

Cannabis Lab Testing Accuracy on the Rise, New Study Reveals

The ability of cannabis testing labs to detect pesticides on plant material has significantly improved over the last four years. This study coincided with the launch of the Cannabis and Psychedelic Science Journal (CAPS Journal) and analyzed nearly 350 pesticide test results from accredited testing labs between 2019 and 2023.

Improved Detection Accuracy

The study revealed a marked improvement in the accuracy of tests measuring pyrethrin and pyrethroid compounds—common insecticides required by some states’ third-party marijuana testing regulations. The accuracy rate increased from 89% in spring 2019 to an overall average of 94% across eight data points.

“The ability of ATLs (analytical testing laboratories) in the cannabis industry to detect and quantify pesticides has improved over a four-year period,” the study noted. This improvement highlights the industry’s progress in enhancing testing methodologies and lab competencies.

Practical Testing Applications

The study posits that as the cannabis industry matures, the enhancement of competency among analytical chemists and laboratory directors has led to better testing accuracy. The number of analytical chemists with doctoral degrees and experienced lab directors has increased, contributing to the improvement.

Wes Burk, the principal author of the study and managing director at CAPS Journal, emphasized the practical applications of these findings. He pointed out the issue of “lab shopping,” where operators seek out labs willing to manipulate results, thus compromising industry integrity.

“We need operators committed to accuracy in testing, and the labs that demonstrate proficiency should be rewarded with business,” Burk said. “The practice of shopping for labs that will manipulate results puts our entire industry at risk and ignores our shared mission of improving the health of all people.”

Cannabis Testing Standards Needed

Despite the progress, Jeff Keller, CAPS Journal’s founder and editor in chief, highlighted the considerable variability among cannabis testing labs in detecting and quantifying pesticides. Keller stressed the need for standardized methodologies and widespread proficiency testing.

Building the Future of Cannabis Science

CAPS Journal is dedicated to advancing cannabis science. Keller, also a professor and director of the Institute for Dementia Research and Prevention at Pennington Biomedical Research Center, is building an editorial board for the journal. He encourages scientists, clinicians, and industry policy experts to apply, along with

cannabis producers, manufacturers, and formulators.

“We will always need scientists and non-scientists who are content experts in the peer-review process,” Keller said. The journal adopts an open-access framework, combining the best of traditional academic journals with modern approaches to publication and distribution.

Encouraging Diverse Research

CAPS Journal is open to manuscripts from both academia and industry. The journal’s focus areas include agronomy, analytical testing, basic science, botanical drug development, clinical research, pharmacology, product manufacturing, and psychedelic-assisted therapy.

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