



VOICE

Science Behind the Scenes



CANNABIS science and technology are developing rapidly, as they do in most young industries. Here are a few examples.

WHAT'S THE LATEST ABOUT TERPENES?



Tristan Watkins, Ph.D., chief science officer, LucidMood: The biggest advancement in the terpene space

relates to the acceptance of their importance and the diverse effects they have. Advanced companies are moving beyond full-spectrum and instead looking to create the perfect "designer" spectrum of terpenes. This novel view of terpenes and terpene profiles will allow companies to create their own differentiated products in the evolving cannabis space.

LucidMood creates formulated cannabis products that produce specific and predictable effects, making it easy for consumers to choose their perfect product with effects ranging from feeling calm to increasing sociability at a party, and plenty of options in-between. Another company, Ginkgo Bioworks, currently is developing ways to make rare cannabinoids in the lab instead of needing to genetically alter plants to produce those same cannabinoids. This paves the way for researchers and formulators to gain access to exceedingly rare cannabinoids that may have important medicinal or recreational benefits.
LucidMood.net

IS THERE A "BEST" METHOD FOR EXTRACTING TERPENES?



David Heldreth, marketing content manager, True Terpenes: In general, isolating terpenes or essential oils

is done through flash chromatography and distillation technologies. You use the heat from steam to lift the terpenes, which evaporate around room temperature, from the plant material. Alcohol and water have varying boiling points, which is why in an alcohol still, moonshiners or distillers use specific temperatures to capture varying alcohol proofs.

True Terpenes provides botanically sourced terpenes that we reformulate to recreate the terpene profiles from analytical testing of cannabis plants. We use a wide variety of plants from lemongrass to citrus or even basil to formulate the terpene strain profiles that have become the centerpiece of our brand. TrueTerpenes.com

HOW IS DATA CHANGING INDUSTRY PRACTICES?



David Kessler, senior vice president of horticultural solutions, TriGrow Systems: First and foremost, science and data are used to deliver consistency and quality. Our proprietary software, TriMaster, coupled with TriGrow's hardware solutions, records tens of thousands of data points throughout the cultivation process. By recording environmental data such as temperature,

humidity, vapor pressure deficit, fertilizer and water inputs, and then adding additional data about a plant's genetic constitution coupled with testing data about the chemotype fingerprint of the flower produced, we are able to refine grow plans.

TriGrow's vegetative flower units (VFUs) are all independently software-controlled cultivation environments. By running a single genetic in several VFUs and changing a single environmental variable, we are able to compare the results and scientifically determine which "recipe" produced the best results. From there, we can replicate environmental conditions to produce the genetic in question consistently. TriGrow.com

TECHNOLOGY IS BECOMING MORE PORTABLE AND USER-FRIENDLY, ISN'T IT?



Dylan Wilks, chief technology officer and founder, Orange Photonics: Very much so. LightLab's

analytical approach is not unlike high-performance liquid chromatography (HPLC) instruments—the "go-to" analytical instrument for state-certified cannabis testing labs. However, unlike an HPLC, LightLab is an in-house instrument designed for field use and for the non-technical user. We had to develop a liquid chromatography column that has repeatable, reliable performance, simple sample preparation, and have it all culminate in an accurate measurement.
OrangePhotonics.com ☪

—Rob Hill