



The SIU Cannabis Science Center Welcomes You!

COMMUNITY SHOUT-OUT SHOP LOCAL CBD AT NEIGHBORHOOD CO-OP CARBONDALE



Photo, Katherine Accettura

SHOP LOCAL

One of southern Illinois' most cherished local businesses features an ever-expanding offering of high-quality, local CBD products.

Stephanie Cook, Wellness Manager at Neighborhood Co-op Grocery in Carbondale, IL, stands beside a glass display case of local and national CBD products. Illinois-grown hemp products available at the Co-op

range from oil and alcohol tinctures made from extracted hemp flower to CBD pre-roll joints, topical salves and gummies. Illinois brands like AerosourceH (Metropolis), Big Muddy Hemp Farms (Murphysboro), Buffalo Bluffs Hemp Farm (Makanda), Delight Flower Farm (Champaign), and Squish Global (Marion), all provide hemp products that fall within Illinois state law's approved products which all contain below 0.3% THC.

The Co-op originally opened in 1985 in a small, grassroots storefront on Jackson Street in Carbondale, IL. They opened as a means to serve a community of like-minded shoppers who wanted access to better ingredients. The Co-op's history and growth may be compared by some, to the grassroots cannabis community here in southern Illinois. They didn't always have access to local grow shops, dispensaries, or more recently, cannabis classes in a collegiate setting like SIU. In 2006, the Co-op joined the National Co-op Grocers' Association (NCG) and expanded into their current location at 1815 W. Main Street in Carbondale, pictured at left.





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The Co-op's mission has always been to support local farmers and producers throughout every department in their store. It's easy to embrace the rich, agricultural community of southern Illinois, and envision local peaches and apples, which grow abundantly throughout summer and fall. Locally-grown medicinal herbs and other plants are made into salves and tinctures by

farmers. It's only within the past few years that they can finally use another crop which can be grown locally and abundantly: hemp. In 2021, thanks to Stephanie and staff, the Co-op tripled the size of their CBD display case to accommodate an ever-growing range of products and brands. Charlotte's Web was one of the first nationally recognized CBD brands, and has been carried by the Co-op for years.

The Co-op's sales of local products, especially CBD, has grown exponentially and now CBD is the top-selling category of products in the Wellness department. The Co-op takes pride in offering one of the best, and most considered selections of CBD products in southern Illinois and beyond. Local farmers are appreciated for their hard work in a budding industry here in southern Illinois.

Save THE Date



SOUTHERN ILLINOIS HEMP/CANNABIS SYMPOSIUM



Saturday, March 26, 2022

Gain practical information and tools for new and experienced organic hemp growers, producers, and processors. The symposium offers information on current research, farming techniques, production, lab analytics and medical uses. Key speakers include experts and exhibitors in their respective fields.

Q&A sessions provide abundant resources for attendees.

Tickets and schedule available soon. www.cannabiscenter.siu.edu



FACULTY FEATURE

MARY KINSEL



Photo, Russell Bailey

SIU HOSTS STUDENTS TO CONDUCT CBD RESEARCH.

Mary Kinsel and students conduct CBD research under National Science Foundation.

Above, student “Chloe Leonard, a senior in physiology, works in a laboratory at Southern Illinois University Carbondale with Mary Kinsel, associate scientist in the Office of Sponsored Projects Administration and Cannabis Science Center Faculty Board Member.

Leonard is working on a project aimed at ensuring people get what they pay for when purchasing CBD products, a newer, over-the-counter pharmaceutical with analgesic and other properties. (Photo above by Russell Bailey). A recent article by Tim Crosby on news.siu.edu, detailed students from Puerto Rico, Tennessee, New Jersey, Wisconsin, New Hampshire, as well as Illinois, as part of the program. SIU also sent some of its students to study at other universities.

Pictured on the next page, Roberto Santos-Torres came to SIU as part of the Research Experiences for Undergraduates program. Funded by the National Science Foundation, the program pays for students to visit other universities to conduct research. Santos-Torres worked with Mary Kinsel and Gary Kinsel – using some of the university’s high-tech analytical instrumentation to examine various CBD products to verify their active ingredients.



FACULTY FEATURE

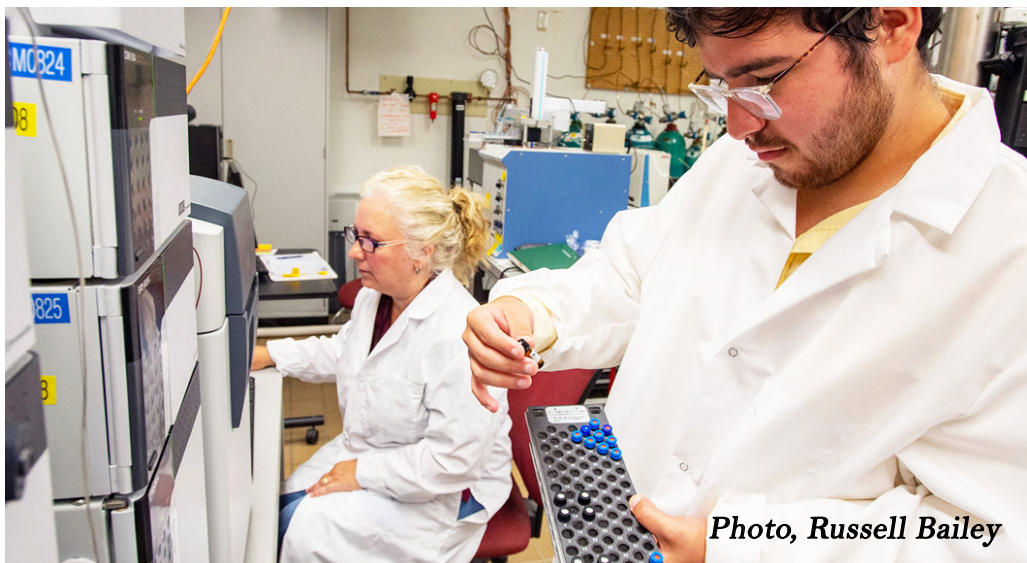
His project also examined the accuracy of product labelling on hemp-derived consumer products such as CBD tinctures intended for humans or pet consumption, CBD gummies, CBD honey and topical CBD creams. Bringing some kind of standardization to this exploding field may have an important future”. “It is problematic when the public cannot trust that the product labelling is accurate,” said Mary Kinsel. Along with Gary Kinsel, vice chancellor for research, Kinsel guided Santos-Torres as he learned practical laboratory skills, such as instrument calibration, standard preparation and extraction of samples combined with liquid chromatography separation and mass spectrometric detection of cannabinoids. Santos-Torres said use of medical cannabis is a growing trend in his home of Puerto Rico, the same as in many U.S. states. So Mary Kinsel suggested he tackle the emerging problem of labeling issues. “I was delighted, since it was a project that could start on my island before I got to SIU,” he said. “I hope this study can clarify the problem that currently exists with the label content of CBD products, and for the FDA be more rigorous with this market.”

For Santos-Torres the first step was preparing standard solutions of five different known CBD concentrations, which provided a sort of yardstick by which to measure the CBD content of the consumer products. To do this, he prepared a stock solution with a known concentration of CBD, and then diluted it to make standards of the desired smaller CBD concentrations. By plotting the instrument response of each CBD standard signal against the known concentrations, the researchers could then fit an equation to the data that could be used to determine the CBD concentrations in the consumer products. Working with the Kinsels, Santos-Torres learned to operate one of SIU’s liquid chromatograph mass spectrometers, using it to separate

the CBD from other components extracted from the consumer products. Two detectors – a UV-vis photodiode array detector that recorded light absorption and a mass spectrometer that recorded positive ions – detected the CBDs.

A native of Corozal who is earning his degree in chemical engineering and certification in biochemistry at his home university, Santos-Torres hopes to get a job in the Puerto Rico chemical industry. After working for a few years, he hopes to return to a university and earn an advanced degree in chemistry or chemical engineering. SIU has been key to his future success, he said.

Both Mary and Gary Kinsel are integral parts of the SIU Cannabis Science Center.



Photo, Russell Bailey



ALUMNI FEATURE



Photo, Lakewood Studios

Will Vignovich obtained a B.S. in plant biology with a specialization in biochemical physiology from Southern Illinois University in Carbondale. He then went on to complete his Master's of Pharmacology of Natural Products Research from the National Center at The University of Mississippi (Ole Miss), a university with a rich history in Marijuana. His interest in extraction and processes then brought him back to his home state of Illinois, where he holds a position as an Extraction

Lead Technician at an Illinois Medical Cannabis cultivator. Will speaks very positively about his experiences at SIU. He performed over 10,000 botanical extractions during his classes here, which helped him adjust to a medical cannabis lab workflow right away. He was hired after achieving his degree at Ole Miss, by his first choice employer, and is already in the position to hire others for his cannabis lab. Will states, if an applicant has noted experience from a program like the Cannabis Science Center, they would likely have a better chance of being considered for a job.

An interest in cannabis is always a plus, but more formal education and experience can give someone a leg-up in a job interview compared to someone with only at-home experience. Will wishes that programs and classes like those offered through the SIU Cannabis Science Center, would have been available just years ago when he chose his classes and degree path as a student at SIU.

“The Research Institute of Pharmaceutical Sciences at the University of Mississippi (UM) School of Pharmacy was awarded a competitive contract in 1968 from the government to grow marijuana that could be standardized for research”. News.OleMiss.edu stated in a 2018 article, titled, *Federally Funded Marijuana Turns 50. University researchers observe half-century of growing contract.* “After an open competition among institutions around the country, UM won the first contract in spring 1968 to be the government’s provider of marijuana for research purposes. Later that summer, Ole Miss



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researchers grew the first crop of legal research marijuana in the country, beginning a research project that has lasted half a century. The university's Marijuana Project is under the supervision of the National Institute on Drug Abuse (NIDA).

Since the university produces marijuana based on what researchers request from NIDA's Drug Supply Program, it grows marijuana in a variety of chemical makeups.

Recently, they began creating marijuana products for research, such as extracts rich in THC or CBD. For the 2019 growing season, NIDA exercised the option in its contract to grow marijuana in about



Photo, Ole Miss

half the university's marijuana field, which consists of roughly 12 total acres of heavily secured land, shown below in a photo by Ole Miss.

For the past several years, the project was able to fulfill NIDA's demand for

smaller amounts of plant material by growing in its 1,100-square-foot indoor grow room. Under the 1961 international Single Convention on Narcotic Drugs and the 1970 Controlled Substances Act, the federal government is the single "agent" allowed to provide marijuana for research. For many years the DEA only authorized one grower, Ole Miss. As part of this contract, UM holds a DEA Schedule-I Bulk Manufacturer registration to cultivate plants for this purpose. In 2016 DEA announced a new interpretation of the Single Convention to allow other growers to cultivate marijuana, but with DEA as the single agent rather than NIDA".



Photo, Ole Miss



STUDENT FEATURE

SPENCER SCHUCHMAN

We are proud to introduce [Spencer Schuchman](#), a St. Louis, MO native and a current Master's degree student with a focus in cannabis at Southern Illinois University Carbondale. He graduated from SIU in May 2021 with a Bachelor's of Science, where his interest in horticulture and cultivation led him to choosing Dr. Jose Leme of SIU as his faculty advisor. When asked to share his experience working with Dr. Leme, Schuchman said, "My time under Dr. Leme although relatively brief, has been fantastic. I think Dr. Leme brings so much to the school, and you can tell as soon as you have a conversation with him that cannabis is his calling. It is such a privilege to work under someone who has that immense passion for your area of study and wants you to succeed as well as be the best student you can be. I have thoroughly enjoyed my time under Dr. Leme and am looking forward to another year under his expertise and guidance. My favorite (cannabis-related project) so far has been the opportunity of growing a large number of plants in the field where I could see how large these plants can get in an outdoor setting, and participated in my first harvest. It was an amazing experience to say the least. Besides the field study, I have had the chance to work with cannabis seedlings in two different growth chambers where I have learned how to effectively manage young plants in the transition phase between seedling and vegetative growth...one of the most valuable aspects of production.



Spencer, shown above at his SIU graduation, took a variety of classes as an undergrad which he says helped pave his way towards a cannabis-focused degree. "My undergraduate studies have adequately prepared me and have given me the resources to succeed in my current endeavors. Looking back, I would say there have been several classes at SIU that have helped me in my first year of grad school. Cannabis biology might be an obvious one, but it has helped provide me with a solid background of the cannabis plant and the history and industry surrounding it. Plant pathology, crop physiology, and plant propagation have all been helpful courses at SIU, and are important to someone who is interested in cannabis production.



STUDENT FEATURE

Because cannabis is still a relatively new industry in Illinois and throughout the Midwest, Spencer says, “I would have to say the biggest challenge in learning about cannabis at least initially, has been the stigma to those who take an interest in cannabis in the academic setting. Luckily, that hasn’t been the case at SIU. In fact, once I came to SIU, I was sort of shocked that so many of my professors were willing to go out of their way to teach me something about cannabis that wasn’t really directly related to what we were learning about at the time. Before transferring to SIU, I took some intro level horticulture classes which were great and interesting, but cannabis wasn’t even mentioned which was quite disappointing because I knew so many students there, including myself, wanted to learn about cannabis. SIU has been extremely open to those who wish to learn about cannabis which is great for students like me who have an aspiration to work in the industry following their education. I think right now it is a great time to come to SIU if you are interested in any aspect of the cannabis industry. Whether you are interested in the production, biology, chemistry, or business side of cannabis I think SIU has the courses and resources to provide anyone who is interested with a valuable background of knowledge and skill set which is what employers are looking for especially in an emerging industry like we have”.

“If working in the cannabis industry is something someone is interested in, then I think the cannabis science center here at SIU is a great place to get started. Granted, there are several universities around the country that offer some sort of cannabis education but many of those only offer two year certificates.



These programs can be useful, but here at SIU you get a lot more than that. At SIU, you will not only learn about cannabis but also all aspects of plants and how to manage them. In my opinion, the Cannabis Science Center at SIU offers a more rounded and complete education in the field of cannabis than many other universities at a reasonable cost. There is incredible value at SIU, considering what the programs here can offer”. We asked Spencer to detail his favorite cannabis strain, and he said, “There are so many out there that have brought me positive experiences. Generally, I prefer low THC varieties but if I had to pick one it would probably have to be a strain called “platinum kush mints”. It’s relatively mild and relaxing, (and may appeal to anyone who) suffers from anxiety”.