



# THE FAR-B NEWS

Dedicated to promoting the research and education programs of the Henry A. Wallace Beltsville Agricultural Research Center, Beltsville, MD

Friends of Agricultural Research-Beltsville, Incorporated P.O. Box 1061, Beltsville, MD 20704-1061

JANUARY 2021

Editor: Hank Becker

## Area Director's Message

After a long soul searching, I have decided to retire. My last day will be on January 29, 2021. My career as an agricultural scientist and science administrator has spanned 45 years. During this time, I worked for five different institutions, on two different continents, resided in four different states in America, and lived under 17 different addresses. If I could have another life, I would live it the same. I have no regrets, except one but that I will address later.

ARS has played a crucial role in my professional journey. After obtaining my Ph.D. in Pomology/Plant Physiology in 1980, I came to the U.S. as a Senior Fulbright Scholar and my first job for the next 15 months was in the Fruit Laboratory, USDA- ARS Beltsville Agricultural Research Center. Upon my arrival, I was 27 years old, had \$35 in my pocket, had no family, and knew nobody in the U.S, except Dr. Miklos Faust, a Lab Chief (a position now called Research Leader) whom I met 2 years before at the International Conference on Mineral Nutrition of Temperate Zone Fruit Trees in Canterbury, UK. I was full of ideas, energy, determination, and desire to help agriculture to feed the world.

The political events in my native Poland, my active participation in the Solidarity Trade Union, and the imposition of martial law by the Polish communist authorities in December, 1981 in response to widespread strikes organized by the Solidarity resulted in my decision to seek a permanent residency and eventually the U.S. citizenship. My decision came



with a price tag. The Polish government at the time viewed my action as treasonous, which meant that I would never be able to see Poland and my family again. The downfall of communism in 1990, changed all of that but I had no way of knowing it in 1981.

After my Fulbright Fellowship in Beltsville and subsequent 2.5-year post-doc stint with the West Virginia University ended, I joined the Texas A&M University-Kingsville (TAMUK) Citrus Center in Weslaco, TX as an Assistant Professor in Soils and Plant Physiology. After obtaining tenure (1988) and the rank of Full Professor (1994), I embarked on my first hybrid research/administrative position in 1996 as the Assistant Director of the TAMUK Citrus Center and the Texas A&M University Agricultural Research and Extension Center in Weslaco, TX. In 1998, I was invited to apply for the position of

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### MEMBERSHIP DUES REMINDER

**USDA** employees may join FAR-B as an Associate for \$15 per year, and a Personal Membership is \$30 per year. Higher levels are available, and application information is on our website, [www.far-b.org](http://www.far-b.org).

We would appreciate your reaching out to others about FAR-B membership and the value of our activities. (see page 4)

**Area Director's Message** . . . *continued*

Director and Research Leader of the USDA-ARS Appalachian Fruit Research Station in Kearneysville. Luckily, Ms. Wilda Martinez, then the North Atlantic Area (NAA) Director, offered me the job. The decision to move to ARS was the best career decision I ever made. After 8 years with the AFRS, I moved to the position of Associate Area Director of NAA in Philadelphia, and one year later to the position of Director of NAA. Eventually, I became the Director of Northeast Area (NEA) after the NAA merged with Beltsville Area in 2014. Thus, my professional journey in America made a full circle. I am back where I started.

None of this would have been possible without the support, trust, and mentorship of my many friends and colleagues who believed in me before I believed in myself. These people encouraged me and gave me wings so I could fly, discover fun where the risk was, stay positive, confident but also humble. Dr. Miklos Faust, Mr. Bill Butt, Dr. Ron Korcak, Dr. Richard Zimmerman, Dr. Steve Miller, Dr. Jim Bunce, Dr. Howard Brooks, Ms. Wilda Martinez are some of the ARS friends who had a profound impact on my career and life. My scientific and administrative career would not have been possible without the support and understanding of Barbara, my wife, and Kasia, my daughter. I regularly worked 12-16 hours days so they endured my many absences, yet they never ceased to support me. I remember once skipping a family trip to Disney World because I wanted to finish writing a book chapter that the publisher urgently demanded of me. My then secretary in Texas remarked that Kasia will not be 12-years old again. She was right. So here is my only regret. The work absorbed me so much that I

missed important family events on quite a few occasions.

I feel sad that with my retirement I will no longer have the privilege to work with such an accomplished and dedicated group of professionals you all are. I will miss my everyday interactions with you, hearing first hand about your scientific accomplishments, marvel about your scientific ideas, witness



scientists and technicians working tirelessly to uncover biology's secrets, witness a financial technician or AO going above and beyond the call of duty to assure that there are still funds to make that last, important year-end purchase, a PSA trying to get a complex agreement in place so cooperative research with a university will continue, a custodian cleaning the building so it is pleasant to work in it. All that work is needed and valued. This is how in many different ways you all contribute to agriculture research which generates new knowledge that helps to feed the world, keep clean water, and the environment unpolluted. Is it possible to do anything nobler than that? I do not think so, and that is why agriculture and agricultural research have been the mission of my life.

I will continue this mission in my retirement through my private field and greenhouse research to explore some of the ideas that I harbored for some time but had no opportunity to pursue. I will do it

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**Area Director's Message** . . . *continued*

at my own pace and on my terms. No annual reports! I will play much more piano and guitar and compose music, and after the pandemic ceases will travel internationally. Most of all, I will enjoy and spend much more time with Charlie, my grandson.

Stay healthy and optimistic my friends and have faith that tomorrow be better than today. Winston Churchill once said that “an optimist sees an opportunity in a difficulty but a pessimist sees a difficulty in an opportunity”. I cannot agree more.

*Dariusz M. Swietlik, Area Director, NEA*

## **President's Message**

This morning as I am writing for the FAR-B Newsletter, I look out the window and see a light coating of snow and ice on the ground and on the trees. Seems serene and beautiful. However, as we all know, looks can be deceiving as the Covid-19 virus pandemic is still with us and it does not seem to want to go away. Never-the-less, the FAR-B Board of Directors have been meeting monthly via ZOOM since September.

Unfortunately, the Research Centers has not been able to open since they closed last March 2020. As a consequence, FAR-B has not been able to do much for the Centers. We did move our traditional meeting time from the second Tuesday of the month to the third Tuesday of the month in hopes of getting greater participation and ideas for what FAR-B can be doing for members of the three Centers, Beltsville Agricultural Research Center, Beltsville Human Nutrition Research Center, and the National Arboretum. We are interested in your ideas on what FAR-B can be doing to help promote the research. Please let us know by emailing BOD's members. **Speaking of members, dues are due now. Please rejoin or join FAR-B by going to our website: [www.far-b.org](http://www.far-b.org).**

We have not spent a lot of money this year. We have donated \$1,000 to the Beltsville Academy to be used for fresh food supplements for students and

their families. The board also approved donating \$2,000 to the Maryland Agricultural Education Foundation. This organization has the Science Trailers that have come to the Beltsville Academy to enhance the science program at the school for the past 6 years. FAR-B helps sponsor the week visit of the science trailers. FAR-B will also participate in supporting a Beltsville Open House Field Day if there is one in the fall.

Since the last newsletter, 3 BOD's members have resigned from the Board. These are Allen Stoner, Past President, who moved to Indiana, K. Darwin Murrell, Past President who moved to Kentucky, and Richard Zimmerman, Past Treasurer. I want to **THANK** all three for their outstanding contributions to FAR-B during the past 15 or so years. With these 3 leaving the Board, means that we have lost some personal first-hand history of BARC dating back to the mid 1960's.

The FAR-B BOD's meetings will continue via ZOOM for the foreseeable future. Therefore, retirees who have moved from the Washington area, should be able to join the Board. Please let me or someone else on the Board know of your willingness to serve. Beltsville really needs your input. Our next meeting will be held February 16, 2021 at 10:30 a.m. If you want to join use, please let me know and I'll send the ZOOM address.

*James Anderson, Past President*

## **CFC Update**

The Combined Federal Campaign has accepted FAR-B's application to participate in the 2021 campaign. The pledges to FAR-B in the recently ended 2020 campaign are \$3,226, which is approximately \$1,000 lower than in the 2019 campaign. While this is a disappointing result, it is not surprising, given the many challenges faced by everyone in the ongoing pandemic. FAR-B is of course extremely grateful for all pledges and donations received that help us continue to support agricultural re-

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**CFC Update** . . . *continued*

search, education, and outreach at BARC, BHNRC, and USNA.

FAR-B now has 55 members, a much lower number than FAR-B enjoyed when membership was approximately three times higher. For example, in 2008 and 2009, membership was in the 170 range. However, the population of the three Locations we serve is lower than it was then, and there are the already noted challenges with the pandemic and economy, among others. A USDA employee may join as an Associate for \$15 per year, and a Personal Membership is \$30 per year. Higher levels are available, and application information is on our website, [www.far-b.org](http://www.far-b.org). We would appreciate your reaching out to others about FAR-B membership and our activities.

Despite the state-of-affairs we are all operating in, FAR-B remains committed to our goals:

- Disseminate information regarding unique expertise of Beltsville scientists and their research accomplishments that benefit society.
- Organize, sponsor and finance major symposia, field days, and scientific seminars.
- Generate funds to support student internships, scientific travel, and upgrade research equipment.
- Present information and expert testimony to the U.S. Congress and others to enhance funding for the Research Center.
- Present to local students educational programs that focus on outstanding research conducted at Beltsville.

The FAR-B Board welcomes retirees or those who are planning on retiring in 2021 to consider becoming a Board member. It is a stimulating and gratifying way to sustain the ARS mission in the Northeast Area Beltsville Locations after leaving government service. If you know someone who has retired, please let them know of this opportunity.

**Dave Prevar, CFC**

## **Treasurer's Report**

In 2020 FAR-B had an operating income of \$13,255. This included \$6,030 from dues/donations and \$3,326 from the Combined Federal Campaign. Among the expenses for this calendar year were travel support for visiting scientists and interns at ARS Beltsville laboratories (\$14,000), support for the Agricultural Learning Experience Programs (ARLE) (\$369) and support for the Maryland Agricultural Education Foundation (\$2,000) and support for Beltsville Academy's fresh food for student's program (\$1,000). As in past years, the budget plan for 2021 will likely have a deficit, but we have sufficient funds in reserves (about \$100,000) to cover the difference.

The FAR-B Board of Directors strongly believes that we can operate successfully by spending down our reserves to better support agriculture research and outreach needs at Beltsville.

**Walter Mulbry, Treasurer**

## **Possible MagLev Facility on BARC**

The Maryland Department of Transportation (MDOT) and the Federal Railroad Administration (FRA) have released their Draft Environmental Impact Statement (DEIS) of the Superconducting Magnetic Levitation Project (MagLev) on proposed alternatives for locations of their stations and Transient Maintenance Facilities (TMF). The BARC TMF alternatives would have permanent negative impacts and temporary construction impacts described by MDOT and FRA (link: [DEIS](#)). The Washington Post ran an article on January 16, 2021 (link: [Baltimore-Washington high-speed maglev project moves ahead after federal review - The Washington Post](#)) that did not mention BARC in a paragraph that listed where the alternatives would "encroach" on federal property, listing Baltimore Washington Parkway, the National Security Agency at Fort Meade, and NASA at Greenbelt (i.e., Goddard Space Flight Center). The east side of the parkway

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**MagLev Facility** . . . continued

is the preferred option of MagLev officials (the west side would also impact BARC.)

Some impacts on BARC would be on rare, threatened, and endangered plants and forest communities. The Maryland Native Plant Society is preparing extensive comments on those. The research area, Optimizing Production Inputs for Economic and Environmental Enhancement (OPE3), was earlier in the project's development spared the direct TMF "footprint" impacts, but DEIS maps still show a viaduct (flyover) there with the TMF landing on the historic BARC airport and adjacent to APHIS Building 580 off Powdermill Rd. The viaduct requires support structures on BARC in that area. Also, the TMF would impact four sub-watersheds of the Anacostia River; these are extremely beneficial to the ecosystem.

Fortunately for the general public, the Post published an opinion letter from a reader who succinctly spelled out the impacts on BARC and other federal properties on January 20, 2021 (link: [Opinion | Maryland's proposed maglev would hurt parks, nature preserves and research stations - The Washington Post](#)). However, that letter only scratches the surface of the magnitude of potential impacts on BARC were this project to proceed with this alternative. That is why I have provided the above links—especially the link to the DEIS—so that readers of this newsletter can see for themselves what could alter the BARC landscape. These articles can also be found by searching "MagLev" in the Post online.

Readers may wish to comment as private citizens with your own perspectives or knowledge of the impacted areas, whether natural resources, transportation, etc., keeping in mind the deadline for comments, April 22, 2021. The comment form is at the [DEIS](#) link. It can also be found at <https://www.bwmaglev.info/index.php/project-documents/deis#>.

**Dave Prevar, CFC**

## IN MEMORIAM

### Dr. Gary Bauchan



The Beltsville Agricultural Research Center has lost one of our scientists, Dr. Gary Bauchan, who died in 2021.

Dr. Bauchan was engaged in research since 1976 and was an ARS scientist working at Beltsville for the past 38 years. During that time,

he authored 253 publications including 182 peer-reviewed papers in addition to 71 symposium articles, popular press articles, training videos, book chapters and conference abstracts.

Dr. Bauchan was recognized as a worldwide expert in alfalfa genetics during his first 25 years at ARS. He was elected the President of the North American Alfalfa Improvement Conference in 1992 and served on the conference executive committee from 1988 until 2008. Dr. Bauchan received an Honorary Membership from the North American Alfalfa Conference in 2010 for "Outstanding contributions to the advancement of alfalfa improvement."

In 2007, Dr. Bauchan became the Director of the Electron & Confocal Microscopy Unit (ECMU) in the Soybean Genomics and Improvement Laboratory. In 2012, Dr. Bauchan coordinated the move of the ECMU into a newly renovated, \$1.5 million space containing more than \$3 million of scientific equipment including state-of-the-art electron transmission and scanning electron microscopes, a confocal laser scanning microscope, wide field fluorescence microscope, and a high-resolution digital video light microscope. Dr. Bauchan's leadership increased the productivity of the ECMU, leading to 146 peer-reviewed publications plus 60 other publications in the past 12 years.

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**Bauchan** . . . continued

Dr. Bauchan led the digitization of the ECMU photo collection. The websites <http://idtools.org/id/mites/flatmites/> and <http://idtools.org/id/mites/beemites/> contain several hundred scanning electron micrographs of flat mites and mites that attack bees found all around the world. *\* you will need to copy and paste these web addresses into your URL to access the pages referenced.*

Since it was launched in 2012, the flat mite web page has had more than 130,000 visitors from 180 different countries and has proved to be an invaluable tool for researchers and regulatory officials from USDA-APHIS who want to identify mites.

Over the past 12 years, Dr. Bauchan participated in more than 200 different research projects at BARC, interacting with nearly every research unit on campus. He worked with federal scientists at USDA-APHIS, the National Park Service, Detroit Michigan's Belle Isle Aquarium, the American Museum in New York, the Field Museum in Chicago, States of California, Florida, Maryland, and Oregon Departments of Agriculture, Maryland's Department of Natural Resources, the National Academy of Sciences, the U.S. Geological Survey, and the Smithsonian Institute. He collaborated with scientists at 18 different U.S. universities and scientists from 40 countries. He mentored 20 visiting scientists, 30 post-doctoral scientists, 16 graduate students and 3 undergraduate students.

Dr. Bauchan had an enormous amount of energy and was driven by insatiable curiosity. Dr. Bauchan's microscopic photographs were stunning, often bringing us to real worlds that seemed imaginary. He revealed truth about things previously unnoticeable. There was no work he turned down, and there were no collaborators he ever turned away. He had a true passion for science, and he loved to talk about it over a strong cup of coffee.

Dr. Bauchan is survived by his wife Francine, three sons, and grandchildren who brought him great joy.

Funeral services have not yet been announced but will likely be held in association with St. Joseph's Catholic Church in Beltsville.

## Donald Thomas Krizek



Donald Thomas Krizek (Age 85) died in Durham on November 24, 2020. He was born on June 25, 1935 to the late Elsie Shlesinger Krizek and Lad Thomas Krizek. Donald grew up in Cleveland where he attended Garfield Heights High School. He graduated from Western

Reserve University in 1957 and earned his masters degree from University of Chicago in 1958.

He spent the next five years on active duty in the Air Force, stationed at Maxwell Air Force Base where he met his wife, who he married in 1962. They returned to Chicago where he completed his PhD in botany in 1964. After teaching at the University of Chicago for two years, he joined the Department of Agriculture in Beltsville, MD, where he spent 44 years doing research on plant stress and climate change.

He was regarded as an expert in plant sciences and published over 100 journal articles or book chapters on topics as diverse as documenting the effects of UV radiation on plants to designing growth chambers and high tunnels to maximize crop production.

He was elected a fellow of the American Academy of Sciences and American Society for Horticultural Sciences and also served as adjunct professor at the University of Maryland. He resumed his Air Force service as a reservist and distinguished himself in the Defense Intelligence Service, serving in numerous leadership roles at the Pentagon and Fort Detrich. He was awarded the Legion of Merit, Defense Meritorious Service Medal, and Meritori-

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**Krizek** . . . *continued*

ous Service Medal before retiring in 1995 as a Colonel.

Donald served on the board of directors of the Diabetes Action Research and Education Foundation and enjoyed serving the community and local youth as the president of the Rotary Club in Beltsville, MD and the chairman of the Oasis Youth Service Bureau.

He loved spending time in his garden and sharing his knowledge of plants with everyone he met. A walk in the woods was a botanic journey, exploring edible plants and identifying species of wildflowers. He enjoyed traveling and could spend hours in museums or botanic gardens throughout the world, lost in the timeless beauty of nature.

Donald is survived by his wife Betty; and three daughters, Kathleen Krizek of Jacksonville, FL, Dr. Beth Krizek of Columbia, SC, and Dr. Susan Krizek of Raleigh. He is also survived by his brother Eugene Krizek of Alexandria, VA; and his sister Patricia DeVoe of Bethesda, MD. Colonel Krizek will be interred at Arlington Memorial Cemetery in a private ceremony with full military honors.

**Dr. Caird Eugene Rexroad**



Dr. Caird Eugene Rexroad, Jr., 74, of Berryville, VA and formerly of Gambrills, MD died peacefully on January 11, 2021 with his wife, children and their spouses by his side.

Dr. Rexroad was born on January 6th, 1947 in Fairmont, WV and lived in various places in West Virginia. As a youth he was active in 4-H, which provided experiences that were profoundly impactful throughout his life. In the eighth grade he was honored as a Knight of the Golden Horseshoe by the Governor.

He attended high school in Lumberport, WV where he met Doreen and was graduated in 1964. He earned a scholarship from Purina and attended West Virginia University, where he was a member of the Dairy Judging team and earned a Bachelor of Science degree in Animal Science in 1968.

He and Doreen were married on August 24, 1968 in Bens Run, WV. He was drafted soon after into the US Army, serving a tour of duty in the Republic of Vietnam with the 101st Airborne Division in 1969 – 1970. He then went to graduate school earning Masters (1972) and Doctorate (1974) degrees of Endocrinology-Reproductive Physiology at the University of Wisconsin-Madison.

Dr. Rexroad joined the United States Department of Agriculture’s Agricultural Research Service (ARS) in 1974 as research scientist in the Reproduction Laboratory at Beltsville, MD where he studied the steroidal regulation of fertility and gene insertion in livestock. He became the Research Leader of the Gene Evaluation and Mapping Laboratory in 1993 where he continued research on genetically modified farm animals and began a program for genetic mapping of traits in dairy cattle.

In 1997, Dr. Rexroad joined the National Program Staff as Associate Deputy Administrator for Animal Production and Protection. In 2004 he was appointed Associate Administrator for National Programs and subsequently appointed the Associate Administrator for Research Operations. His research resulted in over 120 peer reviewed publications and two patents.

He played a significant role in strengthening security at ARS containment laboratories in response to the attacks of September 11, 2001. Dr. Rexroad was the recipient of a Presidential Rank Award for his service as a member of the Senior Executive Service.

Dr. Rexroad was a kind, gracious Christian gentleman who valued his family above all things. He will be dearly missed. The family will hold a celebration of life at a later date.

## Purple Sweetpotatoes for Thanksgiving and More

PHOTO COURTESY VAN-DEN TRUONG



**P**urple sweetpotatoes are high in beneficial phytochemical nutrients called anthocyanins. ARS and North Carolina State University researchers found a way to preserve anthocyanin content during processing into juice or natural colorants.

Bright-orange sweetpotatoes are a staple of many American Thanksgiving dinners and are often prepared with a traditional family recipe. But this year, why not start a new tradition with purple-fleshed sweetpotatoes?

Both colors of sweetpotato are high in dietary fiber, vitamins, and minerals, but the purple varieties are also rich in health-beneficial antioxidants called anthocyanins and phenolic acids. Anthocyanins are plant pigments that make blueberries blue and cherries cherry-red, and the antioxidant activities in purple sweetpotatoes can be at similar levels to these antioxidant-rich fruits. Various studies have indicated that anthocyanins and phenolics from purple-fleshed sweetpotatoes may have potential health benefits.

A team of scientists from the Agricultural Research Service's [Food Science and Market Quality and Handling Research Unit](#) in Raleigh, NC, collaborated with researchers at North Carolina State University to find ways to preserve purple-fleshed sweetpotatoes' anthocyanin levels during processing into products like juice or natural colorants. Typically, heat is used during processing, but heat changes the flavor and prevents isolation and use of sweetpotato starch and fiber. But if heat is not used, then the flesh quickly browns due to the same en-

zymes that turn sliced apples brown.

The scientists wanted to figure out a heat-free way to extract the juice and pigments directly from the raw purple sweetpotato. After those are extracted, what's left is raw starch and fiber (pomace), each with its own uses and benefits.

The team successfully used water containing a small amount of citric acid, a substance naturally present in citrus fruits, to inactivate the browning enzymes and preserve an appealing reddish-purple color in the fresh juice and pomace. Preserving the high anthocyanin content makes these products desirable as functional ingredients in beverages and other food products. This research can pave the way for sweetpotato processors to produce new, value-added products. The team published the study in the [Journal of Food Science](#) in 2019.

*Sue Kendall, ARS Office of Communications*

## ARS Science Key to Stopping 'Man-Eating' Parasite

Screwworm larva tear the flesh of warm-blooded animals, costing farmers and ranchers nearly \$900 million each year.

Roughly translated, the Latin scientific name for the New World Screwworm – *Cochliomyia hominivorax* – is maneater. It is an appropriate name.

Though small, the larvae of the blow fly lives up to its name as it burrows into the open wounds of warm-blooded animals, including humans.

Through its feeding, larvae enlarge the original wounds, which can lead to infection and death. Fortunately, Agricultural Research Service (ARS)-led scientists managed to drive the pest from North America and are hold-



PHOTO COURTESY JOHN KUCHARSKI

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**Parasite** . . . continued

ing the line in Panama.

Screwworm infestations were once prevalent in the United States, with 230,000 cases reported in 1935 alone. ARS scientists Edward Knipling and Raymond Bushland conceived and developed the sterile insect technique (SIT) to control and eradicate screwworms. With SIT, sterilized male blow flies were released to breed with wild flies. Since female blow flies mate only once, the coupling effectively removed that female and her potential offspring from the population.

After eradicating the screwworm from Curacao in 1954, the project moved to Florida and successfully worked its way west across the country before turning south through Mexico and Central America. SIT has been used to suppress or eradicate more than 20 insect pests, but this first use against screwworms has been the most successful.

Eliminating screwworms from the United States saves farmers and ranchers nearly \$900 million in lost livestock each year.

According to [Alex Arp](#), research geneticist with the ARS Screwworm Worksite in Panama, the program is relatively simple in description but requires massive efforts from USDA's Animal and Plant Health Inspection Service and the Panamanian Ministry of Agriculture to rear and apportion the flies. It also requires specially equipped aircraft to release about 14 million sterile blow flies each week into the barrier zone in the Darien region of Panama, along the border with Columbia.

Though highly successful, researchers are always looking for new, better ways to fight screwworms – and new advances in genomics may have opened new doors.

“Sequencing the screwworm genome provides us with information we can use for a multitude of studies,” Arp said. “The genome also contains important information on gene promoter regions that are important for transgenic strain development. Having the genome makes studies of gene expres-

sion or silencing much easier.”

Arp and a few others are based in Panama and conduct their screwworm research as part of the [Knipling-Bushland U.S. Livestock Insects Research Laboratory](#) in Kerrville, TX. Academic collaborators include scientists at North Carolina State University and the University of Kentucky.

“Genetic technologies such as CRISPR (clustered regularly interspaced short palindromic repeats – a powerful tool for editing genomes) hold much promise for insect control programs including screwworm,” Arp aid. “They can improve our current implementation and, potentially be used to develop gene drive control strategies.”

**Scott Elliott**, ARS Office of Communications

## 2021 FAR-B BOARD

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