and all that’s yet to come.

The university has planned several events and has awarded $2,500 scholarships to each of 150 students, including 13 from CFAES. They are Chris Baird, Karaline Boso, Mary Buehler, Melena Dillingham, Sarah Doner, Derek Goodman, Mackenzie Hannum, Alexis Homik, Emily Kanney, Courtney Krieger, Xamarie Ruiz, Hunter Sandwisch, and Aaron Smith.

Learn more at 150.osu.edu.

Time to think about camp

Have a child who might enjoy snorkeling in Lake Erie? Is your kid fascinated by space and aerodynamics? Does your youngster want to spend time honing leadership skills?

CFAES has a camp for all of that—and much more. Thousands of youths statewide participate in Ohio 4-H camps every year.

Ohio 4-H, the youth development program of OSU Extension, offers or sponsors the camps in each of Ohio’s 88 counties. The cost for each camp varies, and there might be opportunities for scholarships depending on the camp that’s chosen.

More information about 4-H camps and other 4-H programming can be found at ohio4h.org/search/node/camps.

Share your green thumb with others

There’s a way you can grow what you know about gardening and then share your knowledge with others.

Participants in CFAES’ nearly 4,000-member-strong Master Gardener Volunteer program first receive extensive training in horticulture—the science and art of growing plants—through their county office of OSU Extension. Then, they devote time to helping the office with its public programs on green things, such as how-to clinics and community gardens.

Learn about joining the Master Gardener Volunteers at mastergardener.osu.edu.

Save the date for the Dean’s Charity Steer Show

Mark your calendars for the second annual Dean’s Charity Steer Show at the Ohio State Fair on Aug. 4.

The exhibition and livestock sale competition pairs local celebrities with Ohio 4-H families to benefit Ronald McDonald House Charities of Central Ohio. Last year, the inaugural event raised $152,000. Over 900 people attended, and nearly 8,000 watched on Facebook Live.

Dean Kress hosted the event in partnership with Ohio Cattlemen’s Association and Telhio Credit Union. Learn more about the show at cfaes.osu.edu/deanscharitysteershow.

CFAES IMPACT is produced by The Ohio State University College of Food, Agricultural, and Environmental Sciences. If you have a story idea, comment, or question, please send it to Amanda Lukacsko at lukacsko.6@osu.edu or 364 W. Lane Ave., Suite B120, Columbus, OH 43201. This publication is distributed through the Ohio Farm Bureau Federation’s Buckeye Farm News and Our Ohio.

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