

What Should Go in Cannabis Vapes? California Seeks Answers

California Regulators Fund \$1.23 Million UCLA Study to Define Natural Cannabis Flavors and Set Science-Based Standards for Vape Products

When Laura Fogelman, vice president and chief of staff at Pax Labs, talks about cannabis flavors, it's often in the context of ensuring products don't appeal to children.

California already bans synthetic terpenes and artificial flavors such as coffee and bubblegum in cannabis products. But beyond that restriction, vape manufacturers have little guidance on which flavors are acceptable. Now, the California Department of Cannabis Control aims to change that.

In December, the agency awarded \$1.23 million to University of California, Los Angeles to study naturally occurring flavor compounds in cannabis flower. The results, expected within two years, could provide regulators with a standardized, objective framework to test for the compounds responsible for cannabis' flavor and aroma.

Regulators say the research could give manufacturers clearer production targets, provide consumers with more transparency and equip enforcement officials with science-based tools to distinguish authentic plant flavors from prohibited additives.

"From Pax's perspective, this is exactly what the industry needs," Fogelman said. "Cannabis is one of the most widely used yet least understood plants. This will help inform consumers and it will help us establish smarter regulation that operators can rely on. Clear rules require clear science."

UCLA Researchers to Analyze 150 Cannabis Flower Samples to Identify Terpene Profiles and Define Natural Concentration Ranges

Led by Ziva Cooper, director of the UCLA Center for Cannabis and Cannabinoids, the research team will examine at least 150 flower samples sourced from DCC-licensed operators across California.

Scientists plan to identify the top three to five terpenes in each strain and define natural terpene concentration ranges that distinguish authentic plant expressions from synthetic or otherwise prohibited additives, according to the DCC.

The findings are intended to help regulators establish scientific standards and evidence-based policies for commercially sold cannabis products.

“If you can test for it, you can regulate it,” said Pamela Epstein, chief legal and regulatory officer for Terpene Belt Farms, a research partner and subsidiary of Nexus Agriscience based in California.

“It makes regulations actionable because you can’t enforce a subjective standard.”

Samples will include a range of cultivars harvested at different times and locations. Handling, storage and testing of the cannabis flower will take place at Nexus Agriscience’s facility in Sacramento.

“Cannabis is the most diverse aromatic on earth – it ranges from citrus to sweet to pine and covers the flavor wheel,” Epstein said. “We want to preserve that.”

Vape Manufacturers Navigate a Patchwork of State Flavor Rules as Industry Calls for Consistency

Fogelman said flavor protocols at Pax vary depending on state-level regulations, underscoring the lack of uniformity across U.S. cannabis markets.

“Flavor conversation is complex,” she said. “There’s not consistency around how flavor is defined or regulated. We have to work on a state-by-state basis to follow varied regulations around what is and isn’t allowable, but we have strict requirements for what we put in our own products.”

Brandon Byrne, co-founder of Michigan-based vape company Vapin Ape, said his firm already focuses on replicating cannabis’ natural aromatic chemistry rather than chasing novelty flavors.

Given the plant’s diversity, Byrne believes rigorous research will demonstrate that artificial additives are unnecessary to achieve compelling flavor profiles.

Study May Lay Groundwork for National or Even Global Standards Despite Federal Prohibition

Because cannabis remains federally prohibited, researchers cannot study flower grown outside California. Even so, industry participants hope the findings will influence regulators in other states and potentially serve as the basis for broader standards.

Alexa Wilson, vice chair of Colorado-based research partner S3 Collective, said the project presents an opportunity to build a science-based framework that could extend beyond state lines.

Uniform standards could eventually ensure consistent terminology and labeling for inhalable cannabis products, regardless of where they are sold in state-regulated markets.

“I want doctors to be able to guide patients on what’s best for them versus what’s allowed,” Wilson said. “There has to be a way to understand what these compounds are doing.”

Some industry leaders argue the research may also prompt regulators to revisit existing restrictions. Shareef El-Sissi, CEO of Nexus Agriscience, noted that certain strains naturally express sweet or candy-like flavors.

Industry Experts Emphasize the Central Role of Aroma and Memory in Cannabis and Other Consumer Products

Daniel Cook, CEO of Oregon-based True Terpenes, said terpenes are critical because they shape the aroma of vape products, which in turn strongly influences consumer perception.

Email: info@cannabisriskmanager.com | Phone: +415-226-4060

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