



THE SCIENCE OF PRESERVING POTENCY

A story of collaborative
success in cannabis



MULTISORB
Filtration Group®

The Science of Preserving Potency

At the far Western side of New York State, where recreational cannabis was legalized in 2021, a father-son team is realizing a family dream: making a name for themselves in cannabis. Today, **House of Sacci** is one of the state's premium growers.

A walk around the operation's sixteen interconnected, mixed light greenhouses with CEO Mike Casacci is a master course in cultivation—the ups, the downs, the opportunities, the obsession. The company's luxury, entirely hand-trimmed cannabis is carried in about a third of dispensaries throughout the state (and counting) and merchandised on signature gold shelves.

Across the border, AMI (AtlantiCann Medical Inc.) has been growing since December 2018, soon after legalization (both across the country and in the province of Nova Scotia) in October 2018. The company holds multiple licenses for cannabis cultivation and processing, and sells domestically and exports internationally (the latter of which presents a unique set of challenges due to aviation regulations, which AMI rises to routinely with a little ingenuity).

Though the companies hail from two different countries, produce at vastly different scales, and face varied challenges, they're intrinsically bound by a commitment to innovation in the name of **quality, potency, and shelf stability**.

Through a multi-pronged collaboration with Multisorb, a world leader in active packaging, House of Sacci and AMI shared their expertise to inform the creation of **GrowPax: an industry-first, in-package solution** that regulates humidity and removes oxygen, which prevents terpene, THC, and CBD loss, and stops mold and undesirable microbial growth in its tracks.

Here's how it unfolded.



Oxygen control



Chemical control



Water activity control



Optimal customization

House of Sacci

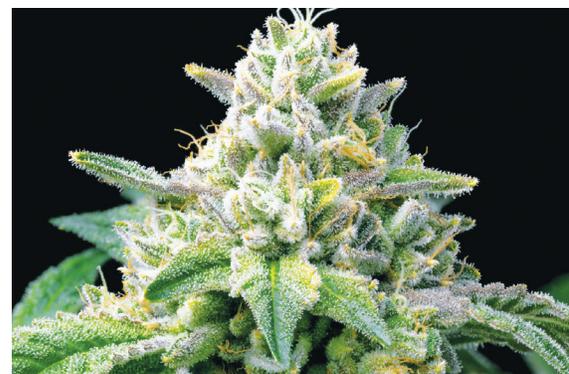
Early on in legalization, shelf life was a significant concern for House of Sacci. The number of dispensaries open in New York was initially low but increasing, and thus, they were still getting a handle on how long their buds would sit on shelves before purchase. They started to explore standard humidity packets but were left wanting more. Casacci's father, Dan—once a Multisorb employee on the sales side—had a great deal of confidence in Multisorb's scientists. “He knew their scientists could formulate something better,” Casacci shared.

He was right. The company was already working on its first formulation of GrowPax, developed especially for cannabis. In the spirit of collaboration, House of Sacci purchased a small quantity of that formulation and tested it. It wasn't quite perfect. The primary concern was the cannabis' favorable smell—“the nose just knows,” as Casacci says—and how it was impacted by the chemical reactions while in the container with that initial formulation.

But iteration proved to be the name of the game. Together, Casacci and Multisorb went through twenty-some variations and corresponding tests to level up the formulation. Along the way, they discovered the impact of other variables, too. It wasn't just the packet—the container was also a contributing factor to the shift in scent—and evolutions were made there, too, on the Sacci side.

The intentionality with which GrowPax was developed—to truly solve a specific problem—and the curiosity and willingness to come in and work, hand in hand, with the growers and the product impressed. “Any time somebody like Multisorb comes in and does the research with us and tests with our containers and variations shows they're interested in not only helping to maintain the quality of our cannabis but enlisting our expertise as growers,” Casacci shared.

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Pictured top: House of Sacci's Dan and Mike Casacci

AMI



Up north, AMI was using a different method to remove oxygen—a proprietary technology using nitrogen gas to eliminate bacterial growth. It’s a method that requires significant mechanical support and a specific packing line, which works well for big runs. For smaller runs, they wanted a solution that could be placed in the container by hand. Like House of Sacci, they had concerns: would the packet alter the taste of their buds?

Ultimately, they couldn’t taste a difference in buds packaged with GrowPax. “FOUR54 is well-reputed in the Canadian market as a brand with flavourful strains. We believe our choice of packaging, paired with GrowPax, helps us to maintain the natural flavor profile of our cultivars,” shared Priscilla Ren, sales and business development manager at AMI. Cannabis tastemakers haven’t tasted a difference. Under AMI’s brand FOUR54, Gastro Pop—a high THC (28–24 percent), indica-dominant hybrid of Apples & Bananas and Grape Gasoline—has been recognized with awards at the Alberta Rosin Pressing Cup 2024 and Cannabis Cup New Brunswick for Best Indica under the EastCann brand. .

Beyond the positives AMI found with GrowPax, Ren also shared insights about the consumer perception of humidity packets. “Retailers and customers have limited knowledge [about humidity packs],” Ren says. Many in her markets think “humidity pack, good; no humidity pack, bad” without understanding the delicate balance they’re helping strike—or the reasons packets may be absent from a given product all together. “The educational aspect is important but slow coming,” she shared, noting that increased outreach to budtenders is paramount to more universal understanding and ultimately acceptance.



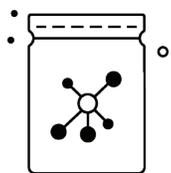
“Retailers and customers have limited knowledge [about humidity packs].”



Pictured top: Award-winning GastroPop can
Pictured below: AMI’s state-of-the-art indoor facility

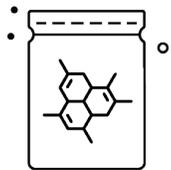
Backed by Science

There are many variables to consider when it comes to determining whether a humidity pack or GrowPax is right for your product. And while testing with the bud it's intended to be used with is essential, a five-month study conducted with GrowPax by the Green Organic Dutchman and High North Labs delivered these broad findings.



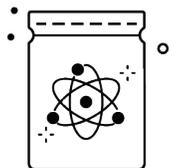
On microbial growth

GrowPax reduces the formation of aerobic bacteria growth, bile-tolerant gram-negative bacteria, yeast, and mold.



On THC and CBD levels

Total THC and CBD levels show enhanced retention due to oxygen control aligned with moisture management



On terpene stability

Quantified cannabinoids and terpenes show stability over extended periods of time when compared to control



On color

Color has remained consistent through five months



On moisture

GrowPax maintains the moisture level or regulates it within the customer's desired water activity level

STUDY HIGHLIGHTS

AT 4 MONTHS

8% mg/g increase total THC over control

49% mg/g increase total CBD over control

8% mg/g total increase of all quantified cannabinoids

8% mg/g total increase of all quantified terpenes

AT 5 MONTHS

189% decrease in aerobic count (average of 6200 (CFU/g) in control versus 248 (CFU/g) Multisorb)

165% decrease in bile-tolerant Gram Negative (average of 21079(CFU/g) in control versus 2037(CFU/g) Multisorb)

187% decrease in yeast and mold (Average of 540(CFU/g) in control versus 19(CFU/g) Multisorb)

Ready to explore?

If you're interested in having your bud tested or your packaging evaluated, our R&D experts are at the ready. Visit multisorb.com to start the process.

Let's keep the collaboration in cannabis going strong.