

the Leaflet

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BUILT FOR WHAT'S NEXT

The Leaflet is a publication for partners, friends, and supporters of the Donald Danforth Plant Science Center.

DONALD DANFORTH
PLANT SCIENCE CENTER



Leaflet Vol. 28 Issue 1 Fall 2026

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OUR MISSION

Improve the human condition through plant science



Feed the hungry and improve human health



Preserve and renew our environment



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Credits

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From the President



Dear friends,

It has been one year since I started as president of the Danforth Center, which I think means I can no longer say I am the new president. When I joined this institution, I was already impressed with what had been accomplished, both with regards to research but also the real-world impact that was coming from that knowledge. I came to the Danforth Center because it had demonstrated capability to advance knowledge to impact.

The need to deliver sustainable food security is more urgent now than it has ever been. As someone who has undertaken research in this space for decades, I am frustrated with the pace of impact delivery. We need discovery science because it creates opportunities, but we also need to ensure that those discoveries are aligned to real-world impact. During my first year, we have been making the changes that I believe are necessary to raise the pace of impact from our science.

We have developed a five-year strategic plan of institutional and scientific excellence built to maximize delivery of our mission. Every faculty member at the Center leads an outcome-driven program, aligned to their discovery work, that helps us deliver sustainable food security and the growth of our region. We are focused on delivering the tools that farmers need to ensure sustainability and prosperity. Expect to hear many exciting, new stories of how we are delivering impact for the world's farmers.

For my own research, which focuses on plant engagement with beneficial microorganisms, I am excited about the community of companies within our ecosystem who work in this space, potential new partners who can help drive impact in sustainable farming systems. I feel excited about what my lab can achieve here in St. Louis (at least if my presidential day job gives me the time!).

A year ago, I came to St. Louis because I believed this institution could help define the future of plant science and its impact. After a year working alongside the people who make up the Danforth Center, I believe that more strongly now than ever.



Giles Oldroyd, PhD
President, Danforth Center



TAKING ROOT: MEET THE OLDROYD LAB

The Oldroyd Lab brings to the Danforth Center a research program built over many years at the University of Cambridge, where Giles Oldroyd, PhD, led internationally recognized work on how plants partner with beneficial microbes to obtain essential nutrients.

That work included leadership of the Enhancing Nutrient Symbioses in Agriculture (ENSA) program, an ambitious effort to understand, and ultimately extend, the natural nitrogen-fixing relationships found in legumes to major cereal crops. Now with members of his Cambridge team joining him in St. Louis, Oldroyd is continuing to advance a long-term vision for crops that can thrive with fewer synthetic inputs.

News & Events

READ MORE AT
DANFORTHCENTER.ORG

WORLD FOOD PRIZE LAUREATE JOINS BOARD

The Danforth Center has elected **Cary Fowler, PhD**, to its Board of Directors. Fowler, recipient of the 2024 World Food Prize, is a leading voice in global food security and widely known as the father of the Svalbard Global Seed Vault, which safeguards more than 1.3 million seed varieties. He previously served as US Special Envoy for Global Food Security and was the featured keynote speaker at the 2025 Seeds of Change event.

REMEMBERING A FOUNDING CHAMPION

Peter H. Raven, PhD, one of the world's leading botanists and a founding champion of the Danforth Center, died April 25 at age 89. As president of the Missouri Botanical Garden, Raven helped secure the partners, funding, and land needed to help his friend Dr. William H. Danforth establish the Center—he also proposed naming the Center for the Danforth family. His influence endures through the institution he helped make possible and the generations of scientists he mentored.

DEREK RAPP NAMED COO

The Danforth Center welcomed **Derek Rapp** as chief operating officer this summer. A St. Louis native, Rapp brings more than four decades of leadership experience spanning nonprofit management, venture capital, entrepreneurship, and the life sciences. He previously led JDRF International and served as a managing director at RiverVest Venture Partners. His ties to the Danforth Center extend back more than two decades.

NATIONAL HONORS FOR TWO SCIENTISTS

The American Society of Plant Biologists honored two Danforth Center principal investigators in 2026. **Sona Pandey, PhD**, was named a Fellow of ASPB in recognition of her distinguished contributions to plant biology and service to the Society. **Tessa Burch-Smith, PhD**, received the Excellence in Diversity and Inclusion Award for her work to expand opportunities for deaf and hard-of-hearing students in plant science.

KEVIN COX NAMED TO 40 UNDER 40

Kevin Cox, PhD, principal investigator at the Danforth Center and assistant professor at Washington University in St. Louis, has been named to the *St. Louis Business Journal's* 2026 40 Under 40 class. A Hazelwood native, UMSL graduate, and HHMI fellow, Cox has earned national recognition for his plant-imaging research, mentorship, and commitment to broadening participation in science—while building his career in the community that first inspired him.

HONORED BY ACADEMY OF SCIENCE

Two Danforth Center principal investigators received 2026 Outstanding St. Louis Scientists Awards from the **Academy of Science–St. Louis**. **Katie Murphy, PhD**, received the Science Educator Award for her excellence in science education and communication. **Nadia Shakoor, PhD**, received the inaugural Innovation Award for translating scientific discoveries into practical tools that advance agricultural research and help build a more resilient food system.

DANFORTH CENTER NAMED A TOP WORKPLACE



For the sixth consecutive year, the Danforth Center has been named a Top Workplace by the *St. Louis Post-Dispatch*. The recognition is based entirely on employee feedback about the organization's culture, leadership, and workplace experience. More than 400 scientists and support staff contribute to the Center's mission, united by a shared belief in the power of plant science to improve lives.

• Cary Fowler



• National Honors



• Derek Rapp



• Kevin Cox



• Academy of Science Honorees





Thanks to the Young Friends Committee for helping make Party with the Plants 2026 a resounding success. From left: Shannon Piper, Peter Schlafly, Jr., Chris Hiemenz, Jr., Luke Ducey, Emma Adkisson, Emily Hiemenz, chair Klaire Whiteside, Colin Shipley, Chris Floyd, Dr. Justin Conover, Matt Plummer, Dr. Katie Murphy, Kelly Bristow

"The turnout was incredible. It's such a great way to introduce new people to this pivotal science. I hope they discovered how special the Danforth Center is."

- Klaire Whiteside, chair
Danforth Center
Young Friends

A Night to Help Science Grow

PARTY WITH THE PLANTS CAPS A SUCCESSFUL WEEK OF GIVING

What happens when you bring plant scientists, curious guests, and a little after-hours magic together? On September 25, Party with the Plants 2026: Plants After Dark offered an answer: an evening of discovery and celebration that helped push this year's Grow Challenge® Week of Giving past its goal.

Together, our community raised over $170,000, reaching 135% of our goal! That generosity supports plant science research, STEM education, and more.

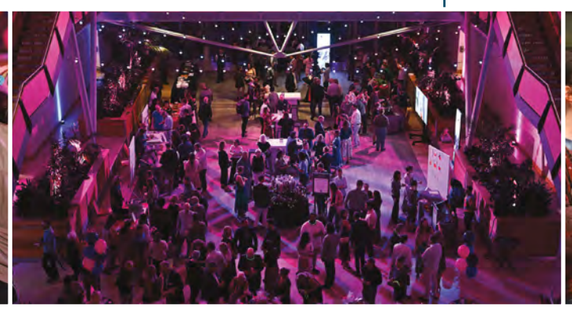
DISCOVERY AFTER DARK

Six interactive stations put guests in touch with the science—and the scientists—behind our mission. Hands-on encounters with plants, insects, and research allowed guests to peer inside plants with X-ray imaging, match rice varieties, meet beneficial bugs, make music with vegetables, and explore how genetic changes can reshape corn and teff to stand strong against wind and rain.

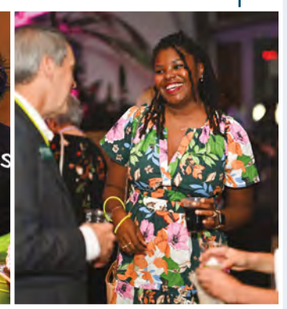


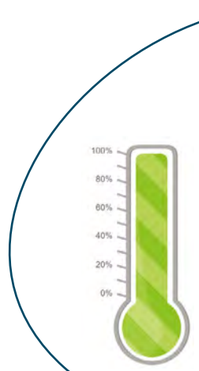












OVER $170,000 RAISED
135% OF OUR GOAL

Thank you for helping plant science grow!

A CELEBRATION WITH PURPOSE

Between discoveries, guests enjoyed food and drink from twelve partners, music by DJ Chris Brown, and magic by master illusionist Keith Jozsef. Raffle baskets, a silent auction, and a plant and wine pull offered more ways to have fun while giving back.

THANK YOU

Thank you to our Young Friends for leading the evening, our scientists for sharing their work, our sponsors and partners for making it possible, and everyone who joined us. To all who donated or rallied support during the Grow Challenge: you helped make this one of our best years yet.

THANK YOU
COMMITTEE LEADERSHIP: Klaire Whiteside, chair; Richard Clements, vice chair
EMCEE: Blake Whiteside
SCIENTIST ORGANIZERS: Dr. Katie Murphy and Dr. Justin Conover
SCIENTISTS: Matt Adams, Edo Bertolini, Parag Bhatt, Max Braud, Anna Casto, Keith Duncan, Johnny Johns, Liz Kelter, Eileen Kosola, Clara Lebow, Ted Leung, Jianwu Li, Katie Moreau, Nushrat Rashid, Kevin Reilly, Febri Susanto, Parbati Thapa, Justin Villmer, Evy Wolfe
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HEARD
THORN STUDIO



Danforth Center President Giles Oldroyd shares his vision for agriculture's future with the Seeds of Change audience in March.



Oldroyd answers audience questions at Seeds of Change posed by Board Chair Penny Pennington, who served as emcee.

The Place to Drive the Solution

In his first major address as president of the Danforth Center, **Giles Oldroyd, PhD**, offered an assessment of the challenges facing agriculture—and an optimistic vision for science.

Speaking at **Seeds of Change** in March, Olroyd laid out the challenge: a growing population needs more food, yet agricultural practices are degrading the systems on which food production depends, all the while extreme weather and a less predictable climate make farming more difficult. Oldroyd called this collision of pressures an "agriculture shock."

His solution begins with plants: crops that resist pests and diseases, withstand difficult conditions, and help farmers produce more while protecting the environment. He pointed to Danforth Center research on shorter, sturdier teff; virus-resistant cassava; and pod-borer resistant cowpea now grown by farmers in Nigeria and Ghana.

But discovery is only part of the task. Oldroyd described regenerative agriculture that restores soil, international partnerships that build scientific capacity where improved crops are needed most, and an innovation ecosystem that moves discoveries from laboratories into fields and markets.

That vision also begins at home. Oldroyd committed the Danforth Center to helping St. Louis become the world's leading center for plant science and agtech—creating companies, jobs, and educational opportunities while attracting exceptional talent.

Following his address, Board Chair Penny Pennington joined Oldroyd for a conversation, posing questions on behalf of the audience.

Speaking to the urgency of the challenges faced, Oldroyd said: "Despite all I've just said, I'm an optimist. If you believe in what we're talking about today, the time to lean in is now."

OLDROYD TO SPEAK AT BORLAUG DIALOGUE

Giles Oldroyd has been invited to join the global stage October 21 at the 2026 Norman E. Borlaug International Dialogue in Des Moines. A production of the World Food Prize Foundation, the Dialogue brings together scientists, farmers, policymakers, and innovators working to advance global food security. Danforth Center Board Director and 2024 World Food Prize laureate Cary Fowler will also speak, as well as Principal Investigator Getu Duguma.



Danforth Center scientist Getu Duguma works with Ethiopian partners to advance improved teff. EIAR is now leading a second year of field testing.

Teff: A Long-Sought Advance Reaches Ethiopian Fields

Teff has nourished people in the Horn of Africa for thousands of years, yet one stubborn problem has limited its potential: lodging. Tall teff plants can fall over before harvest, causing major grain losses and making harvesting difficult.

Danforth Center scientist **Getu Duguma, PhD**, developed semidwarf teff lines designed to resist lodging. Today, the Ethiopian Institute of Agricultural Research (EIAR) is leading the crucial next phase. A first round of field trials at six sites around Addis Ababa produced highly encouraging results, and EIAR is conducting a second round of trials in 2026.

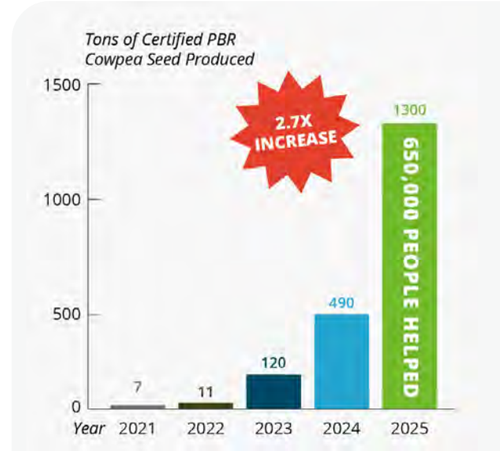
Researchers are also working toward reduced shattering so that more of what a plant produces makes it through harvest. It is exactly the kind of patient, partnership-driven progress donor support can accelerate: from an idea, to a scientific breakthrough, to testing in the places where the crop matters most.

Strong Demand Drives Growth for PBR Cowpea

In 2024, Ghana commercially released pod borer-resistant (PBR) cowpea, its first biotech crop. The improved cowpea protects against one of the crop's most damaging insects, reducing losses and the need for repeated pesticide applications. The Danforth Center was part of the international team that moved this crop into farmers' hands.

Farmer demand has been strong, and Ghanaian partners are now working to expand seed availability so more growers can benefit. Nigeria saw a similar response after introducing PBR cowpea in 2021. Since then, production has expanded rapidly to more than 1,000 tons of certified seed each year.

The Danforth Center is helping Ghanaian partners strengthen seed systems and build the scientific expertise needed to move useful traits into locally preferred varieties. Through the Alliance for Cowpea Improvement in Africa, Danforth Center scientists and partners are also pursuing the next generation of improvements, including research aimed at reducing losses from cowpea weevil, which can destroy stored grain after harvest.



Cowpea is a critical protein source across West Africa. Strong demand for improved PBR cowpea in Nigeria and Ghana is driving the next phase: expanding seed supply and local capacity.



Dr. Erin Sparks in the field, where research on short-stature corn is taking root.

Built to Weather the Storm

SHORTER CORN STANDS UP TO STRONGER WINDS

When powerful winds sweep through a cornfield, tall stalks can be flattened, damaging yields, complicating harvest, and threatening farmers' livelihoods. The problem is growing: from 1989–2020, wind damage increased in nine out of ten corn-producing counties in the United States.

New research points to a practical solution already under development: shorter corn.



Young corn plants emerge in neat rows. Research on short-stature corn aims to help crops better withstand strong winds.

A study co-authored by Danforth Center principal investigator **Erin Sparks, PhD**, found that short-stature corn hybrids—roughly 25 to 30 percent shorter than conventional corn—experienced wind damage at less than half the rate of taller hybrids. The findings draw on three growing seasons and 444 field-trial locations across the US Corn Belt.

At locations hit hardest by storms, short-stature plants continued producing harvestable grain even when taller plots were too damaged to harvest.

"Wind damage is a growing threat to corn production, and it's only expected to worsen as climate patterns shift," Sparks said. "This study gives us a much clearer picture of how reducing plant stature can serve as a real and scalable tool for climate resilience."

The Sparks team also found that some short-stature hybrids had root systems approximately 30 percent more flexible than taller plants. Shorter stalks and more flexible roots appear to work together, reducing the forces that cause corn to topple or break.

Published in *Crop Science*, the study reflects a partnership among the Danforth Center, the University of Missouri, and Bayer Crop Science. It builds on a principle proven during the Green Revolution, when shorter wheat and rice helped reduce crop losses and transform production.

HeatSmart Cassava Targets a Hotter Future

A NEW GRANT WILL SUPPORT HEATSMART CASSAVA, A FOUR-YEAR EFFORT LED BY THE DANFORTH CENTER WITH LANCASTER UNIVERSITY

Cassava helps sustain 800 million people worldwide and is especially important to smallholder farmers in sub-Saharan Africa. Although it tolerates drought and poor soils, rising temperatures can disrupt photosynthesis and sharply reduce yields.

Led by Danforth Center principal investigator **Getu Duguma, PhD**, the project will engineer and test a more heat-stable form of a protein essential to photosynthesis. Researchers will determine whether the change helps cassava maintain photosynthesis and yield under heat and combined heat-and-drought conditions without sacrificing performance under normal conditions.

"For millions of families, cassava is a safeguard against hunger when conditions are difficult," Duguma said. "By helping cassava continue producing as temperatures rise, this research advances the Danforth Center's mission to use plant science to build a more food-secure future."



Young cassava plants in the field. HeatSmart Cassava aims to help this vital food crop maintain yields as temperatures rise.

A Better Map of Sorghum's Hidden Diversity

An international team including Danforth Center scientists has published a major new sorghum genomics resource in *Nature*. The "pangenome" combines 33 complete genome sequences with data from 1,984 cultivars and landraces, capturing genetic diversity a single reference genome cannot reveal.

That broader view allows scientists and breeders to find DNA differences affecting domestication, natural defenses, drought adaptation, and other valuable traits. It also provides new approaches for identifying complex genetic variation across large populations.

Sorghum is a climate-resilient staple relied upon by millions of people, particularly where rainfall is unpredictable and agricultural inputs are limited. The resource can accelerate development of varieties suited to hotter, drier, and more variable conditions.

"This pangenome turns that hidden diversity into something researchers and breeders can actually detect, compare, and carry forward," said Danforth Center principal investigator and senior author **Nadia Shakoor, PhD**. "So that discovery translates faster into field performance for this crucial climate-smart crop."



Diverse sorghum seedheads. A new pangenome helps researchers uncover genetic differences that could improve drought resilience and other valuable traits.



Authors Dr. Doug Allen (right) and Dr. Somnath Koley in the Danforth Center Bioanalytical Chemistry Facility.

Algae's Hidden Metabolism

NEW INSIGHTS COULD ADVANCE RENEWABLE FUELS AND BIOPRODUCTS

Algae are among the most productive organisms on Earth. They capture roughly half of the carbon absorbed from the atmosphere each year and can generate oil, protein, and other compounds far faster than most land plants, without competing for farmland.

That potential makes algae promising sources of renewable fuels, sustainable biomass, and other bioproducts. But harnessing their productivity has been difficult because scientists still have much to learn about how algae manage carbon under different growing conditions.

Now, Danforth Center researchers have uncovered an important part of that strategy. In a study published in Proceedings of the *National Academy of Sciences*, researchers compared the alga *Chlamydomonas reinhardtii* (Chlamydomonas) grown using light alone or with both light and acetate, an organic carbon source. Under the combined condition Chlamydomonas grew much faster than either energy source could explain on its own.

The cells were not simply taking in more energy. They reorganized their entire metabolism to conserve carbon, reduce waste, and use their resources more efficiently, enabling faster growth. Using isotope-assisted metabolic flux analysis, the research team was able to quantitatively trace how carbon moved through the cells, revealing not just which protein was expressed, but how their activity changed when acetate was present.

Somnath Koley, formerly of the Allen lab, led the research and, together with Danforth Center Principal Investigators **Doug Allen, PhD**, and **James Umen, PhD**, served as a corresponding author.

"Algae already have an extraordinary ability to turn light and carbon into useful materials," said Umen. **"** "Now that we better understand how they become even more productive, we have a clearer path toward developing renewable fuels and products that could replace materials made from fossil fuels."



Danforth Center algae researchers have uncovered how these organisms use carbon, insights that could advance renewable fuels and other bioproducts.



Emma Vagelos (left) and Paige Bostic (right) harvesting Kernza® at the Danforth Center Field Research Site. The Miller lab is working to improve this perennial grain for a more sustainable agriculture.

Roots for the Future

HOW KERNZA IS BUILDING A MARKET FOR PERENNIAL GRAIN

Most of the grains that feed the world must be planted again every year. Kernza® offers a radically different model: a grain crop that comes back season after season.

Developed from intermediate wheatgrass by our partner organization The Land Institute, Kernza is the world's first commercially available perennial grain. Its roots can extend up to 10 feet underground, holding soil in place, capturing nutrients and water, supporting soil life, and storing carbon. Because fields remain planted for several years, Kernza can also reduce tillage and other inputs associated with annual grain production.

Crop improvement, production, and market development are advancing together: farmers need reliable harvests and consistent demand, while food producers need a dependable supply. Kernza is grown in 15 states and has appeared in products ranging from pasta and beer to baking mixes. In 2025, General Mills quadrupled its use of Kernza, adding the grain to four of its top-selling Cascadian Farm cereals, an important step toward creating consistent demand for farmers.

But Kernza is still a crop in development. Grain yields remain well below conventional wheat, making faster crop improvement essential to wider adoption. At the Danforth Center, **Allison Miller, PhD,** together with Matthew Rubin (Saint Louis University) and collaborators at The Land Institute, is developing ways to predict valuable adult traits while plants are still young, potentially allowing breeders to identify promising plants years sooner.

As breeders improve Kernza's grain yields, the Miller Lab team including Molly Hanlon. PhD, and Stella Woeltjen, PhD, are investigating how those changes affect the rest of the plant, and the plant's impact on the soil. The goal is to ensure that future varieties retain their benefits for soil and ecosystems as yields increase.

BAKE SOMETHING NEW THIS HOLIDAY SEASON

Give a favorite holiday cookie recipe a new twist with Kernza® flour. Its sweet, nutty flavor brings hints of honey, cinnamon, and brown sugar—a delicious addition to holiday baking. Some simple tips to start:

- **Swap a little flour.** Replace 20%–25% of your regular flour with Kernza. For a recipe calling for 2 cups of flour, use ½ cup Kernza and 1½ cups all-purpose flour.
- **Check the moisture.** Kernza's whole-grain flour absorbs more liquid. If the dough feels too dry, add a little extra liquid, a small amount at a time.

Try Kernza flour in ginger, molasses, or chocolate chip cookies this season.



Visit our blog for recipes and flour sources: **danforthcenter.org**.



Allison Miller (right) and members of her lab plant grapevines in the field. Their research explores wild grapevine diversity that could help vineyards adapt to a changing climate.

Saving Wine, Again

MISSOURI GRAPEVINES HELP SHAPE THE FUTURE OF WINE

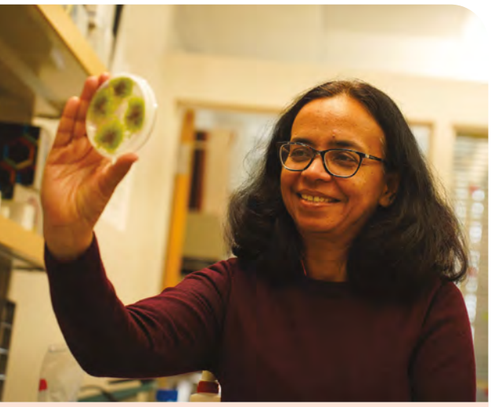
Nearly every glass of wine produced today depends on roots that trace back to North America.

In the 1870s, the insect pest phylloxera was devastating European vineyards. St. Louis botanist George Engelmann recognized that native American grapevines had evolved alongside the pest and were naturally resistant. North American vines were shipped to France and used as rootstocks for European grapes, helping save the wine industry.

Today, that wild grapevine diversity may again prove essential. New research in *Plants, People, Planet*, coauthored by Danforth Center principal investigator and Vice President of Research **Allison Miller, PhD**, documents wild grapevine diversity across the Americas and identifies gaps in its conservation. North America holds much of the genetic diversity within the grape genus, including species adapted to heat, drought, pests, and other stresses. Some, however, are threatened in the wild and poorly represented in genebanks and botanical gardens.

The work comes as vineyards face growing climate pressures. Miller recently visited Bordeaux, where researchers are studying how rootstocks can help grapevines tolerate hotter soils, drought, and other stresses. Because vines can remain in the ground for decades, their roots can play a critical role in adaptation.

Protecting wild grapevines today preserves genetic options growers may need tomorrow, just as North American vines provided an answer to a crisis 150 years ago.



SMALL PLANTS, BIG CLIMATE ROLE

Mosses may be small, but they play an outsized role in Earth's carbon cycle. A new review by scientists including the Danforth Center's **Sona Pandey, PhD**, examines how mosses respond to rising CO_2 and why those changes matter. Their work could improve climate models and help scientists understand whether peatlands and permafrost will continue storing carbon as temperatures rise.



Danforth Center Principal Investigator Keith Slotkin, PhD, in his laboratory. Slotkin is founder and chief scientific officer of Spearhead Bio, a genome editing platform.

Spearhead Bio Advances Crop Innovation

OVERSUBSCRIBED SEED ROUND WILL ACCELERATE TECHNOLOGY DESIGNED TO BRING IMPROVED CROPS TO FARMERS FASTER

Spearhead Bio, a startup launched from the Danforth Center, closed an oversubscribed $1.62 million seed round this September to advance a new approach to crop engineering.

Founded in 2024 by Danforth Center Principal Investigator **Keith Slotkin, PhD**, Spearhead Bio is developing TAHITI, a patented platform that makes it possible to use CRISPR to replace large sections of DNA in crops. The technology is designed to help agricultural companies develop improved crops faster and at substantially lower cost.

The investment marks an important step in moving the technology from scientific discovery toward broader commercial use. The round was led by BioGenerator Ventures and Grit Road Partners, with participation from several other investors. The funding will allow Spearhead Bio to expand the number of crops engineered with TAHITI and deepen its industry partnerships.

"Creating better crops faster is essential to enabling farmers, both in the US and globally," Slotkin said. "This investment brings us closer to making powerful crop-improvement tools accessible across agriculture."

Spearhead Bio is one of five recent companies created through the **Danforth Center Startup Initiative**, which helps move promising discoveries beyond the laboratory and into the marketplace. By combining scientific expertise with entrepreneurial support, the initiative is creating new pathways for Danforth Center innovations to reach farmers, companies, and communities.



FROM FIELD RESEARCH TO NATIONWIDE REACH: AGRELA ECOSYSTEMS FINDS NEW MARKETS

Agrela Ecosystems, founded in 2016 by Danforth Center scientists including **Nadia Shakoor, PhD**, is expanding its PheNode® environmental monitoring platform beyond research fields. Originally developed to measure conditions affecting plant growth, PheNode is now used in agricultural research, specialty crops, and transportation infrastructure. A pilot with sustainable-highways nonprofit The Ray in Georgia has since expanded to Washington state as well.

SPEED INNOVATION.



EDGE@BRDG building on the Danforth Center's campus. Pivot Bio has chosen St. Louis as the new home for its research and innovation operations.

Where Plant Science Innovation Comes to Grow

AWARD-WINNING AGTECH COMPANY PIVOT BIO LOCATES ITS RESEARCH OPERATIONS ALONGSIDE THE DANFORTH CENTER

When Pivot Bio sought a new home for its research and innovation operations, the leading agtech company chose St. Louis and the plant science community at the Danforth Center.

Pivot Bio is transforming how crops access nitrogen through innovative technology that introduces a third source of nitrogen to modern crop nutrition. Its proprietary, patented microbial crop nutrition technology enables naturally occurring microbes to convert atmospheric nitrogen into a plant-available form of ammonium directly at the roots. In 2026, Pivot Bio was recognized as one of *TIME* magazine's World's Top GreenTech Companies. Its new Center for Research, Development and Innovation is located on the Danforth Center campus in the heart of the 39 North agtech innovation district.

"Breakthrough science does more than generate knowledge. It attracts companies, talent, and investment. Pivot Bio's decision to build its research future here is a powerful endorsement of the capabilities the Danforth Center and our partners have created in St. Louis"

- Giles Oldroyd, PhD, Danforth Center President



The facility is part of a more than $7 million regional expansion that also includes Pivot Bio's Customer and Operations Success Center in Hazelwood. Together, the sites connect research and development with manufacturing, distribution, and delivery to farmers. Pivot Bio expects to add more than 40 St. Louis-area jobs.

The move demonstrates why the Danforth Center and 39 North have become a destination for growing agtech companies, offering proximity to leading plant scientists, specialized laboratories, greenhouses, growth chambers, advanced technologies, and a network of researchers and entrepreneurs.

"Our goal is to take great science and turn it into something that serves our farmers," said Travis Frey, PhD, chief technology officer at Pivot Bio. "St. Louis brings together the talent, research, and expertise that can help us do that faster. It's an exciting place to be building the next generation of agricultural technology."

NURTURE TALENT.



The second cohort of Pivot to Plants from left to right: Kristiana Thong, Sasi Velchuri, Liz Kelter, Drew Van Eaton, and Maya O'Callaaghan

From Potential to Profession

PIVOT TO PLANTS FELLOWS TAKE THEIR NEXT STEP

Pivot to Plants was created to help people turn existing experience, curiosity, and potential into careers in plant and agricultural science. For two members of the program's 2026 cohort, that next step came ahead of schedule.

Before completing their year-long fellowships at the Danforth Center, Kristiana Thong accepted a position as an entomologist at Spectrum Brands, while Drew Van Eaton joined the controlled environments team at Bayer Crop Science. Their success offers an early proof point for a program designed to expand access to science careers while strengthening the region's bioscience workforce.



"This is an exciting sign of what the Pivot to Plants program makes possible—for the fellows and for our region's bioscience workforce."

- Noah Fahlgren, PhD Danforth Center Director of Data Strategy

Launched in 2025 with support from the National Science Foundation, Pivot to Plants is a paid, one-year training program for adults who want to enter plant science, data science, bioimaging, and related STEM fields, but have limited research experience. Fellows work inside Danforth Center laboratories while receiving technical training, mentorship, and professional development.

"The fellows bring valuable experience and a willingness to learn. Pivot to Plants gives them the hands-on training and mentorship to build on those strengths," said **Noah Fahlgren, PhD**, director of data strategy and principal investigator for Pivot to Plants. "Seeing Kristiana and Drew move into science careers before their fellowships ended is an exciting sign of what this program can make possible—for the fellows and for our region's bioscience workforce."

Their success demonstrates how targeted training can connect talented people with growing employers while helping St. Louis build the skilled workforce needed to remain a center for plant science and agtech innovation.

Many stories on these pages began as longer posts on our website. Visit **danforthcenter.org** to read more.



JJK FAN interns touring the Danforth Center Field Research Site this summer.



Led by Kurly D. Taylor Jr., MPA (center), the nine-week program gave students opportunities to explore careers connected to plant science.

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Opening Doors to Plant Science

JJK FAN INTERNS EXPLORE CAREERS IN SCIENCE, AGRICULTURE, AND FOOD SYSTEMS

For young people considering their futures, it can be difficult to imagine a career they have never had the opportunity to see firsthand.

This summer, the Danforth Center's **JJK FAN Summer Internship Program** helped six students from Cahokia Heights, East St. Louis, and St. Louis City explore careers connected to plant science, agriculture, food systems, and technology. Over nine weeks, interns combined research, professional development, field trips, and career exploration.

For the first time, the program offered two pathways. Five students participated in a broad interdisciplinary experience, while a sixth worked directly in the laboratory of Danforth Center principal investigator **Armando Bravo, PhD**, experiencing the day-to-day process of scientific research.

Together, the interns visited 11 organizations and connected with more than 20 professionals. They also developed workplace skills and investigated the relationship between access to healthy food, food disparities, and adolescent mental health in the St. Louis region.

The experience reflects a central goal of the Danforth Center's mission: creating opportunities for young people to see that science is relevant to their lives—and that they can have a place in its future.



CoBank's Ryan Sandoz, Relationship Manager (second from right), and LaTonya Keaton, Regional Vice President (third from left), join Danforth Center colleagues Kurly Taylor Jr. and Antonio Brazelton and others at the JJK FAN.

Rooted in Community: CoBank

At the Donald Danforth Plant Science Center, meaningful progress happens at the intersection of science and community—and it takes partners who share that vision to make it possible. CoBank has been one of those partners since 2020, investing more than $128,000 to advance plant science research, science education, and agricultural innovation.

As a mission-based cooperative lender and member of the Farm Credit System, CoBank encompasses corporate social responsibility initiatives focused on food systems, rural communities, and the people who depend on them. That mission finds a natural home at the Danforth Center.

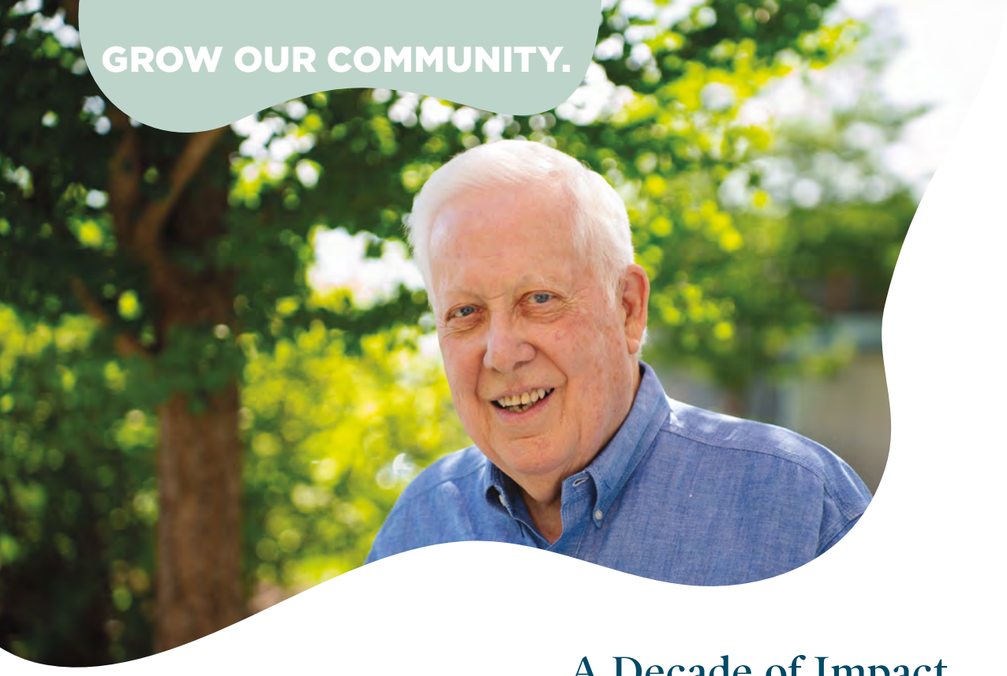
CoBank's support has touched some of the Center's most dynamic initiatives. As a sponsor of AgTech NEXT and Ignite, CoBank helped connect emerging agricultural technologies with entrepreneurs and communities poised to benefit from them. Their investment in the Danforth Center Impact Fund broadens the Center's capacity to pursue science with real-world results for food security, nutrition, and climate resilience.

Perhaps nowhere has CoBank's commitment been more visible than at the Jackie Joyner-Kersee Food, Agriculture & Nutrition Innovation Center (JJK-FAN). Located in East St. Louis, Illinois JJK-FAN brings together science education, workforce development, and access to fresh food for students, families, and aspiring scientists. CoBank's investment goes beyond financial support: their colleagues have also volunteered their time and expertise during STEM education and career days, bringing real-world perspective to students exploring futures in science and agriculture. CoBank's investment in local and urban food systems makes this partnership a natural fit.

"The Danforth Center is committed to enhancing underserved communities with high quality STEM experiences. We are extraordinarily grateful to CoBank for their partnership, not just in their financial commitment, but in their genuine engagement with our mission," said Dr. Giles Oldroyd, president of the Danforth Center. "CoBank's support is helping ensure that the benefits of plant science reach the communities that need it most."



CoBank's Ryan Sandoz helps JJK FAN students plant starter seed trays.



Glenn Fischer, donor, docent, and legacy supporter of the Danforth Center.

A Decade of Impact

GLENN FISCHER FINDS A MISSION WORTH INVESTING IN

Ten years ago, Glenn Fischer had never heard of the Danforth Center. Today, he is one of its most enthusiastic ambassadors.

A native St. Louisan, Glenn spent his career in the food industry, an experience that shaped how he thinks about agriculture and the systems that feed people. In 2016, a friend invited him to tour the Center. By the end of the visit, Glenn had joined the Danforth Society.

"The mission statement is so wonderful," he said. "This is definitely the jewel in the crown."

Glenn soon became much more than a donor. He trained as a docent, joined the Friends Committee, and began introducing visitors to the research happening in St. Louis. He is especially inspired by work on cassava and other crops that can strengthen food security around the world.

His approach to philanthropy is equally intentional. After his wife, Sue, died in 2014, Glenn chose to concentrate his giving where he believed it could have the greatest impact. In 2024, he joined the WHD Legacy Society, ensuring that his support for plant science will continue beyond his lifetime.

For Glenn, one of the Danforth Center's greatest strengths is being able to see that impact firsthand: "I would like to be able to see concrete results of the institutions that I support," he said. "At the Danforth Center, you can do that."

Glenn's decade of involvement shows how one introduction can grow into something lasting: support for science, service to community, and a legacy for future generations.

A LEGACY FOR THE FUTURE

Glenn Fischer is a member of the **WHD Legacy Society**, recognizing those who have included the Danforth Center in their estate plans. His commitment reflects a desire to support plant science not only today, but for generations to come. *To learn more about creating your own legacy at the Danforth Center, visit **legacy.danforthcenter.org**.*



George Fonyo, 1927 – 2026

In Memoriam: Remembering George Fonyo

For more than two decades, George Fonyo was one of the Danforth Center's most devoted friends, ambassadors, and connectors. He passed away July 23 at age 99.

George was there from the beginning. On the Center's first night, he joined a small gathering to hear Bill Danforth describe the vision for a new plant science institute in St. Louis. George quickly became part of that vision himself.

He went on to serve as a founding member of the Friends Committee, a docent, and a longtime member of the Danforth Society and WHD Legacy Society. He helped plan events, thanked donors, led tours, and introduced countless people to the Center.

"Everyone seemed to have a connection to George. He knew everyone in town," said Derek Rapp, Danforth Center COO and former head of the Friends Committee. "George was always kind; he was always positive. He cared deeply about the Danforth Center. I know I'm not alone in saying that I will miss him, but when I think of George, I smile."



George Fonyo shares remarks at the Danforth Center's 2017 Legacy event.

What sustained George's commitment was the mission. In a 2023 interview, he spoke about his belief that plant science could help address hunger and other global challenges. Even in his final weeks, he was still gathering ideas for the Center.

"George lived life with gusto and in service to others," said Tom Bander, vice president of development. "He signed up for every committee and volunteer opportunity… He gave generously and brought many people into the Danforth Center donor community."

George's legacy lives on in the community he helped build around the Danforth Center—and in the mission he worked so hard to advance.

Tributes

*The Danforth Center is grateful to donors who choose to honor or memorialize their friends, loved ones, and colleagues with a gift to the Center. Gifts listed here were received by Sept. 15, 2026. To make a tribute, visit **danforthcenter.org/donate**.*

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Make your year-end gift today.

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Future Forward also concludes December 31. Donors who choose to increase their giving through a campaign pledge can help strengthen the Center for the years ahead.



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