



Insight

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A Lifetime of Growing Mint, and an Award

It was a difficult decision, but one he ultimately had to make.

After 45 years of growing mint, Idaho's Bob McKellip has harvested his last crop of mint and sold his still.

The disease pressure from Verticillium wilt just became too much, he said.

"It's just got so that we can't raise peppermint," he said. "This area is an old mint-growing area, and we were just getting more and more Verticillium wilt."

The good news for the Idaho mint community is three brothers and one of their cousins purchased the still and are now growing mint on new ground near the Parma Research and Extension Center. And McKellip has agreed to help them get started.

"I'm going to try to pass along any knowledge I have to help them be successful," McKellip said.

McKellip's journey in mint started in 1980, one year after he and his wife, Susan, started farming.

"I bought some equipment and rented some ground, and I planted 80 acres of scotch spearmint," he said.

The farm gradually expanded, added and subtracted crops over the years, but until this past year, mint was always part of the mix.

"It is by far my favorite crop," McKellip said.

McKellip has been involved in much more than just growing mint: He has worked with internationally recognized nematologist Saad Hafez of the University of Idaho, often opening up his farm for trials, and he has been a long-time supporter of the MIRC, serving on the MIRC Board of Directors for decades.

His adoption of drip irrigation is widely thought to be the first use of it in mint. "Everyone says I was the first one, so I assume I am," he said. "We ended up using a lot less water and less fertilizer and increased our yields."



Board Chair A.J. Todd presenting Lifetime Achievement Award to Bob McKellip at the 2026 MIRC Annual Meeting.

And McKellip has long worked to improve the mint distillation process both through the MIRC and in experiments on his farm.

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About 25 years ago, McKellip branched into growing sod from a mixture of Kentucky bluegrass and perennial ryegrass. Today that is his main crop. He is also producing wheat, field corn and some seed corn.

One of his disappointments in discontinuing mint, he said, is that he will be leaving the MIRC.

"I've made a lot of friends and have always enjoyed going to the meetings and being involved with the MIRC," he said. "I've really enjoyed it."

In recognition of all that he has done for the mint industry, McKellip was honored at the 2026 MIRC Annual Meeting with the MIRC Lifetime Achievement Award, something he said he was honored to receive.

"I really appreciate it," he said. "It's nice to be recognized."

He added that he never expected to be recognized for his involvement in the industry. "I did it because I loved doing it," he said. "I wasn't doing it for any honors. I just love to do it and to try to help the industry." 🌿

MIRC Goes to Washington

Representatives of the MIRC Administrative office brought home good news from a trip to Washington, D.C., in March and established connections that could benefit the mint industry for years to come.

"The importance of participating in a trip like this can't be overstated," said MIRC Administrator Michelle Palacios.

"During our time in D.C., we were able to connect and establish relationships with Congressional representatives and U.S. senators, as well as key officials with regulatory agencies."



Michelle Palacios

While in D.C., Steve Salisbury, research and regulatory coordinator with MIRC, said he learned that the U.S. Environmental Protection Agency is open to accepting a request to allow new uses for the pyrethroid product lambda cyhalothrin (Warrior insecticide). "That is really good news," he said. "I was very excited about that."

And in visiting with officials from the USDA's Office of Pest Management

Policy, Salisbury learned that no changes are expected in the immediate future in regard to acephate (Orthene).

"They don't feel like we're going to see any major changes or impacts for one to two years, which is good," Salisbury said.

Concerns over the fate of acephate have been in place since the spring of 2024 when the EPA published a proposed interim decision to cancel all uses of the active ingredient. Since then, new data has been submitted to EPA for consideration and the fate of acephate will be determined after a review of that data.



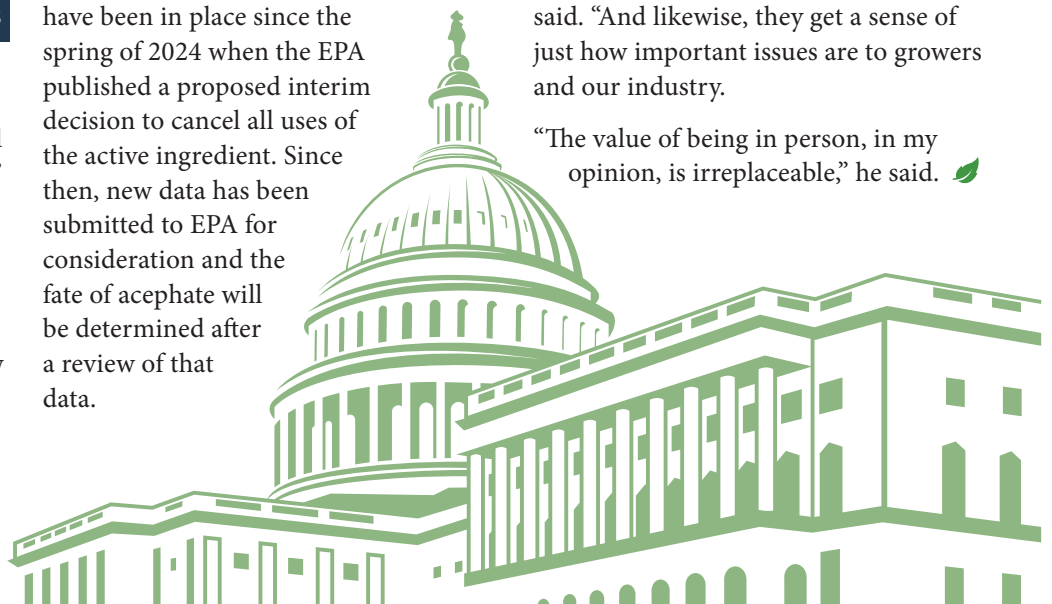
Steve Salisbury

Salisbury said the importance of meeting with officials in person versus conversing over phone or Zoom can't be overstated.

"There is no comparison," he said. "You can't get the same human connection with people over Zoom or a phone call or over an email as when you are actually sitting there in the room and having very fruitful discussions in person, eye-to-eye. You just can't replace that."

"When you are sitting there with people, shaking hands and looking them in the eye, reading body language, you get a real good sense of what is going on," he said. "And likewise, they get a sense of just how important issues are to growers and our industry."

"The value of being in person, in my opinion, is irreplaceable," he said. 🌿



Promising Product for Mint Pests is Focus of Research

With limited management options, U.S. mint growers are finding it difficult to control some root borers and mites. Researchers are now hoping the new insecticide Plinazolin could help.

“It works great for all sort of weevils larvae, including the clover seed weevil and alfalfa weevil,” said Oregon State University entomologist Navneet Kaur, who is the lead researcher on a multi-state MIRC funded project. Larvae of the mint root borer feed on plant rhizomes and can significantly lower yields in areas of high pressure. Plinazolin could provide growers an option for larvae control.

“We have seen efficacy at the lowest label rate, even. We are thinking that this is a promising product for mint pests,” Kaur said.

Manufactured by Syngenta, Plinazolin is currently registered for use in several crops, although not in mint. It offers a new mode of action with no known cross resistance to currently registered miticides or insecticides, providing growers an excellent resistance management opportunity.

In Oregon, Kaur is focusing on the mint root borer, one of four pests being looked at in the project. Current control tactics for the mint root borer are centered on targeting the adult stage of the pest in late summer to early fall with the diamide class of insecticides, particularly chlorantraniliprole products. The management tactic provides some ovicidal activity, helping limit egg laying, and has been shown to provide suppression of the insect’s population. But it has shown limited residual activity, particularly under high pressure.

In Washington, where researchers are looking at Plinazolin for two-spotted spider mite control, Plinazolin scored high in field trials on hops, as well

as in laboratory studies. Growers in Washington and elsewhere have an urgent need for a new acaricide option, Kaur said, as feeding damage from the two-spotted spider mite can result in substantial crop loss and significant reductions in mint-oil production.

In Idaho, the mint stem borer has emerged as a major threat to essential oil production. Its larvae disrupts nutrient flow, stunts growth and reduces oil yields by boring into mint stems. The research is looking into the efficacy of applying Plinazolin during adult colonization and pre-oviposition periods to determine its potential to suppress populations before egg-laying.

In the Midwest, the mint bud mite has led to reduced plant vigor, distorted leaves and shoots and diminished oil yield and quality. Currently, only two registered acaricides target the mite in mint, and both are in the same IRAC (Insecticide Resistance Action Committee) Group. Additionally, growers have reported reduced efficacy of their ‘go-to’ acaricides, raising concerns about the presence of resistant populations and further highlighting the need for evaluating chemistries with novel modes of action.

Researchers are establishing replicated field trials this spring and summer to determine a baseline of pest pressure and will compile data on adult and larval control efficacy, as well as crop safety and yield response, beginning this fall.

Plans are to have a final report ready in winter 2028 and to deliver preliminary reports next winter.

“The findings will help growers reduce crop losses, delay resistance to existing chemistries, and improve oil yield and stand longevity,” according to the research proposal submitted to the MIRC.

Researchers plan to evaluate the insecticide’s efficacy at different application rates and timings.

Their data can be used both for the registration process, and to potentially help growers fine-tune usage patterns if the insecticide gets labeled in mint, according to Kaur.

Plinazolin (isocycloseram), which is sold under several different brand names, has been shown to be effective against a broad spectrum of pests in corn, cotton and other crops, according to company literature.

In corn it is sold as Opello, a soil-applied liquid formulation targeting corn rootworm. In cereals and pulses it is sold as Equento, a seed treatment targeting wireworms and other soil pests. In cotton, peanuts and onions it is sold as Vertento, a foliar applied insecticide targeting plant bugs, thrips and mites. In brassicas, leafy, fruiting vegetables and cucurbit crops it is sold as Incipio, the foliar-applied insecticide and in potatoes and tree fruits, it is sold as the foliar applied insecticide Zivalgo.

Kaur said that Syngenta representatives have said that they support efforts to gather data on the insecticide’s efficacy against mint pests with the idea of potentially registering the product in mint.

Kaur said the researchers plan to focus in areas of high pest pressure. She encouraged growers who have problems with the targeted pests to contact her or the lead researcher in their area. 🌿



Navneet Kaur

New IR-4 Director Holds Appreciation for Specialty Crops

Lina Quesada-Ocampo on March 9 stepped into her new role as Executive Director of the IR-4 Project with an excitement for serving U.S. specialty crop interests and hopes of expanding the program.

“I would love to grow the program to make sure that we can remain responsive to grower needs,” she said.

A long-time IR-4 collaborator, Quesada-Ocampo said she has long maintained an appreciation for the project, which was formed in 1963 to help address the pest-control needs of specialty crop growers. Since becoming Executive Director, her appreciation has grown.

“When I was applying for this job, I was already convinced that this place was incredible,” she said. “Now that I am inside the project, I have been absolutely blown away by the widespread support that exists for IR-4.”

“I know that the MIRC has had a strong presence in our Commodity Liaison Committee and I connected with (MIRC Research and Regulatory Coordinator) Steve (Salisbury) in March and I think he’s great.”

Lina Quesada-Ocampo

“We are truly an organization that is born from the support of growers,” she said.

As evidence, Quesada-Ocampo noted that while other federally-funded scientific programs have undergone budget cuts over the last two years, the

IR-4 budget line has never wavered.

“That to me is a testament of the broad support that IR-4 has,” she said.

Originally from Colombia, Quesada-Ocampo grew up around specialty crops and has worked with them extensively over the years, including in her previous position as vegetable pathologist and Extension specialist at North Carolina State University where she concentrated on cucurbits and sweet potatoes.

Her collaborations with IR-4 started prior to the organization’s move from Rutgers to North Carolina State University in 2021, but expanded after the move. When the executive director position opened with the retirement of former Executive Director Jerry Baron in 2025, Quesada-Ocampo viewed it as an opportunity to expand what she could bring to the specialty crop industry.

“Jerry (Baron) did this job really well for a long time and I was able to watch him as a collaborator and faculty member interfacing with IR-4,” she said. “I am excited and honored to get this position.”

Quesada-Ocampo said that she hopes to continue the close working relationship IR-4 has had with the MIRC in recent years. “I know that the MIRC has had a strong presence in our Commodity Liaison Committee and I connected with (MIRC Research and Regulatory Coordinator) Steve (Salisbury) in March and I think he’s great,” she said.



Lina Quesada-Ocampo, Executive Director of the IR-4 Project

Photo Courtesy of NC State University

“And I love mint,” she said. “I’m excited about getting to know more about the industry.”

Quesada-Ocampo acknowledged that expanding the IR-4 Project will be difficult under current federal budget constraints. “I fully admit that is a challenge right now,” she said. “But I’m hoping that is going to change in the next couple of years. As much as we do, it would be great to do more.”

The hope, she said, is to expand the program to better serve a wider swath of growers while preserving the project’s core programs.

“I always said that few agricultural emergencies have been solved by biologicals,” she said. “We need our conventional chemistries.” 🌿

Keeping Mint Growing: IR-4's Critical Role

Growers of a small crop with big challenges rely on IR-4 for pest control tools.

Supporting small-scale specialty crop industries like mint is at the heart of IR-4's grower-focused mission. This article was originally published by IR-4 and is run with permission.

Any gardener who has planted a mint plant in the ground has likely seen it take off running and never look back. Mint grows vigorously—usually too vigorously—in a garden bed. However, if you are a farmer growing mint for commercial production, it can be much more challenging.

Diseases such as Verticillium wilt can devastate the crop and render the ground unusable in the future. Insects like mites and root or stem borers can reduce yield and quality. Weeds can contaminate the mint oil, a product that needs to be pure to be saleable. Mint is a popular component of many food products—including the fresh and dried herb as well as mint oil—and any pesticides used on the crop must meet U.S. Environmental Protection Agency (EPA) safety standards for environmental and human health.

Getting pesticides registered for use on a small crop like mint is an arduous task, since the acreage involved is too small to be worth the manufacturer's investment in the required trials and data, and the fees involved. This is where IR-4 steps in, working with researchers and other stakeholders to develop application protocols, collect data on product efficacy and crop safety, and test residue levels to ensure they meet regulatory requirements. With minor crops like mint, doing this legwork can make all the difference in persuading a manufacturer to apply for a label use.

"Even in the heyday of mint production in the U.S., we had a little less than

80,000 acres," says Steve Salisbury, Research and Regulatory Coordinator for the Mint Industry Research Council (MIRC) and a member of IR-4's Commodity Liaison Committee. "And, right now, we have about 45,000 acres in production. When the manufacturer is developing a business plan, and we say, 'We have 45,000 acres,' they say, 'We have one county in Illinois with 45,000 acres of corn.' So there's no comparison. The support of IR-4 is absolutely critical for an industry like mint."

Mint Production Varies Across Climates

Mint is grown primarily in the Midwest and the far western parts of the U.S. Indiana, especially the northwest corner, has the most acreage in the Midwest, followed by Wisconsin and Michigan. The state of Washington leads mint production in the U.S., followed by Idaho, with Oregon and northern California also growing a significant amount.

"There's still some sprinklings of production in places like Minnesota, Utah, Montana, northern Nevada and North and South Dakota," Salisbury says. "Historically, mint production began in the early 1900s in Massachusetts. But, due to Verticillium wilt (*Verticillium dahliae*), eventually it moved to upstate New York and then to Ohio and Michigan. Eventually, the fields became infected there, and production continued to move west. Everybody in the traditional growing areas is continually searching for that good

virgin ground that hasn't been infected with Verticillium yet."

Production practices differ based on the climate and soils. Northern areas such as Minnesota and Wisconsin only harvest once per season, while warmer areas can get two cuts or more. A good portion of Midwestern mint is grown on muck soils — marshland drained decades ago — which means higher organic matter and the ability to control the water level through drainage ditches. Mint grown in the West is on mineral soils and usually in drier conditions, requiring irrigation. Mint is a perennial plant that grows from crowns; in northern growing areas, the plants are plowed underground in the fall to protect the crowns during the winter.

While there are numerous types of mint, spearmint (*Mentha spicata*) and peppermint (*Mentha piperita*) are the primary commercial species. The type of mint predominantly grown in a given area varies by region. Washington state leads the nation in total mint production, which includes both peppermint and spearmint. Washington leads the nation in spearmint, producing about 70% of U.S. spearmint oil in 2025 (compared to about 27% of U.S. peppermint oil), while other regions are more focused on peppermint oil, based on USDA National Agricultural Statistics Service's 2025 numbers.

"Spearmint oil makes up only a small fraction of the mint oil market [in our region]," says Dan Heider, Field Research Director for IR-4's North Central Region. "Peppermint is currently our primary crop grown, and consists of just three cultivars: 'Black Mitcham' and two improved varieties of 'Black Mitcham.'"

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Harvest and Distillation: A Fragrant Process

A small percentage of mint is harvested and dried as an herb, but most mint is processed into oil for use in fragrance and food flavor. Salisbury, who grew up in western Oregon, remembers his father processing mint through a distillery and the intense smell of mint in the still. “On warm days in the field before swathing the mint, you can turn the leaf over and see oil droplets hanging on the underside of the leaf,” he says.

When the climate and moisture conditions in the plant are right, the plants are cut and left to dry in the field. Then it is picked up and chopped and blown into a specially designed mint tub. The tub is taken to the still, and a steam line is connected to the bottom of the tub and an exhaust line at the top. The steam travels through perforated pipes in the floor of the tub. As the steam rises through the “hay,” it strips the oil from the mint, which is vented upward through the exhaust line. The oil and steam cool as it travels through the condenser and drops into a separating can as oil and water. The oil is lighter, so it floats on top. As the can fills, the oil decants, pushing off the top of the water into a collection can.

“It’s a lot like distilling alcohol,” Salisbury says. “It’s fascinating. It’s a beautiful-smelling crop to work with. If you have plugged sinuses, standing near the oil condenser where it drops into the separating can will clear them in a hurry.”

Developing Solutions for Weed Control

Because the quality of the oil determines the price, and even if it is saleable, keeping weed contaminants out is of primary importance.

“If weeds get into the distillation process, they can impart off flavors, which can result in a lower buyout—or even no

sale—for that oil,” says Heider. “Weed competition can cause lost yield, as well, like in other crops. But there’s a big concern about a reduction in quality as well.”

IR-4 has helped develop a toolbox of about 10 active ingredients to aid weed control in mint fields, a number Heider says grew from about two products labeled in the mid-1990s. “There’s been a lot of progress on weed control, which is really helpful,” he says. Still, challenges remain.

Heider says crabgrass is an aggressive weed in muck soils, and while it has historically been controlled by ACC inhibitors, a lot of crabgrass has become resistant to them, and it’s become troublesome, especially late in the season. More recently, like so many farmers, mint growers have experienced an increase in pigweeds like waterhemp and Palmer amaranth.

To combat these weeds, IR-4 recently facilitated the approval of saflufenacil for mint. Saflufenacil is considered a low risk for volatility and drift, and an improvement over paraquat. It provides an additional tool for controlling hard-to-manage weeds and, when used with cultural practices, reduces the likelihood of herbicide resistance.

Controlling broadleaf weeds in a broadleaf crop has its challenges because the herbicide doesn’t discriminate. It must be applied after the weeds emerge, but before the mint emerges, which means there is an extremely narrow window for it to be applied over the crop. It doesn’t work for all growing areas, although some growers are now using it as a burndown after the mint plants have gone dormant.

“Saflufenacil, like many of the herbicides we use, had been around for many years before being investigated for mint,” Heider says. “The MIRC pointed us in this direction, because they look at the products and say, ‘This one is

really needed for our growers.’ IR-4 can only put through so many projects in a year, so in the case of mint, the MIRC prioritizes which products they hope we will support. They also help to fund a lot of the efficacy work on the front end to make sure the product works and that it has crop safety.”

Saflufenacil was approved for mint in 2025 after five years of work by IR-4 and MIRC, and growers were quick to adopt it into their weed control programs.

Following work conducted jointly with the Canadian Pest Management Centre, IR-4 also facilitated the February 2026 approval of pyridate in collaboration with MIRC, which gives growers an additional tool for managing weeds in mint moving forward. Salisbury notes that this success is “a big deal for mint—we really appreciate IR-4 getting this done.”

IR-4 Ushers Important Tools into Growers’ Insect Management Portfolios

Mint growers have a new tool for controlling nematodes after IR-4 developed protocols and tested residue levels for fluopyram, a nematicide and fungicide. With only one current chemical option available for nematode control in mint, and no cultural or biological controls, the approval of fluopyram for mint in 2023 is a welcome new mode of action for growers.

Mites are a significant problem in mints, and Salisbury says IR-4 has been instrumental in getting some additional miticides approved for mint.

“We are seeing more and more of the older materials losing their efficacy due to mite resistance,” Salisbury says. “Thanks to IR-4, we have options we can turn to. In fact, I think every miticide on our list became available to us through IR-4.”

Fenpyroximate is a miticide that is now in most mint growers’ pest control

programs. “This was a significant tool for registration, says Russell Groves, Professor and Department Chair at the University of Wisconsin Department of Entomology. “Mint bud mite became an issue in the late 1990s and into the 2000s, and this registration became very valuable. Producers now use support tools to time the application [of fenpyroximate] with the population biology of the mite and they have good success.”

An especially notable active ingredient for which IR-4 facilitated registration for mint is chlorantraniliprole, which provides effective control for mint root borer. The use was approved in 2016. One benefit of chlorantraniliprole is that it is a softer chemistry for the environment because it is more targeted toward specific pests; it can be used as a reduced-risk, direct replacement for chlorpyrifos. Heider says that because IR-4 continues to pursue registrations on newer products, it allows mint growers to keep an environmentally conscious aspect to their pest management programs.

Another example of this is the 2024 registration of cyantraniliprole for use on mint root borer. Salisbury says data show it is a bit more effective than chlorantraniliprole, and will provide a new tool to rotate into a control program, helping to delay resistance to both products. This is another reduced-risk, improved option to replace chlorpyrifos.

Working Towards the Future

Competition from cheaper mint oil from overseas (primarily India) has made the market soft for North American growers. It's one of the main reasons for the reduction of North American mint acreage. Heider says the foreign-produced oil are not of the same quality and consistency as what is grown in the U.S., so educating consumers is a key industry initiative.



“The unfortunate part is most people in general are not really able to discern between U.S.-grown mint and lesser-quality mint,” he says. “I’m guessing the vast majority are not even aware mint oil is produced from a plant and not made synthetically. The mint industry is working with companies that produce mint products—toothpaste, candies, etc.—to add the U.S.-grown, higher-quality message to their packaging.”

Verticillium wilt remains a perpetual challenge, despite efforts to breed resistant cultivars and develop effective treatments. Salisbury says it’s “the disease of the century for mint.”

Because the mint industry is not comfortable with transgenic breeding techniques, the MIRC has made significant investments into traditional breeding, attempting to develop a Verticillium-resistant cultivar. Marker-assisted technology—reviewing the genotypes of plants and searching for genes that indicate potential for resistance—helps speed the process, but mint, especially the “Black Mitcham” cultivar that dominates production, is not your normal plant. Peppermint is a sterile plant that is propagated by cloning rather than by seed. What’s more, ‘Black Mitcham’ has three ancestral parents, and it is a hexaploid, meaning it has six

times the chromosomes of a normal plant. Traditional breeding, where a wild mint that is resistant to Verticillium is crossed with ‘Black Mitcham,’ doesn’t work.

“I tell people Black Mitcham’ is an evolutionary act of God that was created over many, many years, Salisbury says. “It is a genetic phenomenon. But it has the scent, flavor, and molecular composition that mint oil buyers and their customers want.”

There is a project currently underway with IR-4 at the request of MIRC that is testing azoxystrobin and benzovindiflupyr, which has shown some efficacy against Verticillium on mint. “If it does well, that would be great,” Salisbury says. “We’ll evaluate the treatments and see if there seems to be potential.”

Salisbury says the relationship the mint industry has with IR-4 is critical for its success. “We have a long, positive history of support with IR-4,” he says. “We pounded the table at Capitol Hill and tell all our growers how important this program is. We would not have anywhere remotely close to the portfolio of products to defend our crop without IR-4—not even close. We feel very fortunate to have the support of this program.” 🌿

A Look at MIRC's Newest Member, Citrus and Allied

MIRC's newest member is rejoining the organization after a twenty-year hiatus.

"We are happy to be back," said Richie Pisano, General Manager of Citrus and Allied (C&A), a leading global manufacturer of flavor ingredients and fragrance materials. "American peppermint is important to our product portfolio, and participating in the MIRC provides us an opportunity to be part of ensuring the health of the mint industry in the United States and Canada going forward."

Citrus and Allied's history dates to 1933 when Pisano's great grandfather, essential oil chemist Charles Pisano, started the company with his wife, Josephine, on the Lower East Side of Manhattan.

Their first customers included essential oil dealers, flavor and fragrance formulators, as well as pharmaceutical companies. Today the company is well known across the globe for manufacturing a wide range of essential oils and aroma chemicals used as flavor and fragrance ingredients, including sourcing and distilling peppermint, spearmint, cornmint and spice oils.

"We are thrilled to have them as a part of our Council and look forward to working with them," said Michelle Palacios, administrator of the MIRC.

Citrus and Allied today is headquartered in Belcamp, Maryland at a facility it opened in 1990. When it opened, the facility included a 34,000 square-foot plant on seven acres. The company has since expanded the plant to 90,000 square feet and has opened a 70,000-square-foot repackaging and warehouse site across the street.

The company has consistently expanded its product portfolio over the years. Some examples include: in 1958, C&A diversified its line of essential oils by

specializing in peppermint oils sourced from the Pacific Northwest; in 1960, C&A began importing specialty aroma chemicals from Europe and Asia for sale in the flavor and fragrance industries; in the late 1960s, C&A began manufacturing a line of aroma chemicals based on esterification; in 1998, C&A added a line of spice oleoresins to its product portfolio; in 2020, C&A launched a line of botanical extracts manufactured in Colima, Mexico, and the U.S.; and in 2021, C&A acquired the essential oil, extract and fragrance business segments of Medallion International, a Boudjouk family owned business.

In addition to the MIRC, Citrus and Allied participates in many other organizations. C&A is a founding member of the International Federation of Essential Oils and Aroma Trades (IFEAT). It participates in the Fragrance Creators Association (FCA), in Women in Flavor and Fragrance Commerce (WFFC), in the Institute of Food Technologists (IFT), the National Association of Flavors and Food Ingredient Systems (NAFFS), and in the Flavor and Extract Manufacturers Association (FEMA).

"Some of the associations that we have historically been involved with, like FEMA, the American Spice Trading Association (ASTA) and the likes, are broad regulatory and economic associations," Pisano said. "The MIRC really homes in on some of those specialty issues as they pertain to mint oils, and that kind of narrow focus is pretty unique. So, we're excited to be back at the table."

Pisano added that he hopes Citrus and Allied can contribute to the organization.

"We hope that we can help the MIRC on the science and analytical side," he said. "We distill over 100 essential oils, and our internal laboratories have the ability to do

triple quad mass spectrometer analysis. We have additional mass spectrometers, HPLCs, dozens of gas chromatography's. So, if MIRC needs any additional lab support, we're certainly willing to assist in those kinds of projects."

As for the future of Citrus and Allied, Pisano said the company is at a healthy place.

"Because we focus on ingredients and many of our legacy competitors are now part of much larger corporations, we continue to thrive as an independent company."

"Independent companies or ingredient companies in general often occupy the lowest gross margin sector in the flavor industry," Pisano added. "With the combination of high inventory requirements, high capital requirements for equipment and low-margin sales, a company like ours is well positioned as a family-owned and managed company for a long time in the future."

"We know how to navigate markets, whether they are going up or down, and our acumen serves us well," he said. "We've very experienced working with ingredients and we don't have the pressures from public markets or what I like to call corporate overlords."

Pisano added that Citrus and Allied is committed to the MIRC and that he enjoyed participating in the annual meeting, held last January in Tucson, Arizona.

"It was great getting to sit around a table with people who have been going to these meetings in many cases for decades and to hear from scientists who were making proposals for projects," he said.

To learn more about Citrus and Allied, visit the company's website at <https://citrusandallied.com>. 🌿

Chair's Report

A.J. Todd, Chairman of the Board

Between efforts to revitalize our committees and the funding of four substantive research projects, positive developments came out of our organization's most recent Board of Directors meeting.

I was encouraged to see such a strong array of research proposals come before us this year. The five projects we funded include research designed to improve integrated pest management in mint production and to continue efforts to develop new and superior cultivars.

I want to express my appreciation to Isabelle Henry at U.C. Davis as she works on developing new cultivars and to Jeremiah Dung at Oregon State University for his help with those efforts. We also are looking forward to what comes out of a multistate project that we funded looking into potential uses of a new insecticide that holds promise for our industry.

Total funding that we approved was \$227,665, an amount that we feel can make a difference for our industry.

Also at the meeting we officially approved the administrative contract

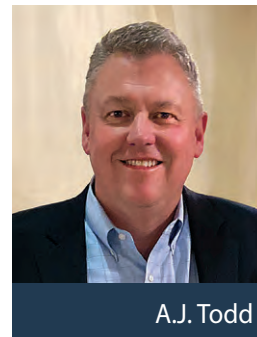
with BCI Management. We are excited to be partnering with this topnotch association management team.

I would also like to take this opportunity to welcome back our newest member Citrus and Allied, a multigenerational family business that is returning to MIRC.

As for the Board's work in revitalizing our committees, we have created a new committee and have appointed chairs to each of the four committees, pending Board approval. The committee chair for the Varietal Improvement Committee is Greg Biza from RCB International; the chair for the IPM Committee is Emily Mezo from ADM; John Williams from RCB is our Sustainability and Agronomic Improvement Committee chair; and Stacia Krause Ledbetter of Essex Laboratories is the chair for the New Markets Committee, a newly created committee.

The idea is to bring more relevance to the committees, have the committees meet more often and to bring recommendations to the SAC Committee. Under the new structure,

for example, the IPM Committee would vet research proposals and bring a recommendation on which projects to fund to the SAC Committee.



A.J. Todd

I am also pleased to announce that Luke Stedman of Callisons is our new SAC chair, and I would like to thank Greg Biza for his service as the committee's interim chair.

Finally, I would like to thank Bob McKellip for his years of service to the MIRC. It was nice to see Bob get the MIRC's Lifetime Achievement Award at the last Annual Meeting. And I want to encourage everyone to attend the 2027 Annual Meeting, scheduled January 19-21 in Lake Nona, Orlando, Florida. Please put those dates on your calendar, and I will see you there. 🌿



Research & Regulatory Update

Steve Salisbury

First, I'd like to say that the annual MIRC meeting in Tucson, Arizona was a success and well attended. Both the Scientific Affairs Committee and the Board of Directors held productive meetings with a lot of valuable engagement from all of our members. Our newest member, Citrus and Allied, has come back to the MIRC board and quickly engaged the group with positive contributions. We appreciate their renewed involvement with the MIRC.

For 2026, the MIRC approved funding for four research projects that are addressing industry priorities in the areas of varietal improvement and integrated pest management. The varietal improvement research is a continuation of research over the past several years while there are two new IPM projects getting started this year. We will briefly review these projects.

The MIRC continues to pursue improved genetics for peppermint through the research efforts of Dr. Isabelle Henry at University of California – Davis. This project is also collaborating with Dr. Jeremiah Dung at Oregon State University where he is contributing his expertise on Verticillium wilt in mint. As Dr. Henry discovers genetic markers associated with traits of interest, she is now applying this knowledge to create progeny that are now being evaluated in small field plots. As with any good genetics/breeding program there is quite a diversity of plants and characteristics being generated. That said, the research is showing some promise with some progeny showing positive trends in key desirable properties such as oil yield, oil profile, and Verticillium wilt resistance. In 2026, she will be building off of what she was able to accomplish in 2025 which will include more field testing to evaluate yield, oil quality, and agronomic traits.

The wilt resistance is where Dr. Dung

makes great contributions with his team. His research also shows the promise of obtaining peppermint plants with varying degrees of wilt resistance. He is also continuing to research a screening methodology for wilt that would be quicker, accurate, and reliable. In 2026 he will continue to contribute to the varietal improvement project with assessments of wilt resistance found in Dr. Henry's progeny, and he will progress with developing the screening methodology.

Overall, the MIRC is pleased with the accomplishments and progress of the varietal improvement project. There have been some significant steps forward noted that have sparked some energy and momentum in the right direction. In fact, the varietal improvement committee presented the notion to the SAC and Board of Directors that there is a need to begin laying plans for taking promising new mint lines to small field trials to obtain scalable data on the plants and their performance. These discussions and early steps are currently generating a field development plan for candidate lines for production.

One of the IPM projects funded in 2026 is Dr. Dung's proposed project to research sampling strategies to better evaluate verticillium wilt occurrence and distribution in mint fields. This project was co-funded between the MIRC, the Washington Mint Commission and the Oregon Mint Commission. The collaborative effort to support this project by our friends in Washington and Oregon is excellent and appreciated by the entire mint industry.

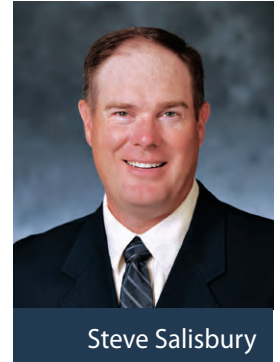
The second IPM project funded for 2026 is a multi-state entomology collaboration with Idaho, Indiana, Oregon and Washington. I am very excited about this project and this excellent team of entomologists working on mint. The

purpose of this project is to evaluate the new insecticide isocycloseram from Syngenta, its fit in mint production, and to generate data to support an IR-4 priority

to lead to a new label for mint. The collaboration is designed to generate more data from several mint production regions and to provide local results and insights for mint growers. Each entomologist will be evaluating an insect or mite pest significant to mint and the local region. This project plan includes Dr. Marcelo Dimase at the University of Idaho in Parma who will study mint stem borer, Dr. Elizabeth Long at Purdue University to evaluate the response of mint bud mite, Dr. Navneet Kaur at Oregon State University looking at mint root borer, and Dr. Doug Walsh at Washington State University to study impacts on spider mites. We appreciate all four of these scientists being willing to collaborate and work on this new active ingredient for mint.

I would like to mention that the Board Chairman A.J. Todd, ADM-Mint, announced at the Board meeting that he wants to restructure the MIRC's technical subcommittees and re-appoint members of those committees, pending Board approval. We have appreciated the contributions of those that have been serving on the previous committees. Some of those folks will be reappointed to the new committee rosters.

Chairman Todd wanted to align the subcommittees with the four priority areas of the MIRC. Additionally, he has rolled the sustainability committee into the agronomic and sustainability



Steve Salisbury

improvement committee. Now the four subcommittees include: Varietal Improvement, Integrated Pest Management, Sustainability and Agronomic Improvement, and New Markets. The purpose of these committees is to provide support, input and expertise to develop projects of value to the mint industry as well as closely evaluate project proposals that are submitted. The engagement of the committees will lead to better project proposals and a smoother evaluation process leading up to funding decisions. We truly appreciate members investing a little more time to help the overall industry.

Acephate

Last topic to note here is regarding acephate. Many of the growers have been asking, as I have too, for an update on the status of the registration and labels for acephate. The commonly used insecticide/miticide was announced to be cancelled by the EPA back in April 2024 in the agency's proposed interim decision. Since then there has been no final decision made or any update until recently.

There is quite a bit going on behind the scenes with data submissions, further reviews and risk assessments. In short, I was told that there will not likely be

any significant impact to growers for the next year or possibly two. That means the labels and registration will remain in effect and the products are usable for mint production for at least this crop year. Of course, we will keep a close eye on this topic and relay any updates that start coming from the EPA on this front.

As always, I wish you all a safe and productive harvest season. Thank you for your continued support of the mint industry and the MIRC. Your passion and dedication to mint is what makes it successful. Stay safe out there. 🌿



SAVE THE DATE

JANUARY 20-21, 2027

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Make plans now for a 2027 getaway to Orlando and attend the 48th Annual Meeting of the Mint Industry Research Council where all segments of the mint industry gather.

The Annual Meeting will be held on January 20-21, 2027, in Orlando, Florida. The meeting will feature two days of special guest speakers from around the country, in addition to industry research reports and updates. The meeting comes to a close with a Thursday evening industry reception.

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