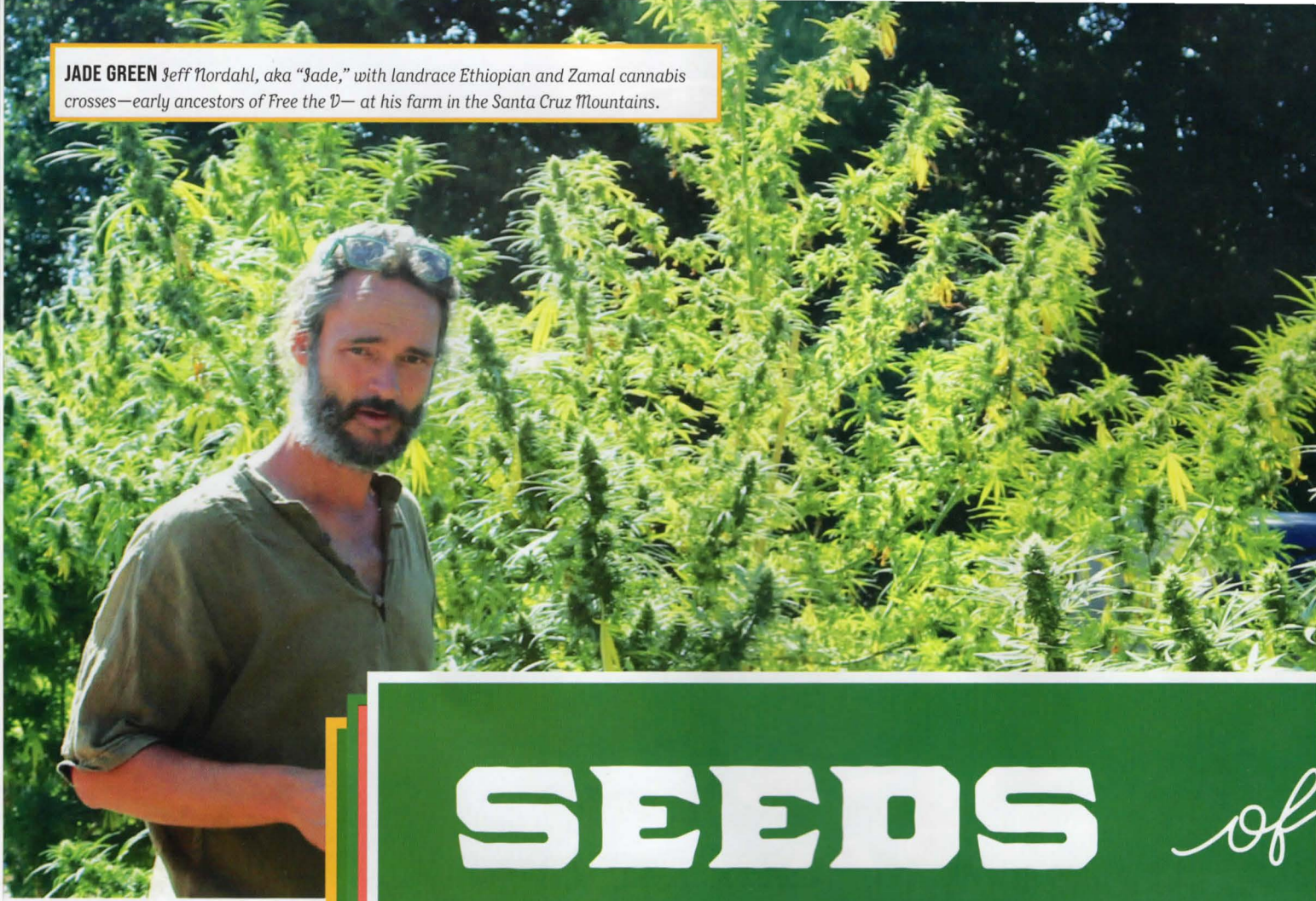


JADE GREEN Jeff Nordahl, aka “Jade,” with landrace Ethiopian and Zamal cannabis crosses—early ancestors of Free the V— at his farm in the Santa Cruz Mountains.



SEEDS

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Santa Cruz Mountains grower launches free-seed project to explore therapeutic value of previously rare phytocannabinoid

By Maria Grusauskas

For 10,000 years, humankind has saved cannabis seeds, year after year, for reasons central to the human experience: as medicine, and in ritual.

But until just a few weeks ago, it was virtually impossible for the average person to find cannabis genetics containing the rare and intriguing phytocannabinoid THCV. Fueled by its medicinal potential, juxtaposed with its vexing inaccessibility, Jeff Nordahl of Jade Nectar—a legacy cannabis wellness company based in the Santa Cruz Mountains—has been on a multi-year mission to find and breed the coveted cannabinoid, with the sole intention of giving it away.

In March, that project finally came to fruition. Hundreds of psychedelically packaged THCV-rich seeds, boldly dubbed “Free the V,” were released to dozens of California dispensaries, as

far north as Nevada City and south to Carmel—on the condition that they be given to desiring customers for free. All of the participating dispensaries agreed, on the caveat that the customer must buy something—anything—in order to get the free seeds. In today’s legal market, Nordahl, who everyone calls Jade, counts it as a victory.

The bearded, often hemp-clad Jade first heard about THCV in 2015, while running a medical collective at Santa Cruz’s Live Oak Grange. A woman approached him to see if he could find the cannabinoid for her young daughter, who was suffering from seizures related to a rare brain inflammation disorder, and he spent the next few weeks hunting the cannabis cultivation networks for THCV plants.

“It became clear that there were no publicly available THCV genetics, and the very few people who had THCV-producing



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cannabis genetics, they weren't sharing it," says Jade. "They were actually building businesses based on THCV with the intent of hoarding their THCV genetics, and their business model was to be the exclusive source of THCV."

At the time, the former computer software engineer had spent the last eight years conducting experimental cannabis research on himself—and found that a regimen of eating and juicing the raw leaves, as well as heated olive oil infusions, had completely relieved a three-year nightmare of ailments stemming from Lyme disease.

"If people are really suffering from a health condition where conventional medicine just isn't helping them, and it's really impacting their life, and cannabis medicine helps them," says Jade, "I think you feel a moral and ethical responsibility to share it."

Ironically enough, Jade found

THCV in his own seed bank of landrace cannabis strains he'd been collecting from all over the world, which he turned to after realizing the cannabinoid was "on lockdown."

Free the V is the result of five years of selectively breeding landrace strains of African and Asian highland sativas that he began testing in 2016. Plants from the seeds will contain 6-10 percent THCV—an amount that is unheard of for a cannabinoid that, if it shows up at all, usually shows up in trace, 1-percent-or-less quantities.

"This is by no means a pure THCV flower," says Jade. A recent lab test also showed 10 percent THC, 1.5 percent CBG, and some CBC and CBD. "But most cannabis varieties on the market test for less than 0.5 percent THCV. So with Free the V, you get to experience how THCV interacts with all of the other cannabinoids, where THCV is a dominant

part of the experience. THCV is not in the background, it is a key player."

Even at a low percentage, people who have sampled the lineage strains have reported a notably different, uplifting, energizing, yet clear-headed effect, which may result from THCV's mitigating effects on THC. "It's happy weed," says Jade, who compares the high to "a mildly psychedelic shot of espresso."

What other effects these higher amounts of THCV may produce remains completely unknown—which is why Jade is launching a cannabis public domain project along with the seed release. Users will be able to share their medicinal and recreational experiences on a crowd-sourcing platform on Jade Nectar's website.

While the experiment is designed to empower people to grow and vet their own medicine, and breed with THCV if they like, Jade admits it's also an

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SPIRIT IN THIS GUY Nordahl interacting with the spirit plant at his farm.

« attempt to help change the cannabis industry narrative.

"That maybe empire-building, proprietary ownership of cannabis genetics, and chasing dollars and Ferraris is not appropriate for this sacred spirit plant," he says.

Whether or not others in the industry follow his lead, those who are interested can at least collectively start learning about what medicinal and recreational benefits THCV, and other rare cannabinoids, may have to offer. Yes, Free the V is only the grand debut of many other lesser-known cannabinoids and heritage strains Jade Nectar hopes to release into the public domain in coming months and years.

"Maybe THCV will provide medical cures, maybe it won't," Jade adds, though clinical studies and anecdotal reports suggest the affirmative, "but the point is, we couldn't even have this conversation until now, because nobody could even find it."

Research Bottleneck

THCV is one of more than 80 cannabinoids and at least 100 terpenes found in the cannabis plant that, for reasons both fascinating and unknown, interact with our bodies' endocannabinoid system. Bonni Goldstein, MD, one of the country's most respected and experienced

medical cannabis physicians, calls THCV "understudied" throughout her recent book, *Cannabis is Medicine: How Medical Cannabis and CBD are Healing Everything from Anxiety to Chronic Pain*.

THCV's medicinal potentials include: anticancer, anticonvulsant, anti-inflammatory, antioxidant, antipsychotic, appetite suppressant, neuroprotectant, pain relief, and improving glucose tolerance and insulin sensitivity. It may help with PTSD, motor symptoms and disease-delaying effects in Parkinson's Disease, and cosmetic companies are even interested in it for its strong anti-acne effect.

GW Pharmaceuticals, which has FDA approval for their CBD isolate, Epidiolex, has been researching THCV for a variety of health issues, including type II diabetes, schizophrenia, epilepsy, and cognitive disorders.

"I think that it's probably going to play a bigger role in metabolic syndrome and diabetes," says Goldstein, on the phone from her practice in Los Angeles. "And that is such a big issue, especially in the United States. We know that researchers are looking into it."

THCV blocks the CB1 receptors involved with appetite (the same receptors THC binds to, often causing the "munchies"). A synthetic isolate form of THCV, called Rimonabant, was approved as a weight loss drug in Europe in 2006—and then withdrawn from the market 16 months

later due to psychiatric side effects including depression, anxiety and suicidal ideation.

At the same time, THCV taken in a whole-plant preparation has shown to decrease appetite without the same risks to mental health. "So blocking the receptor with a synthetic compound is not necessarily a good thing," says Goldstein.

It's a testament to the complex symphony of cannabinoids that makes whole-plant medicine the mystery and miracle that it is.

But while Goldstein prefers whole-plant cannabis to isolates in her practice, she says it often takes some trial and error to learn how a symphony of compounds is going to affect each individual brain.

"These compounds are not selective," says Goldstein. "They are somewhat promiscuous—they go to multiple sites in the brain, so [there are] multiple targets of action."

As far as clinical studies go, pretty much everything we know about THCV comes from test tube and animal studies—and that's the current reality for a Schedule 1 substance like cannabis. Availability is far outpacing clinical research, says Goldstein, because "There is a massive federal barrier."

To study cannabis, researchers need to get approval from multiple organizations, including the FDA, DEA and NIDA (National Institute on Drug Abuse)—a process that has been known to take three years or longer.

And then, "The biggest problem we have is that in order to study a compound or a drug, you have to have the study drug. And that's been the hold up," Goldstein says. In the United States, researchers have, up until recently, been allowed to study only the cannabis grown by the federal government's operation at the University of Mississippi.

"The study drug you get from the University of Mississippi does not reflect the kind of artisanal cannabis that you can get in states that have cannabis programs. It's not the same," says Goldstein. "The study drug matters."

In February, the DEA approved the first ever transfer of privately-cultivated cannabis for clinical research, from Pennsylvania's Groff North America, though Goldstein says it began taking applications during the Obama Administration.

« Medicine For the People

The cultural amnesia around cannabis as a benign and effective remedy—indeed it was ubiquitous in 1800s pharmacology for a panoply of ailments—means this next fact may even come as a surprise: nobody has ever died from cannabis.

“As a clinician, I’m going to say that if you’ve tried a lot of different treatments and it’s not working,” says Goldstein, “cannabis is safe enough, especially under medical supervision, to give it a try.”

But whether or not our amnesia around cannabis as medicine becomes a blip contained to the last century may depend more on citizen scientists than anyone has acknowledged thus far.

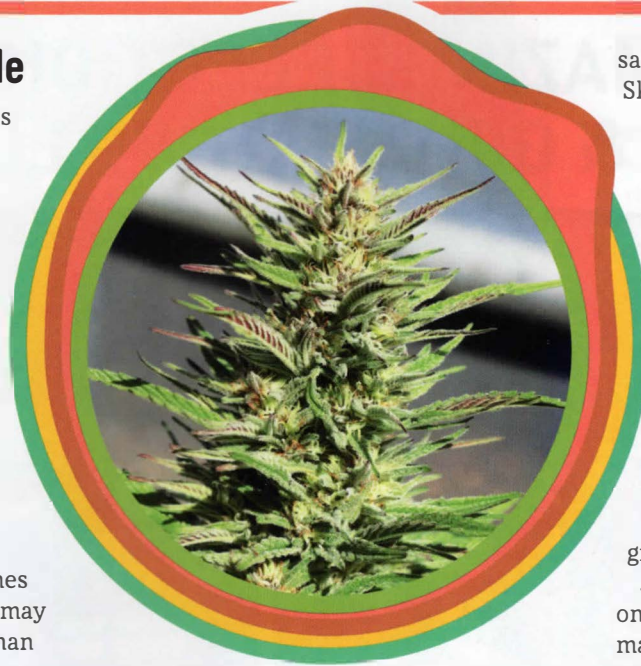
Of Jade Nectar’s cannabis public domain project, Goldstein cautions that it’s hard to pinpoint one cannabinoid when you’re working with the whole-plant orchestra of compounds. She also notes that THC, which always comes with THCV, may rule it out as a remedy for some, due to impairment. But, she says, “You’ll probably find some trends.”

Jade saw the importance of trends when it was still legal for farmers to hand cannabis directly to medical patients—a golden time following the Compassionate Use Act (1996) that Jade misses.

“Before Prop. 64, we met monthly at the Live Oak Grange, and I was giving away raw cannabis juice and our olive oil tinctures to medical patients. And people would come back the next month and report what worked and what didn’t,” Jade says “This is how we found that many people who suffer from migraines found raw CBDA to be very helpful at preventing and treating them. That information is now becoming common knowledge.”

With cannabis, anecdotal research has always come before clinical trials, even though its medicinal (and creative, if you ask Shakespeare) potential has been recorded since at least the 1600s. We can thank the experiments of desperate parents for our knowledge of CBD’s powerful potential to treat epilepsy, and AIDS and cancer patients for their anecdotal reports of cannabis as medicine long before it was recognized by Western medicine.

Jade points out that THCVa, the raw, unheated form of THCV, which



V FORMATION The high-THCV cannabis strain “Free the V” in flower.

you can ingest simply by eating or juicing the plant leaves, may in itself be medicinally valuable, since it probably isn’t psychoactive.

Now that Free the V seeds are finally ready, and a THCV-rich olive oil extract (called Clarity) is on dispensary shelves, Jade says, “We’re just excited to hear feedback.”

Crowd-Source Revolution

Jade Nectar’s public domain project comes into fruition at the same time a similar project is emerging within the psychedelic movement. Quantified Citizen—a crowd-sourcing App partnering with mycologist Paul Stamets to gain psilocybin microdosing and mental-health data from users says it is “aimed at disrupting the unnecessary cost and time of clinical research by democratizing the process.”

While Jade Nectar’s crowd-sourcing platform is a much simpler, one-page survey, the two goals are in line: to empower the common citizen, and gain knowledge through pooled resources. The cannabis public domain project is equally open to learning about the creative, psychedelically expansive uses of cannabis, too.

What’s next for the public domain project? “We would like to help preserve the cannabis genetics that originated in Santa Cruz as part of a Santa Cruz historical cannabis project,”

says Jade. First up is “Grandpappy Skunk”—a Santa Cruz Mountains heirloom strain from 1978 that appears to be a grandparent of “Skunk #1.” (Ironically, Skunk’s creator later co-founded GW Pharmaceuticals.) Since writing about those seeds for *Good Times’ Cannabis Chronicle*, Stockton says he’s been approached by two large growing corporations asking for total control and ownership. “Both closed their pitch to me by whispering, ‘Richard, you will get royalties in the millions,’” Stockton, who graciously declined, wrote in an email.

Jade says he’s also beginning to focus on CBC, another lesser cannabinoid that may hold some interesting medicinal properties.

“Unfortunately, most of the California and Amsterdam modern hybrids that focus on high THC have bred out most of the minor cannabinoids,” says Jade. “There is only so much real estate for compounds in the cannabis flower, so if you breed for 35 percent THC, other cannabinoids get crowded out.”

In his robust seedbank of landrace varieties, where the diverse, full menu of cannabinoids can be found, the possibilities remain largely to be seen: 90 percent of his library hasn’t even been grown out yet.

“Soon it will be impossible to find the original pure landrace lines unless these seeds are backed up and preserved in cannabis seed banks,” Jade says. “We’re hoping people will grow them in their backyards next to their veggies.”

On Jade Nectar’s Instagram and YouTube channels, where videos often come with cameos by farm-raised turkeys and pigs, and Grateful Dead guitar licks ricochet off the hoop house walls, Jade plans to share growing tips, domain project updates, and even teach people how to make their own whole-plant cannabis oil infusions.

“Cannabis has come this far without the help of corporations or the federal government,” says Jade. “So maybe we shouldn’t be looking to the federal government or for-profit corporations for leadership in the future of cannabis evolution, either.”

For more information on *Free the V* and the Cannabis Public Domain Project, visit jadenectar.cowm, or follow @jadenectar on Instagram and YouTube.