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U.S. NEWS

One doctor vs. the DEA: Inside the battle to study marijuana in America

Millions of people across the U.S. can legally buy pot at dispensaries – but scientists aren't allowed to study it



— Since 1968, the Drug Enforcement Administration has required scientists who want to study cannabis's effects to use marijuana from a 12-acre farm at the University of Mississippi.

Chelsea Stahl / NBC News; Redux; Getty Images

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By Tyler Kingkade

Early in Dr. Sue Sisley's medical career, military veterans with post-traumatic stress disorder told her that smoking marijuana prevented nightmares and helped them sleep. Sisley, a primary care physician and psychiatrist in Scottsdale, Arizona, who has treated vets for two decades, said she was initially skeptical of her patients' claims, but their families vouched that pot was helping with their symptoms.

"Even though I was dubious, they never really gave up," Sisley said of the patients. "They were so relentless."

About a decade ago, Sisley decided to study pot's psychiatric effects to see if she could prove what her patients were experiencing. But, because of marijuana's federal status as an illegal drug, this turned out to be far from a simple task.



— Dr. Sue Sisley. Courtesy of Scottsdale Research Institute

Since then, Sisley has been fired from her job at the University of Arizona; lost a study partner at another university; and had the U.S. Department of Veterans Affairs block her attempts to recruit patients for research. By 2016, her scientific study was underway through the Scottsdale

Research Institute, and she finally had federally approved cannabis in hand to provide to 76 military vets.

But she was not happy with the weed she received.

The marijuana was a "powdery mishmash of stems, sticks and leaves," Sisley said. The level of tetrahydrocannabinol – or THC, the chemical that gets people high – was around 8 percent, far lower than the smokable products at pot dispensaries that often surpass 20 percent. The research weed also tested positive for yeast and mold, she said.

"I'm astonished by that," Sisley said. "As a physician, how do I hand out moldy weed to study subjects?"

Sisley couldn't shop around, though, because since 1968, the Drug Enforcement Administration has required scientists who want to study cannabis's effects to use only marijuana from a 12-acre farm at the University of Mississippi. While the director of the farm disputes Sisley's characterization of the cannabis supplied, Sisley and other scientists argue that government rules forcing them to use only the Mississippi weed have stifled research because it doesn't match what people are actually using.

"We haven't done any research on the stuff that people are buying and consuming today – that's the problem," said Cindy Kiel, executive associate vice chancellor for research administration at the University of California, Davis.

The DEA promised a few years ago it would let more people grow marijuana for research purposes, but it wasn't until late last month — as the country hunkered down under stay-at-home orders to combat the coronavirus pandemic — that the agency unveiled a plan for how it would do that. Under the DEA's newly proposed rules, the agency would allow more scientists and companies to grow marijuana for research, but they would have to turn it over to the DEA, which would then dole it out to scientists.

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"We're trying to make sure the public is aware of what we believe is an injustice, a suppression of scientific freedom," Sisley said, "and to understand the myriad ways that the government has ensured that cannabis drug development research will never proceed."

Jeff Sessions pumps the brakes

Legal pot is already a bigger industry than organic produce in the United States, and the demand for products with cannabidiol – a nonpsychoactive component often referred to as CBD that has therapeutic properties – is projected to top \$23 billion within three years. A majority of the country now has medical marijuana programs on the books, and 11 states have legalized weed for adult recreational use.

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However, the DEA still classifies marijuana as a Schedule I drug – a restrictive category reserved for substances believed to have no medical value and be susceptible to abuse. The DEA has repeatedly said it won't support reclassifying marijuana because there aren't well-controlled studies or scientific evidence approved by the Food and Drug Administration to show medical benefits. Yet scientists say that if evidence of those benefits is ever going to exist, they need to put real-world weed – not what's made available from the University of Mississippi – through these studies.

This sets up a paradox, in which practically no one can show through an FDA-approved clinical trial that the cannabis products on the market are safe or beneficial because researchers can't legally study them.

"Effectively 200 million Americans can access cannabis right now, but a doctor or scientist can't," said George Hodgin, founder of the Biopharmaceutical Research Company, a marijuana analytical firm. "It is at best irresponsible, and, at worst, it's dangerous."

Cannabis research is so tightly controlled that the DEA denied a request by UC Davis faculty two years ago to buy CBD products for pets from a nearby dispensary to study their effects on animals, said Kiel, the research administrator at the university. The DEA shot down the study because the scientists weren't going to use cannabis grown by the University of Mississippi operation, Kiel said.

In 2016, following requests from scientists, the DEA announced that it would allow more facilities to cultivate cannabis for research. Sisley, Hodgin and UC Davis were among at least 33 applicants that lined up for a license, hopeful that this was the beginning of a renaissance in marijuana research.

Then Jeff Sessions became attorney general.

A former senior DEA official, who spoke on the condition of anonymity to share internal agency deliberations, told NBC News that Sessions was "adamantly opposed" to expanding the options to study marijuana, and in 2017 he halted the government's plans to allow more growers. When members of Congress later pressed Sessions on the pending applications, he suggested that allowing more than one producer could put the country at risk of violating the U.N. Single Convention on Narcotic Drugs, a 1961 international treaty.

Frustrated, Sisley said she essentially went on "a nationwide tour to speak to every Bob's Burger Barn or American Legion post, anyone who would have me," to talk about the government's stonewalling of cannabis research. That's how she met Texas-based attorneys Matt Zorn and Shane Pennington, who took on Sisley's case pro bono last year.

Together, they sued the DEA for not processing Sisley's application, and in July 2019, a court ordered the agency to explain itself. Just before a court deadline last August, the DEA said it planned to issue new regulations for how it would permit additional growers.

The new rules proposed by the DEA last month were the result of an opinion written by lawyers in the DOJ's Office of Legal Counsel in June 2018, while Sessions was still attorney general. The opinion concluded that the Single Convention treaty required the DEA to "monopolize" the exchange of all legal marijuana for research. The existing set-up — letting the University of Mississippi grow and ship marijuana — didn't satisfy the Single Convention treaty, the memo concluded, and the DEA needed a new framework in which the agency takes control of the cannabis before distributing it to scientists.

That opinion was kept secret until Sisley and her legal team filed a lawsuit in March against the department, which settled this week with the release of the document.

Pennington said the memo reveals that the limitations under the treaty were not based on who is growing the marijuana. "It's about who's possessing it, purchasing it, and doing wholesale trade in it, so it's been a myth that we've had to have this University of Mississippi weed this whole time," he said.

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A spokesman for the DEA defended the agency's handling of marijuana for research.

"DEA must operate within the bounds of law, regulations, and international treaties," the spokesman said in an email. "DEA must ensure the Schedule I substance is procured from a lawful source, and therefore requires the researcher identify the controlled substance, source, and amount involved. Because many state dispensaries comport only with state law and not federal law, a Schedule I substance from a state dispensary cannot be used for research."

The proposed regulations, the spokesman added, "could permit a greater range of product available for scientific research."

The Mississippi farm defends its weed

The grow operation on the University of Mississippi's Oxford campus has heavy security, with dozens of cameras, guards on duty, motion-activated sensors and multiple security gates equipped with vibration detectors. It's a far cry from 40 years ago, when undergraduates once tried to cast fishing rods over a fence to snag a marijuana plant. The farm is set up through a contract with the National Institute on Drug Abuse, which decides what kind of marijuana should be grown and is involved in the lengthy approval process for researchers who want to study it.

Mahmoud ElSohly, the longtime director of the Marijuana Project at Ole Miss, bristles at the criticisms of his products, including that it has tested positive for mold and has lower THC levels than advertised. He says these complaints are untrue and part of "propaganda to push an agenda that's mainly going toward legalization."



— The indoor marijuana grow operation at the University of Mississippi. University of Mississippi

"I welcome the opportunity for other growers to get involved," ElSohly said, "so people can't complain about that anymore." He notes that studies showing benefits of cannabis "are coming from the material we produce. So it's not that bad after all."

ElSohly, a professor who also researches cannabis, said that on top of ensuring their material is clear of salmonella and E. coli, the project now tests for yeast and mold.

The National Institute on Drug Abuse said all marijuana provided to scientists for studies is safe, and there's never been "any known health consequences from contaminants."

A typical growing season at the University of Mississippi yields over 1,100 pounds of plant material, which is dried and prepared to researchers' requests, like being rolled into joints. ElSohly acknowledged that he can't match the many marijuana products on the market, but he said he offers a range of potency levels, which is what he believes should matter most to scientists.

"If we match one, what about all the others?" he said. "Are we supposed to match all of the growers that a dispensary has? It makes no sense."

But Staci Gruber, director of the Marijuana Investigations for Neuroscientific Discovery program at McLean Hospital in Massachusetts, said the menu from the Ole Miss farm – which is largely confined to smokeable flower and THC extract – excludes high-potency products like edibles, shatter or wax.

"It's not as if we can get gummies with a standardized amount," Gruber said. "That's inherently limited."

Sisley said this is the result of having only one supplier of marijuana for research.

"I'm a lifelong Republican, and as a conservative I think monopolies are inherently problematic because they promote apathy," Sisley said. "The University of Mississippi has enjoyed a government-enforced monopoly for over 50 years. They've had no competition, no need, no drive to be responsive to the public, to scientists' needs."

ElSohly scoffed at the idea of a monopoly, noting that the University of Mississippi submits a bid for the government contract every few years, and "anyone who has the capabilities the infrastructure" is welcome to compete.

How professors get creative to study cannabis

It's difficult to find someone who publicly opposes expanding marijuana research. Members of Congress who oppose legalizing pot have called for more research. Major scientific groups want it. Even the National Institute on Drug Abuse would like to have more competition, because only having one grow operation at Ole Miss "slows the development of cannabis-based medications," the agency's director, Nora Volkow, testified to Congress this year.

Dr. Kevin Sabet, former drug policy adviser in the Obama administration, said more research is needed so that lawmakers can understand the effects of high-potency marijuana.

"For the vast majority of products, we don't have the long-term research to establish their safety at all," said Sabet, president of Smart Approaches to Marijuana, a nonprofit opposed to legalizing recreational pot.



— Marijuana buds grown indoors at the University of Mississippi, left, and buds received through the DEA after confiscation. University of Mississippi

Under the current restrictions, scientists have had to get creative to study weed.

Washington State University researchers are conducting a study in which they ask participants to buy cannabis at a legal dispensary, go home and smoke it, and then take an Uber or Lyft to the lab to give a blood sample. Michael McDonell, a psychology professor at the university, acknowledges that the system isn't perfect, but it circumvents prohibitions on university staff possessing marijuana.

"I'd like to be able to go buy one strain of cannabis, send it to a lab to know what's in it, know what's exactly the dose that's in it, and then study that," McDonell said.

Scientists are cautiously optimistic about the direction things are heading for marijuana research. Attorney General William Barr has promised to expand the number of marijuana growers approved by the DEA.

But while the public comment period on the proposed regulations ends on May 22, there's no deadline after that for next steps by the DEA. And some are concerned the expansion of growers isn't enough. Kiel, of UC Davis, said the DEA hasn't clarified whether newly approved growers will have to use marijuana seeds from the only approved source – the University of Mississippi farm.

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"Which isn't going to solve the research problem," Kiel said. "It just won't."

Sisley's study with Arizona veterans wrapped up last year, and she expects it will be published in the coming weeks. She said it took her awhile to shake her medical school training that marijuana is dangerous and addictive, but she's come to believe it "is so much more benign than the prescriptions I write for patients every day."

"People recognize this plant has significant medical properties," Sisley said. "We just don't know how to harness them specifically to treat various illnesses. That's why people are still skeptical. We still don't know what varieties to use to treat different illnesses because the research has been systemically impeded by our federal government."



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