

MARIJUANA VENTURE

THE JOURNAL OF PROFESSIONAL CANNABIS GROWERS AND RETAILERS

PANDA-MONIUM!

Is Grow-Op Farms the best-run, large commercial grow facility in America?

GO WITH THE FLOW

How to maximize your cannabis production by using hydroponics

COLORADO LEAF

Pair of brothers launch ambitious business plan

JULY 2015 \$6.99

0 74470 29334 7

0 7 >

WHAT DOES LLOYD'S BAIL-OUT MEAN?
Withdrawal could impact marijuana business insurance



Welcome to Powerbox®. We supply the elite grower with cutting-edge electrical equipment that is vital to every indoor operation. Our products are designed and manufactured in California, to provide horticultural professionals with equipment that increases yields and efficiency, while protecting lives and property. **We are honored to support the fearless growers who work so hard every day to ensure successful harvests!**

POWERBOX® LIGHTING CONTROLLERS



POWERBOX FLIPBOX® LIGHT SWITCHING MODULES



POWERBOX GROLITE™ ALUMINUM REFLECTORS



POWERBOX® HD-1000W ELECTRONIC BALLASTS



Products for professional growers of all sizes. Learn more by visiting our website.

HD-1000W

THE ALL NEW ELECTRONIC BALLAST FROM POWERBOX®

Years of research, design, and testing have resulted in the **BEST** electronic ballast available. The **ALL NEW** Powerbox® HD-1000W has all of the best features you need, with none of the gimmicky features you don't.

Ignition Management, Staggered Startup, and Soft Start

Powers standard **and** new double-ended HID bulbs

Dual Voltage 120/240, includes both cordsets

Adjustable to 400W, 600W, 1000W, and 1100W

Completely sealed design - No fans - Silent operation

Enlarged heat sinks with micro fins to dissipate heat

Most stable output of any electronic ballast tested



Legendary Powerbox® Quality!

Guaranteed Compatibility With All Powerbox® Products!



SEND US A PICTURE OF YOUR POWERBOX GEAR IN ACTION AND WE'LL SEND YOU A FREE T-SHIRT!



The evolving landscape

Portraying cannabis as 'normal' promotes acceptance



First, I'm happy to report that **Marijuana Venture** continues to grow at a fast clip. We're now in book stores nationwide, and mailing hard copies to all licensed marijuana businesses in states that have legalized and regulated forms of medical or recreational cannabis.

Our goal is to be the best source of quality information for anyone in the business, or considering it.

The July issue of **Marijuana Venture** focused on the new look of people in the marijuana business.

The point to our cover story wasn't that we embrace one type of look or lifestyle over another, but that we see a rapidly-evolving industry heading in many different directions, with room for all.

As our regular readers know by now, we made a conscious decision when we launched **Marijuana Venture** to mostly avoid the culture end of the spectrum, while focusing almost entirely on business. That said, there's no way to avoid the obvious conclusion that an awful lot of what passed as "normal" in cannabis culture would be — or could be — seen as way outside the social norms of traditional American society. I'm not necessarily saying that's bad.

However, I will point out that if the goal is widespread acceptance of a mind-altering drug that most now view as fairly harmless (and demonstrably less dangerous than alcohol), then it stands to reason that the most effective way to proceed would be an approach that downplays the "wackier" side of marijuana culture, while emphasizing and highlighting the aspects that appeal to — or at least don't scare off — the vast majority of Americans who live their day-to-day lives going to work, paying taxes, driving their kids

to school in a mini-van, and attending church on Sundays.

Twenty years ago, I lived on Capitol Hill in downtown Seattle. For the gay community, it's the Seattle equivalent to the Castro District is in San Francisco: A vibrant, fun, wildly eclectic neighborhood with a diverse mix of singles and families, gays and straights, college students, business professionals and tech workers.

Many of my friends and neighbors were — and still are — gay. And, let me be perfectly clear on the subject of gay rights: I'm 100% for gay marriage and believe any discrimination whatsoever against gays is bad. I've taught my kids that all forms of discrimination are wrong.

However, after watching a couple gay pride parades on Broadway Avenue in the mid-1990s, I realized it was not an event I'd take a young child to. Explaining how we as humans can be different, and why some men love men and some women love women seemed relatively easy. On the other hand, trying to explain whips, chains, leather, bondage and huge phallic symbols to a child seemed an altogether more challenging task, and one I realized I'd rather avoid.

In other words, the gay pride parade, back then, with its heavy emphasis on sexuality, might have been counter-productive in promoting widespread acceptance.

I'd draw a similar parallel to the movement to legalize marijuana. The fastest path to marijuana legalization is presenting it as a relatively benign substance that is mostly used responsibly by normal-looking folks who go to work, pay taxes and raise their children to be positive contributors to American society.

I'VE TAUGHT MY KIDS THAT ALL FORMS OF DISCRIMINATION ARE WRONG.

GREG JAMES
PUBLISHER



MARIJUANA VENTURE

PUBLISHER

GREG JAMES

Greg@MarijuanaVenture.com

EDITOR

GARRETT RUDOLPH

Editor@MarijuanaVenture.com

SALES MANAGER

LISA SMITH

Lisa@MarijuanaVenture.com

STAFF WRITERS

CHRIS BAYLEY

PATRICK WAGNER

CONTRIBUTORS

Doug Banfelder	David Kerr
Joy Beckerman	Jennifer Martin
Bernard Chamberlain	Dr. Aseem Sappal
Vicki Christophersen	Aaron Stancik
Alexa Divett	Nick Tennant
Matt Goldberg	Joseph Tully
Matt Kaden	Chris Van Hook
Michael Kosnitsky	Andrew M. Walsh

MARIJUANA VENTURE VOL. 2, ISSUE 7

Marijuana Venture (ISSN #2376-0710) is published monthly by MJ Directions LLC. PO Box 1419, Renton, WA, 98057. Phone: (425)656-3621. Website: www.marijuanaventure.com. Copyright 2015 by Marijuana Venture. All rights reserved. Reprinting, in whole or in part, is expressly forbidden without written permission from the publisher.

ADVERTISING

For advertising rates, call (425)656-3621 or email Greg@MarijuanaVenture.com.

SUBSCRIPTION SERVICES

For subscription services, please call (425)656-3621, visit www.marijuanaventure.com or email Editor@MarijuanaVenture.com. For change of address, please include the old address and new address, along with an address label from a recent issue, if possible. Please allow up to three weeks for address to be changed. If an address is not updated when the magazine is mailed, we are not responsible for delivery of your magazine. If the Post Office alerts us that your magazine is undeliverable, we will suspend our subscription until a correct address is received.

Marijuana Venture assumes no responsibility for any claims or representations contained in the magazine or in any advertisement. All materials contained are for educational purposes and intended for the legal marijuana business where allowed by state law. Marijuana Venture does not encourage the illegal use of any of the products contained within.

Grow. Process. Sell. Secure.

The affordable, usable, valuable traceability service for the recreational cannabis industry has arrived!

- **Manage your operation** with our easy-to-use mobile and desktop applications.
- **Stay compliant** with LCB requirements with a lot less hassle (works with the state's BioTrack THC-powered system).
- **Spend more time growing**, and less time tracking.
- **Gain insight** into your business with streamlined reporting.

"We love how TraceWeed is mobile so you don't always have to go to your computer to get things entered."

- Susan Strickland, co-owner of Happy Wayz Edibles in Spokane, WA

Schedule your TraceWeed installation

Contact us at: info@traceweed.com
(206) 489-4942

Find us online at:
<http://traceweed.com>



Powered by
TapNTrace

TraceWeed

Blueberry
Dauntless Software Inc.

Plant ID:
1873121600815



We will not be undersold

Your best source for grow & processing equipment at wholesale prices!

- Lighting & Ballast** • All major brands available including: Sun System, Gavita, Hortilux, SolisTek, Illumitex and Galaxy.
- Specialty Gases** • Only 3rd Party Vendor in WA state: Industrial and Research Grades of Super Critical CO2, N Butane & Propane
- Soil & Nutrients** • High quality nutrient lines including: Botanicare, Foxfarm, General Hydroponics, Cutting Edge, Raw, Advanced Nutrients & more.
• Largest soil selections including: organic soils and pest and disease solutions.
- Equipment** • Commercial trimmers: Zoom Double Barrel, Twister, Centurion & more.
• Extraction & processing equipment: CO2 and Butane extraction equipment
• Grow room control & Nutrient delivery systems: Growtronix and Iponic controllers
• CO2 supplementation: Titan controls Water, Air filtration & purification
- Clones and Seeds** • We have 502 compliant partnerships with elite genetic companies that offer the most sought after strains in the market place.
- Facility Security** • Safes, Video surveillance

I-502 commercial grower discounts

Design • Consulting • Cultivation • Processing
Retail and Business expansion support.





TABLE OF CONTENTS

About the cover: Grow-Op Farms CEO Rob McKinley checks out plants at the Spokane, Washington home of Phat Panda, the top selling producer/processor of the state's legal cannabis market. **Above:** Andrew Guy, vice president of operations at Grow-Op Farms, clearly enjoys spending quality time with some of his favorite "children." More on Page 44. Photos by Garrett Rudolph.

FEATURES

36 | Colorado Leaf

Brothers in Pueblo, Colorado break ground on greenhouse for cutting-edge cannabis cultivation facility

44 | Phat Panda

Is this the most well-run, legal grow operation in the nation? Phat Panda producers lead Washington in sales

62 | Extraction Styles

Factors to consider before choosing what type of extraction machine makes the most sense for your business

68 | Meet Jane

Point-of-sale kiosks, similar to advanced versions of self-checkout machines in grocery stores, come to cannabis retail

76 | Legal Pages

How to maximize tax deductions in a vertically-integrated business model within the challenging cannabis space

92 | Roadblocks

Tips to staying compliant and profitable in the cannabis industry, from a leader in marijuana-based education

98 | Hydroponics

Growing advice, plus pros and cons on growing top-quality cannabis with a hydroponic system

104 | Tips for Growers

The more you know about your grow and your plants, the better and more efficient your operation can be

108 | From the Field

Chris Van Hook, from the Clean Green Certification program, travels around several Pacific Northwest farms

118 | iUNU

Seattle-based company aims to be a leader in the next generation of farming with plasma lighting technology

122 | Oregon Hemp

Fourteen hemp cultivation licensees await the next step from the Oregon Legislature and the DEA

124 | PureHemp

Colorado-based company prepares to put whole-plant hemp processing biorefineries into action

TABLE OF CONTENTS

BASICS

- 8 | Calendar
- 28 | Blowing Smoke
- 30 | Market Watch
- 143 | Ad directory

PROFILES

- 14 | High Society
- 18 | Five Zero Trees
- 20 | Cleo

SPOTLIGHTS

- 22 | Solaridy
- 24 | AgriAir
- 24 | Growstone
- 26 | Gladiator
- 26 | 3tLink

LIVING THE DREAM

- 32 | Thomas Craig
- 33 | Wendy Rall

GUEST COLUMNS

- 130 | Doug Banfelder
- 132 | Aaron Stancik
- 136 | Alexa Divett
- 138 | Vicki Christophersen

OPINIONS

- 2 | Message from the Publisher
- 28 | Letters to the Editor
- 140 | Letter from the Editor



MJVenture

MISSION

Marijuana Venture's goal is to provide the best information possible to the legal, licensed, commercial marijuana business. Our belief is that a great business publication will help professionals in the industry create more efficient and profitable businesses.

THC

LAW FIRM LLC

CALL (253) 301-3439

THC Law Firm has represented more than ninety I-502 businesses across Washington state.

Marijuana law is what we do!

Our Services Include:

- In-House Counsel
- Step-by-Step Licensing Package
- On-Site Full Compliance Audit
- Drafting I-502 Documents
- Fighting Moratoriums
- Liquor Control Board Appeals
- Lawsuits Against the LCB



Chris Crew, Attorney at Law

- *Lead Counsel for the Marijuana League*
- *Lead Speaker for Marijuana Workshops*

LAKWOOD LOCATION
3815 100th Street SW • Suite 2B
Lakewood, WA 98499

RAYMOND LOCATION
310 Commercial Street
Raymond, WA 98577

CALL TODAY
for experienced
marijuana legal advice
(253) 301-3439
www.THCLawFirm.com



The Denver Mart Expo Building will be the place to be in mid-July as the Indo Expo Trade Show features two days of exhibitors and networking opportunities.

Denver, Los Angeles host big cannabis industry shows

DENVER — The **Indo Expo Trade Show** will be at The Denver Mart Expo Building on **July 11-12**. The trade show aims to cement relationships between growers, manufacturers, wholesalers and retailers by providing a networking event that will allow the new and old to construct new ideas, exchange information and forge new partnerships.

The expo will be bringing together local and national industry leaders from around the country for their two-day, weekend event. The first day of the show will be reserved for industry insiders only. The following day will be open to the public and will also host a job fair where new talent can be hired and contracted.

More information: www.indoexpoco.com.

MORE EVENTS

July 9: The National Hemp Association will be hosting the **NHA Hemp Law**

Seminar at the Denver University College of Law. The seminar is an all-day event looking to untangle the complex and ever-changing laws regarding industrial hemp.

Included on the show schedule will be three separate panels and four individual lectures about topics such as starting a hemp operation, hemp in Indian country, the murky legality of hemp and more.

Tickets are \$75 for all current Rocky Mountain Hemp Association members, \$125 for non-members and \$200 for lawyers receiving Continuing Legal Education credit.

More information: nationalhempassociation.org.

July 18-19: On the first stop of its five-city tour across Washington, Colorado and Oregon, **THC Fair** will be touching down at the Oregon State Fair and Exposition Center in Salem, Oregon. The event will

primarily be a primarily business-to-consumer show built to service the population in the area. The event will be hosting the industry's first "Sample Treasure Hunt" where attendees can obtain an expo wristband and punch card that allows them to visit local dispensaries to get free samples over the course of two weeks.

A portion of the show will be directed at the business-to-business market, inviting business professionals to continue to develop the Oregon, Washington and Colorado markets.

More information visit: www.THCfair.com.

July 25-26: Maximum Yield brings together numerous horticulture industry leaders for the **2015 Los Angeles Indoor Gardening Expo** which will be held at the Los Angeles Convention Center.

The weekend event will be divided into two sections — Saturday is dedicated to industry only and will host a VIP seminar, expert panel discussion and a six-hour networking period; Sunday will be open to the public and industry alike. Those familiar with the show format know that it

>> CONTINUED ON PAGE 10

Photo courtesy the Indo Expo Trade Show

I-502 Compliant, Packaging Machines & Materials!

VC999
PREMIUM PACKAGE

**Congratulations to New Leaf
Dàmà Cannabis Products
Lead the Market!**



**Packaging for Cannabis Products.
Bulk & Retail: Smokable, Extracts,
Infused, Edible & Beyond.**

- Guaranty Freshness, Longer Shelf Life, Great Taste, & Perfect Color
- Tamper Evident, Child-Proof, Flexible & Rigid
- Printing, Date-Coding and Labeling Options
- Easily change your package size and depth
- Lower labor costs and increase productivity
- Yes, We've always called it 'The 420'

VC999 RS420
rollstock thermoformer
Made in the USA



Contact VC999 Today • 800-728-2999 • Sales@VC999.com

XTRAPLAST
BEST SOURCE for packaging materials.



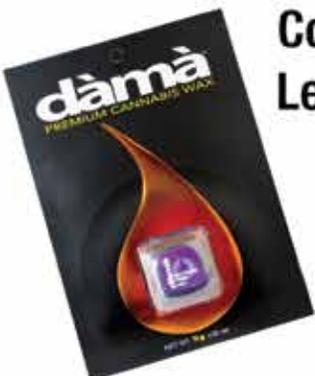
I-502 Compliant

**Consumers Demand Consistency & Quality.
Let Us Make Your Product Packages Better.**

- Excellent Packaging Machines & Packaging Materials
- No One Else Has More Real-Life Packaging Experience
- All XtraVac Machines Available with Gas Back Flush (MAP)
- XtraPlast Materials Available in Standard, Custom, & Printed

Sales@XtraPlast.com • 800-728-2999

A DIVISION OF
INAUEN GROUP



<< CONTINUED FROM PAGE 8

is aimed at the indoor grower community and that marijuana discussion is typically prohibited.

More information: www.indoorgarden-expo.com.

Aug. 7-8: The second stop for the **Northwest Cannabis Classic** tour will be the Tacoma Cannabis Classic on Aug. 7-8 in Tacoma, Washington. The two-day event will be home to a number of product demos, vendors, seminars networking opportunities and live music. Details on the venue, tickets and travel accommodations are to be announced soon.

More information: nwcannabisclassic.com.

Aug. 15-16: Hempfest weekend in Seattle just got a whole lot busier with the introduction of the **Hempfest Business Show** at the Seattle Center Exhibition Hall.

This inaugural event is about creating an environment where Washington's flourishing medical and recreational cannabis industries can flourish and mature.

It will run concurrently with Seattle Hempfest, which will be taking place just minutes away. Vendors will display the latest in cultivation equipment, packaging, marketing, web design, insurance, nutrients and more.

In association with Seattle Hempfest, the Alaska Hempfest 2015 will be a three-day "protestival" in Alaska.

The event is a free political and educational gathering to discuss the legislation and policies that will be shaping Alaska's future. Currently the show is still waiting to confirm a set date and location.

More information: www.hempfest.org.

Aug. 22-23: The **2015 High Times Michigan Medical Cannabis Cup** will be touching down in Clio, Michigan at the Auto City Speedway on Aug. 22-23. The event will feature a wide array of vendors, live entertainment, VIP options, seminars and classes hosted by field celebrities.

The event is planned to be for attendees 18 and older. Those that plan on consuming marijuana on site will need a medical marijuana card to do so, but a medical card is not required to attend.

Tickets are available now and prices vary by level of access.

More information: cannabiscup.com.

Aug. 21-23: **Hempcon** will hit Washington this summer with a show that will feature hundreds of exhibitors, competitions and seminars as the cannabis industry floods the Washington State Fairgrounds in Puyallup.

The series will continue with shows at the Denver Merchandise Mart on Oct. 9-11, and the National Orange Show (NOS) in San Bernardino, California on Nov. 6-8.

More information: hempcon.com.

Sept. 9-10: Native Nation Events and Indian Country Cannabis Association will be bringing the **Native American Marijuana and Hemp Conference and Expo** to Harrah's Resort Southern California on Sept. 9-10 in Valley Center, California. The conference promises to cover the policy changes that are allowing Native America to enter into the marijuana industry.

Details on tickets and travel are scarce for now, but announcements will surely be made in the coming months.

More information: nativenationevents.org/conference/native-american-marijuana-conference.

Sept. 12-13: Looking to bridge the gap between Oregon's medical and recreational marijuana businesses, the **Oregon Medical Marijuana Business Conference** will be opening its doors at the Hilton Portland in downtown Portland this September.

Showcasing Oregon's top cannabis industry experts, the two-day conference will provide a platform for those curious about joining the community, activists and politicians seeking law reform, and practical knowledge for those who are already working in the industry today.

A limited amount of early bird passes are available at \$299.

More information: ommbc.com

Sept. 16-18: The second stop for the International Cannabis Association's **Cannabis World Congress and Business Expo** will be at the Los Angeles Convention Center in California.

The fall event will host the same interests as its east coast counterpart with a focus on industry professionals, lawmakers and entrepreneurs.

The show has booked more than 150 ex-

hibitors and educational partners alongside a variety of guest speakers that have yet to be announced.

More information: www.cwcbexpo.com.

Sept. 29-30: With possibly the biggest trade show for smoke shops and head shops in the US, the **BIG Industry Show** will be open to attendees on Sept. 29-30 at the Miami Beach Convention Center in Miami Beach, Florida.

The business-to-business event presents a platform for the glass, vape, apparel and accessory markets to meet the retailers, wholesalers and distributors in the cannabis and cannabis friendly industries.

Registration will be starting soon; tickets and travel information are pending.

More information: bigindustryshow.com.

Nov. 11-13: The fourth annual **Marijuana Business Conference and Expo** will hit Las Vegas for a three-day, business-only event that is expected to have more than 1,500 attendees, an estimated 125 vendors and 70 expert speakers, including dispensary owners, private equity leaders and top lawyers. The show will be hosted at the Rio Hotel & Casino in Las Vegas.

Consumers and the general public are not invited to Marijuana Business Conferences.

More information: mjbizconference.com

Jan. 14-15: Mark your calendar for **The Rush Is On**, a business seminar, trade show and competition scheduled for January 2016. The event will be at the Dena'ina Convention Center in Anchorage, Alaska.

The show is intending to differentiate itself from other summer events by focusing on how to open an Alaskan marijuana business. Seminar topics include cannabis cultivation, tourism, "pot economics" and discussions on testing and lab results.

Tickets are available now and prices range from \$99 for home growers, to \$149 for boutique growers and to \$299 for access to all of the show seminars.

More information: therushison.com.

To submit events for consideration in Marijuana Venture's calendar, send an email to Editor@MarijuanaVenture.com.

**Qualifies
for utility rebates**
Recent approval for incentive of
\$1,150 per fixture

LightingScience®



Lighting Scientifically Created for Your Plants

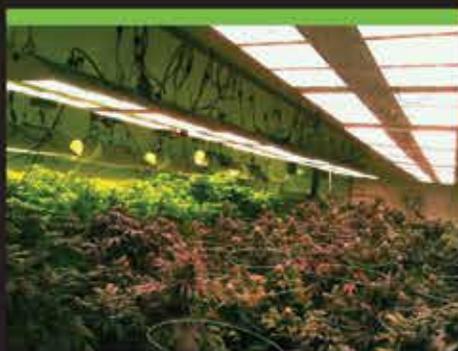
Lighting Science Group's VividGro LED grow fixture was designed by a NASA photobiologist and top lighting engineers. It specifically provides cannabis the lighting it needs for maximum yield.

- Even PAR across the canopy
- Color spectrum tuned for cannabis growth
- 40% energy savings
- Qualifies for utility rebates (where applicable)

VividGro has been tested by universities and experienced cannabis growers. Every test showed higher yield and comparable THC and CBD levels.*

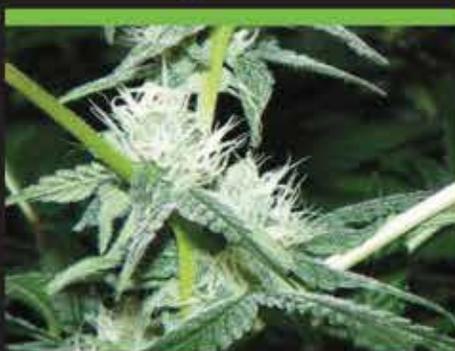
Leasing available
including 90 days of deferred payments

Results in both veg and flowering stages



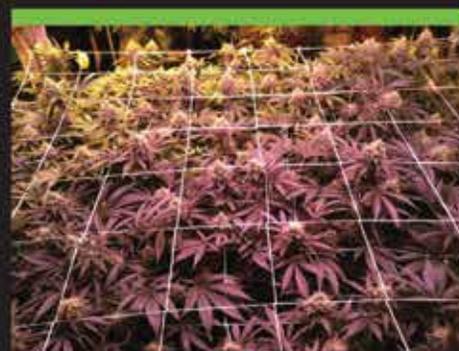
DENVER, CO

- 24% avg increase in dry bud yield while using 47% less electricity
- Increased yield resulted in \$54,681 additional revenue
- 1.76 gpw



SPOKANE, WA

- 27% increase in finished product yield, 47% less energy consumed, 48% increase in conversion efficiency
- 1.70 gpw



DENVER, CO

- 13% increase in finished product yield, 40% less energy consumed, and 58% increase in conversion efficiency

FOREVER GREEN has years of experience assessing businesses' electrical consumption and creating energy-efficient lighting solutions specific to our clients' needs. Please contact us for your custom ROI analysis on lighting up your grow, and for detailed specifications on the light fixtures.

 **forever green indoors**
horticultural technology solutions

www.forevergreenindoors.com

800-630-7345

lighting@forevergreenindoors.com

*For more detailed case studies please visit www.forevergreenindoors.com

Clearly Better, By Design.

*Packaging solutions specifically designed
for the medical cannabis industry*

Fully Configurable Custom Bags.

*Custom printing at no
additional cost.
MOQ applies*



NEW!



The only straight walled glass
concentrate container on the market.

Don't have an existing logo or design concept? Let us create
one for you. We will work with you to create a perfect, one of
a kind, custom packaging solution.

The Largest Selection Of Concentrate Containers Available!

*All concentrate containers can be printed with your design
at no additional cost. MOQ applies.*



Cannaline
Custom Packaging Solutions

*You have the best medicine, let us
create the best packaging.*

Cannaline Plain and "Best Practices" Bags

Large inventory of bags, always in stock. Including compliant "Best Practices" printing for all legal states.



**STEALTH
BAGS**



Designer smell proof bags. 6 different designs. Retail packaged.

Custom Printed Jars

All glass jars can be printed with your design at no additional cost. MOQ applies.



Over 60 different stock designs, permanently fused to the glass. Guaranteed for life!



Available Sizes:

NEW!
**Child
Resistant
Bags**



Tested and approved in compliance with 16CFR Part 1700

301.356.9096
www.cannaline.com

New customers - call us to receive a free gift with your first purchase of \$100 dollars or more. While supplies last. Valid through May 2015



The High Society staff includes (from left to right) Nikki Mork, Jason Kitzman, Raina Burke, Jacob Vaughn, Kylee Morgan, Sam High, Phil Shay and Rachael Schaut.

High Society

Big, spacious retail store makes mark as a ‘real classy joint’

By Patrick Wagner

ANACORTES, Wash – As one of the first cannabis retailers in the nation to be built from the ground up, High Society was also designed to become one of the biggest and classiest retailers in the state.

After a long search through existing retail storefronts and buildings that were available for rent, owners Jason and Maria Kitzman determined exactly what they didn’t want their business to be. After careful planning and research, the couple decided their best option was to build a retail store from the ground up.

“What we were finding was that there were a lot of landlords that just wanted to stick it to us,” Jason Kitzman said. “They had these crap little locations that they wanted three times the amount of rent for and we were in a position where we didn’t have to do that.”

The Kitzmans found a three-acre lot in Anacortes, Washington and took full advantage of the size of the property. They built a 2,000-square-foot, emerald green-colored retail space, and dedicated about half of the floor plan to allowing customers to relax and visit. The store provides its guests with couches to lounge around on, a coffee and tea area complete with munchies, and hand-picked artwork for customers to peruse during their visit.

“I wanted people to walk in and go, ‘Wow this is really nice,’” Jason Kitzman said. “I wanted people to feel comfortable, not feel like they’re walking into a jail and getting carded or going to this little hole-in-the-wall that isn’t safe.”

Additionally, the extra space on the property has been zoned for a grow facility at some point in the future. If the size of

Company: High Society
Location: Anacortes, Washington
Employees: 10
Most popular products: 60% flower, 40% edibles and extracts

High Society weren’t enough to impress, the retail operation has also customized the interior décor and employee dress code to encompass a Roaring Twenties speakeasy that reflects the height of luxury from a bygone era.

General manager Rachael Schaut said the idea for the décor and dress code was dreamt up by the team as a way to make their customers feel like they had just walked into a general store or speakeasy in the ‘20s.

Schaut and her team at High Society have been able to make big-picture design decisions for the store, due in part to the Kitzmans’ democratic business philosophy.

Schaut said staff meetings have a “knights at the roundtable” approach,

>> CONTINUED ON PAGE 16

P.L. LIGHT SYSTEMS

THE LIGHTING KNOWLEDGE COMPANY

ALPHA



BETA



illuminated by
USHIO

The Global Market Leader in Commercial Horticulture Lighting Introduces the NXT2!

Why the P.L. Commercial Grade Light System is the Best for Your Facility:

■ Industry Leading Reflector Designs:

- One fixture - Choice of customized reflector (ALPHA or BETA)
- The "BETA" is the deepest penetrating reflector
 - Enables light to reach the leaves in the lower levels of the crop enabling them to make a larger contribution to the photosynthesis process
- The "ALPHA" is the most efficient reflector
- P.L. reflectors degrade at <1% per year

■ Minimal Maintenance:

- P.L. reflectors are easy to remove and clean which optimizes reflectivity

■ P.L. Light Systems is the Global Leader in Horticultural Lighting Since 1977

- Facilitates the use of 20% less equipment as compared to using traditional eballast systems

■ Complimentary Customized Light Plans

- Professionally engineered in conjunction with P.L.
- Guaranteed light levels (measured in μmol)

■ Utilizes the USHIO Super High Pressure Sodium Double Ended Lamp

- High red and blue spectral rations for excellent photosynthesis efficiency
- Economic - long average life, high lumen output, high efficacy



urban-gro, LLC is the exclusive segment distributor for P.L. Light Systems and the official distributor of Narva® Grow Lamps

sales@urban-gro.com

Ph. 720.390.3880

urban-gro.com

urban-gro

YOUR SOURCE FOR PROFESSIONAL GROW LIGHT SYSTEMS



<< CONTINUED FROM PAGE 14

where everyone gives their opinions of how things run and what changes they'd like to see. Schaut said they discuss all topics as a team and implement changes everybody agrees upon.

"Everything we do is a community effort," Schaut said.

The roundtable and steady dialogue plays a vital role between the Kitzmans, who own and operate a chiropractic practice in nearby Burlington, and the team at High Society.

That management style allows the Kitzmans to operate both businesses separately without being overwhelmed by the day-to-day decisions and tribulations

Now the Kitzmans are ready to begin working on their second storefront in Burl-



Clockwise, starting from the top: A wide view of the High Society retail store in Anacortes; Moises Mora and Nikki Mork smile for the camera, while Lori Neeley and Sam High work in the background; Rachael Schaut shows off some beautiful product.

ington. Jason Kitzman said they will be designing their second location to be an exact replica of their Anacortes building, except even larger so it can house a shop dedicated to ancillary merchandise.

Schaut said the team is eager to see the expansion unfold and new team members

arrive.

"It's the best job in the world with the coolest people to work with," Schaut said. "All of us here have to set our alarms to leave work everyday because we'll get too caught up and then realize, 'Oh wait, I'm off work.'"



VISIT
CLEAR
CHOICE

CLEARCHOICE
CANNABIS

GO FOR THE GREEN



253.444.5444

8001 S. HOSMER ST. SUITE B | TACOMA, WA 98408



WWW.FINDCLEARCHOICE.COM

THIS PRODUCT HAS INTOXICATING EFFECTS AND MAY BE HABIT FORMING. MARIJUANA CAN IMPAIR CONCENTRATION, COORDINATION, AND JUDGMENT. DO NOT OPERATE A VEHICLE OR MACHINERY UNDER THE INFLUENCE OF THIS DRUG. THERE MAY BE HEALTH RISKS ASSOCIATED WITH CONSUMPTION OF THIS PRODUCT. FOR USE ONLY BY ADULTS 21 AND OLDER. KEEP OUT OF THE REACH OF CHILDREN.



Budtender Erin Perry shows off some of Five Zero Trees' product at its Portland dispensary.

Five Zero Trees

Blue collar work ethic drives business owners

By Patrick Wagner

PORTLAND, Ore. — The focus of Five Zero Trees, a licensed medical dispensary in Portland, Oregon, remains as simple as it is ambitious – to provide its customers with the absolute best cannabis possible.

While many businesses make similar claims, the owners of Five Zero Trees, Case Van Dorne and Joel Jennings, have done so on their own terms and without any financial support from third parties.

“We’re real blue collar,” Van Dorne said. “It’s common for us to work 80 to 100 hours a week.”

Jennings and Van Dorne, through a shared interest in medical marijuana, found themselves working together for another grower in 2009. It wasn’t long before they started their own grow operation, which quickly developed to include a medical dispensary.

“We’re not contractors by any means, but

we’re not afraid of hard work,” Van Dorne said of getting the retail space ready for operation.

The first portion of that work required gutting the location’s outdated doctor’s office aesthetic, complete with popcorn ceiling and lime green carpet. Everything had to be replaced from the floors to the ceiling light fixtures.

“It took about a month of 20-hour days and we had some phenomenal help from Joel’s brother and friends,” Van Dorne said.

With an indoor warehouse and two greenhouses, Five Zero Trees grows about half the product sold in the dispensary.

“Currently we have a pretty large-scale indoor operation, fully sealed, all Gavita,” Van Dorne said. “We run a drain-to-waste system with a synthetic/organic hybrid system.

Company: Five Zero Trees

Location: Portland, Oregon

Employees: 20

Details: One dispensary, one indoor grow facility and two greenhouses

“Five Zero Trees has been trying to expand and increase our production and while doing so it has also been trying to lower cost of production to try and provide more affordable price meds,” Van Dorne said.

Jennings and Van Dorne spend a great deal of time trying to find the next strain that is worth adding to the operation. The growers have a 20-light setup dedicated to seedlings. After three separate trials, new strains are either accepted or thrown to the wayside. It’s a tedious process, but one the founders believe in.

“Our motto is, ‘Do today what could be done tomorrow.’” Van Dorne said. “It’s a fine balance, especially trying to regulate between our workload and family life. We’ve got some fairly tolerant women in our lives.”

FEEL BETTER



Visit www.vipova.com

The World's ONLY Patent Pending
CBD-Infused Tea Specially Formulated
for Higher Bioavailability



Call 1-888-976-8482 to place your tea order.

*ViPova™ is owned by Lexaria Corp, a publicly traded Company.
LXRP in the US and LXX in Canada.*





Cleo's Apollo OG strain.

Company: Cleo
Location: Arlington, Washington
License: Tier 3 producer/processor
Employees: 10
Cultivation methods: Soil-based indoor grow facility

Cleo

Sensi Sweets Edibles products set to hit recreational market

By Patrick Wagner

ARLINGTON, Wash. – The owners of Cleo have been busy. The 10-person company responsible for Sensi Sweets Edibles, Omega Concentrates and the soon-to-launch Omega Cannabis Company has been hard at work transitioning from a medical operation to a recreational one.

The company started in 2011. Once the opportunity for recreational sales came into effect, the group shifted gears to switch over to the state-regulated system.

“One owner had the genetics, another had the building and another owner had the engineering knowledge,” Cleo spokesman Eugene Frid said. “I think a lot of the I-502 producers are ex-medical producers. At least the good ones are.”

Frid said that the company doesn't just rely on its own yield as a Tier 3 producer. Cleo has been operating as a processor for

numerous other producers in the area.

Over the course of its four-year lifespan, Cleo has aligned itself with some of the top extractors in the industry, Frid said.

“We have pretty much the two best extractors around. The first one is Farmer Joe (Parker) from Peace Oil. He's a 19-time cup winner,” Frid said. “We also have the extraction team from A Greener Today, which also has 19 cups under their belts.”

With so many accolades, Cleo has positioned Omega Concentrates to remain in the limelight for the foreseeable future. Meanwhile, the Sensi Sweets Edibles brand is also transitioning toward the recreational market.

Frid said Sensi Sweets Edibles was a considerably different company back in 2013, when it only offered two different products. Cleo built the medical marijuana

Will your business be next?

Interested in having your business profiled in Marijuana Venture? Each month, magazine staff will feature different growers, retailers and specialty businesses in a short profile section. For more information, or to pitch a company to be featured, send an email to Editor@MarijuanaVenture.com.

edibles company to supply nearly 40 items for the medical community.

Now Sensi Sweets Edibles is gearing up to bring its award-winning lemonade brand to Washington's recreational stores this summer. Cleo plans to bring a mix of old and new products offered by Sensi Sweets Edibles over the coming years to the recreational market, including its Café Vita iced coffee beverage.

The third branch of Cleo is also on the horizon, with Omega Cannabis Company preparing to ship flower to Washington's licensed retail stores.

FLYING



Part 1

SKULL

PLANT PRODUCTS

Z1

Enzyme Cleanser

- World's Most Advanced Enzyme Cleanser
- Great for Soil and all Hydro Systems
- Super High Customer Satisfaction Rate
- Eliminates Bio-film and inanimate slime
- Answer to problem root zones
- Creates proper osmotic conditions
- Super Economical (approx. cost 1.5¢/gallon)

FLYING



Part 2

SKULL

PLANT PRODUCTS

Thanks for all of your help. You keep me lookin' good in the grow rooms.
Tony Renzulli - Grow Room Manager - Farmtek.com



**FOR MORE INFORMATION
VISIT WWW.FLYINGSKULL.NET
(888) 770-8808**



NUKE EM

World's Most Advanced
Insecticide & Fungicide

- I-502 Approved Pesticide
- Kills Broad, Russet, Cyclamen and Spider Mites
- Kills Powdery Mildew, Mold and Yeast
- Can be used throughout including day of and after harvest
- Spray low dose for weekly maintenance
- Won't slow plant growth (No oil, No soap, No detergent)
- No harmful residue
- May reduce worker's comp or insurance claims



FLYING



NUKE EM

SKULL

PLANT PRODUCTS



Solaridy LLC

A Florida-based company recently unveiled a new system that allows commercial cultivators to save space and resources by growing cannabis vertically.

The CropTower vertical cultivation system, made by Solaridy LLC, uses recycled water, state-of-the-art growing technologies, powerful LED grow lights and advanced fertilization techniques to reduce the environmental footprints of commercial grow operations, CEO Doug Fyvolent said.

Fyvolent said the vertical system can result in water savings of up to 90%. The relatively small footprint of the CropTower can hold up to 90 plants, which could allow operations to expand by up to three times their current production in the same floor space, he added.

As much of the West Coast faces the uncertainty of drought, particularly in California, water-saving technologies will be key for growers that might face strict regulations and high water costs.

“Our CropTower technologies exceed the stringent requirements necessary to meet the demand for indoor cannabis cultivation,” Fyvolent said. “By combining technology, green processes and computerized control systems, we developed a grow that ensures not only will it outperform existing techniques, but is totally monitored by security teams both in-house and remotely 24/7.”

Licensed growers may qualify to have a custom-built system installed at no upfront cost, through Solaridy’s leasing program.

“Our equipment leasing program consists of a turn-key, professionally-installed system designed to fit your exact floor space,” Fyvolent said. “We will train your personnel to operate and maintain the equipment with lease payment based on production coverage.”

Each CropTower unit is a minimum of 10 feet tall and requires a square floor space of seven feet by seven feet.

Solaridy was founded in 2013 with a goal of introducing environmentally-friendly products that enhance the ability of commercial cannabis growers to produce high-quality crops while wasting less natural resources.

More information: www.solaridy.com.

GROW BETTER. GROW PRO.



(BULK SIZES AVAILABLE)

Rx Green Solutions operates the industry's only R&D facility dedicated to testing product efficacy on cannabis!



www.grow-better.com | info@rxgreensolutions.com | 603.769.3450

AgriAir

AgriAir Equipment is aiming to shift the mindset of indoor gardeners using chemicals to prevent common fungal, odor and bacterial issues. AgriAir purifiers utilize state-of-the-art photo-hydro ionization technology to effectively control and destroy mold, odor, virus, bacteria and bio-contaminants in enclosed grow spaces.

The purifiers are a new line of products created by Omnitec Design that are specifically engineered to purify air and sanitize surfaces for indoor garden and greenhouse applications. Test results show that mold and mildew are eliminated, grow spaces smell fresh and biological contaminants are effectively controlled, the company said.

The products are designed and manufactured in the Seattle area. A newcomer to the gardening industry, AgriAir has been expanding distribution points in the United States and Canada since January. The innovative new product line



offers new technology to promote organic gardening practices by helping to eliminate the use of chemicals. Ever-expanding regulations and challenging requirements necessitate a preventative

approach to addressing these concerns in all phases of indoor commercial gardening, the company said.

More information: www.agriairequipment.com.



GS-1 Hydro Stones

Manufactured with recycled glass, Growstone GS-1 Hydro Stones are an efficient growing medium for a wide variety of vegetables, herbs, fruits and flowering plants. The GS-1 Hydro Stones can be used in systems ranging from simple, manually-irrigated containers to more advanced automatic-drip containers, ebb-and-flow systems and nutrient film technique (NFT) tables.

Growstone mediums are engineered to provide an effective ratio of aeration and moisture to any hydroponic system. While other substrates maximize either air or moisture, the GS-1 Hydro Stones are designed to allow for both moisture absorption and drainage. They hold three times more water and 12% more air than some leading competitors, the company said.

GS-1 Hydro Stones offer easy control of root zone moisture content to allow for a high degree of control. Growstone mediums are reusable, extremely lightweight and “green” — they are made from recycled landfill glass using a patented “foam glass” manufacturing process.



Growstone Inc. is a U.S. manufacturer of products for the horticulture and agriculture industries. Its products, which include a variety of Earth-friendly substrates and top-dressings, are available at retail outlets nationwide.

More information: www.growstone.com.



THE OKANOGAN SUN HAS DONE AMAZING THINGS TO OUR NEW STRAINS.

.....

When it comes to nourishing plants with full-spectrum light, you can't top the sun. Indoor lights simply aren't capable of producing the same complex terpene profile or THC levels. It's a perfect balance of sun, temperature, and the great outdoors that make Green Crack, Cherwillie, Purple Trainwreck, and a lot more this season's stand-outs.

Call (509) 557-7893 or visit CannaSol.net to learn more about our strains and pricing.



CannaSol
FARMS
PREMIUM SUNGROWN



Warning: This product has intoxicating effects and may be habit forming. Smoking is hazardous to your health. There may be health risks associated with consumption of this product. For use only by adults 21 and older. Keep out of reach of children and pets. This product should not be used by women that are pregnant or breast feeding. Marijuana can impair concentration, coordination, and judgment. Do not operate a vehicle or machinery under the influence of this drug.

The Gladiator

While engineering a prototype trimmer, Centurion Pro's R&D staff was so impressed by the machine's sheer muscle, they nicknamed it "The Gladiator."

The name stuck and the company believes it has one of the toughest trimming machines in the industry. According to Centurion Pro, the double-barreled Gladiator is capable of making 75,000 cuts per minute and replacing up to 40 employees.

It can trim up to 24 pounds of dried buds per hour (or 125 pounds wet), the company said.

The Gladiator's output comes from the Baldor motor that powers the cutting reels and tumbler drums on each unit. It also features a powerful, four-horsepower leaf collector that provides 3,000 cubic feet per minute of suction power for each barrel.

The Gladiator machines also include one of the largest folding hoppers available in the industry. The machine was developed to handle commercial-scale jobs, while maintaining a small footprint. The trimmer can be set up to operate in a 10-foot by 10-foot room with plenty of space to spare. The Gladiator is 27 inches tall, 25 inches wide and 30 inches long.



Centurion Pro, which is based just outside Vancouver, British Columbia, was began operations in 1997.

Centurion Pro currently has 16 employees that make up its sales, marketing, manufacturing, R&D and corporate team. Customers can contact Centurion

Pro directly or through its distributors in the United States, Canada and Australia. The company also plans to break into the European market by the end of the year.

More information: www.cprosolutions.com.

3tLink

Licensed marijuana business owners and employees in Washington can interact with each other through a new social media networking site called 3tLink.com.

The site is free and only open to business owners and employees, so there are no third-party vendors or ancillary businesses seeking to land new customers.

The website launched in June.

With the advent of social media, the Internet has become crowded with every sort of business and advertisement imaginable.

While Facebook, Instagram and twitter were all started as social media networks for everybody, 3tLink.com was designed for the sole pur-



pose of serving the recreational cannabis industry.

On the site, producer/processors can build company profiles to include wholesale menus, product photos and contact information.

Participating retailers can have access to an unlimited number of products to line their store shelves. Instead of fielding dozens of phone calls and scheduling out appointments with

producers, retailers can scroll through profiles and contact the producers they are interested in directly.

More information: 3tLink.com

Have a product or service aimed at the cannabis industry? Send press releases, product spotlights and photos to Editor@MarijuanaVenture.com for consideration.



CCTV
DYNAMICS



i-502
Surveillance Compliance
• GUARANTEED •

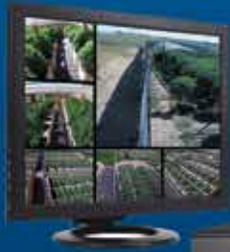


**We have
over 60 i-502
surveillance systems
approved and
operating!**

**On their first inspection*

**Check Out Our
UNMATCHED
i502 Specific Guaranteed!**

- **You will pass your inspection on the first try or all requested changes are free**
- **Your design will be compliant, or we will ship you FREE cameras until it is**
- **Your system will record 45 days or we will ship you FREE hard drives until it does**
- **Your system will be fully configured for YOUR operation and run for at least 24 hours before it ships**
- **Your system will include a free spare camera**



**Get
Compliant
Now...**

... And Leave Room To Grow!

**We Supply
3D Renderings of
All Camera Angles**



NOW INTRODUCING:

Marijuana Transport Tracking

WEED WATCH

- Geofencing • Automatic Alerts •
- Planned Routing • Driver Panic Buttons •

Visit Us Online or Call Us NOW
www.i502CCTV.com • 1-800-287-2817

Ferrari misrepresents look of cannabis industry

First, I'd like to say I enjoy your magazine and your staff for being on the front lines of our ever-changing cannabis industry. However, I am writing you today as I felt put-off by the cover of the June 2015 issue of Marijuana Venture magazine, in which two nice-looking business people are standing in front of a Ferrari. I feel the picture is a gross misrepresentation of our industry, and re-enforces a layman's view that we are all rich drug dealers as opposed to hard-working middle-class Americans.

Sure, I see where you were coming from to choose the picture, in that we are professional business people. But I don't believe that is what the picture is representing whatsoever. To me I see it and think it represents smug, outside investors that are coming in and creating the face of the industry. I personally work with over 20 recreational shops and help manage a 15-employee grow, and I am confident that most would not support the imagery of Ferrari-driving folks as the "new look of marijuana."

I will certainly get over the image and won't take it as an insult, but I did want to write in my honest opinion and hope it reaches the right set of eyes. We are all dealing with growing pains ... keep up the good work but please stay grounded as we grow and evolve this industry together! Thank you for your time.

PHIL SEDA

**SKY HIGH GARDENS
SEATTLE, WASHINGTON**

Phil,

Thanks for writing. We at Marijuana Venture love to get letters and emails from our readers, and we look at all of them. To be honest, we did discuss the Ferrari, and went back and forth on the merits of using it and the image it projects.

In the end we figured we'd use it simply because it was sexy and symbolic of success. We really didn't want to portray the "Miami Vice" drug dealer image, but rather hoped that it would be seen simply as something that was obtainable — even if a bit unrealistic — in the current marijuana industry with some hard work and focus.

Maybe we should have used a BMW or Mercedes-Benz instead?

GREG JAMES

MARIJUANA VENTURE PUBLISHER

Blowing smoke



"So I really still live that life, I'm on a solar power goat ranch in New Mexico and that's who I am," Doug Fine.

Doug Fine, author of Hempbound and Too High To Fail.

Source: Interview with Marijuana Venture

"There are places where there are forms already filled out with a doctor's signature. So you go, you say that you need marijuana because your ear hurts, they fill out the form, you prescribe it yourself and with the signature of a doctor. This is brutal hypocrisy."

Uruguay President Jose Mujica, on the medical marijuana laws that nearly half the U.S. has adopted. Source: The Associated Press

"Carrying through with efforts to prevent the store from opening had the potential for a protracted legal battle that could, conceivably, end up in the U.S. Supreme Court. And the city taxpayers would be footing the bill."

The Omak-Okanogan County Chronicle editorial regarding the Omak City Council's decision to drop the fight over allowing The Sage Shop, a licensed cannabis retailer, to open.

"If he had his way, what (Raphael) Mechoulam regards as the often irresponsible silliness of recreational pot culture would give way to an earnest and enthusiastic embrace of cannabis — but only as a medical substance to be strictly regulated and relentlessly researched. 'Right now,' he complains, 'people don't know what they're getting. For it to work in the medical world, it has to be quantitative. If you can't count it, it's not science.'"

National Geographic story regarding Israeli organic chemist Raphael Mechoulam and his research into the science of cannabis.

"We are the premier name brand in the entire world."

Mary Ann Lyons, owner of Sunboldt Farms, speaking at a Humboldt County meeting with state officials about the future of marijuana legislation. Source: The Santa Rosa Press Democrat



bioslighting.com

Introducing *Icarus*TM

The BIOS® *Icarus*TM is the agricultural industry's highest Photosynthetically Active Radiation (PAR) output LED fixture that also boasts the industry's highest PAR photon efficiency. The fixture has an optimized spectrum that maximizes photosynthesis and plant growth as well as providing a broad spectrum that is suitable for human vision. Engineered for science, this unique truly industrial grade plant growth production instrument fills the market need for high performance, high output, energy efficiency, and competitive cost that is lacking in the LED grow light market today.

- Suitable spectrum for all phases of plant growth and production
- Scientifically engineered for the photosynthetic absorption spectrum
- 40% less energy required to produce an equivalent amount of delivered PAR than 1000W HPS
- Greater than 50% overall system efficiency as compared to 1000W HID
- Up to 70% greater PAR photon efficiency than 1000W HPS
- Passive cooling design eliminates inferior features such as fans, moving parts, and noise
- Sustainable and environmentally friendly mercury-free lighting source compared to HID lighting systems requiring hazardous waste disposal
- 50% more blue radiation to promote improved plant morphology and quality
- Applications: Indoor crop production, greenhouse, growth chamber, retro-fit existing HID or new construction grow facilities



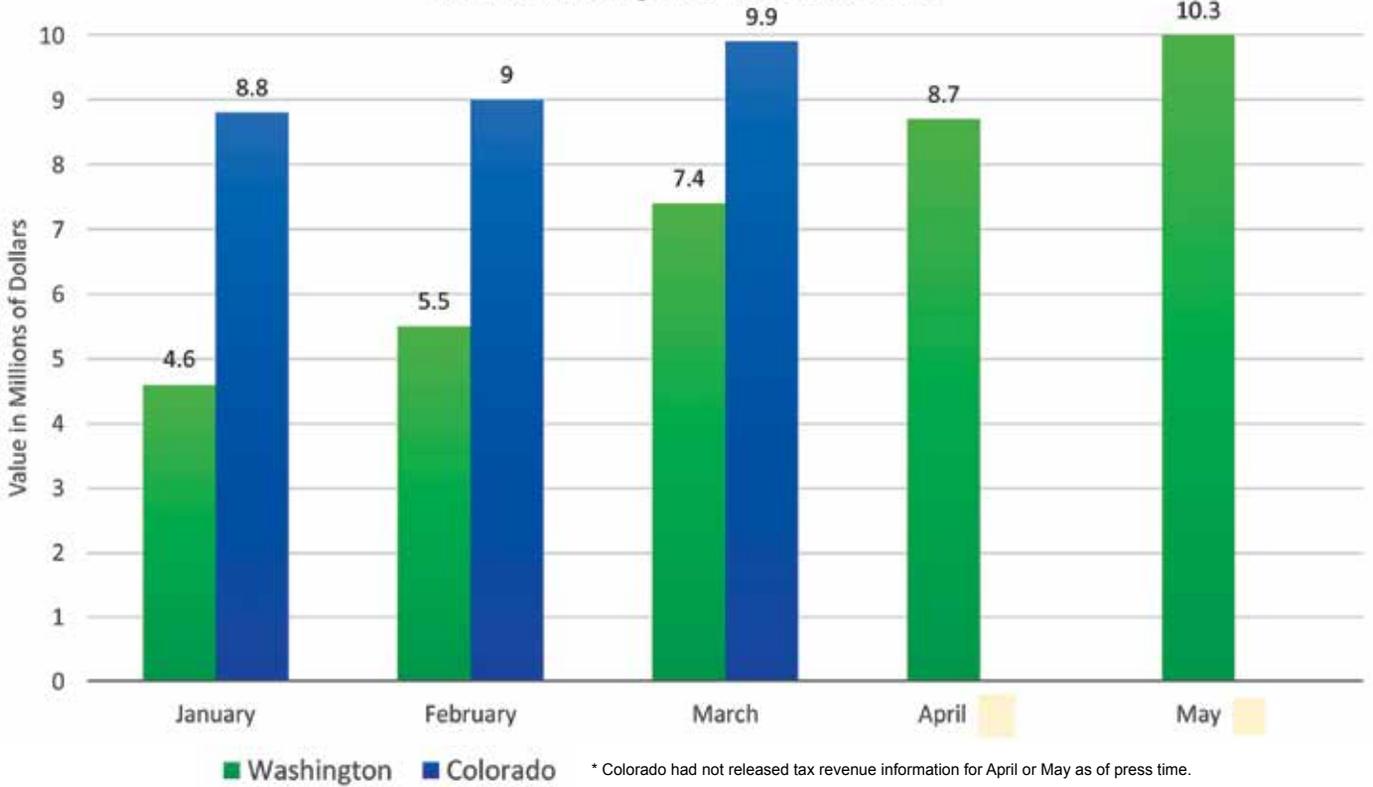
**Ready to learn more
about optimizing your
commercial crop
production lighting
solution today?**

Contact us at:
lighting@forevergreenindoors.com



A look at business metrics from the legal cannabis market, with information provided by Tetratrak.com

Total 2015 Marijuana Taxes Collected

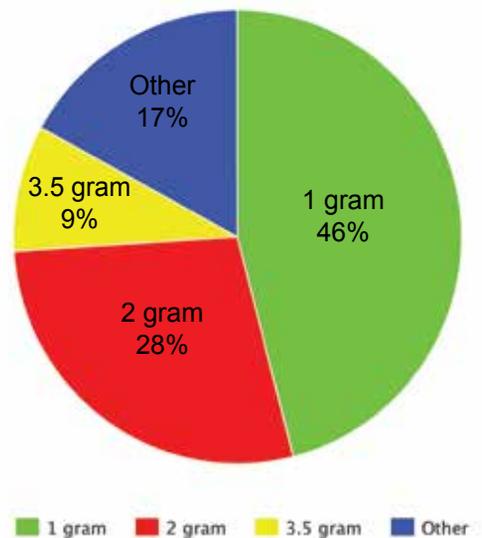


Wholesale vs. Retail



Price per gram of cannabis flower by month in Washington's licensed recreational market. Prices averaged \$31.25 per gram retail and \$18.66 wholesale when the market opened, but have fallen to \$13.68 retail and \$4.57 wholesale according to the most current data.

Washington Packaging Breakdown

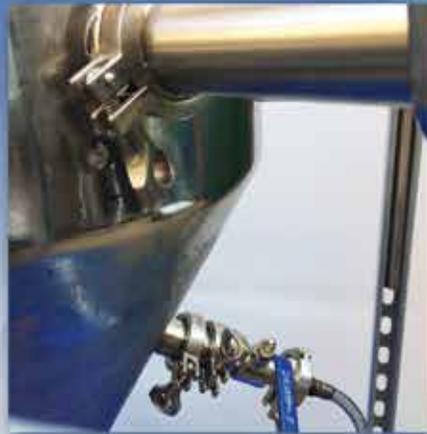


Daily Extractions

Increasing Your Processing Numbers Daily

Commercial Scale Water Hash Production

- Create Highest Quality "Full Melt"
- From 5lb to 40lb batch sizes
- Up to 30% return using high quality flower
- Simple Operation, Pressure and Solvent Free
- Three model sizes, starting at \$10k
- Up to 70% THC potency



206.397.9242

www.dailyextractions.com

Living the DREAM

Marijuana Venture sought out a group of professionals to tell the trials and tribulations of everyday life in the legal marijuana industry.

Greenfield LLC

Thomas Craig
Anchorage, Alaska
Prospective cultivator



You've probably heard of Charlo Greene. Many locals say she put the Alaska cannabis industry on the map. However, I would say the legendary cannabis strain Matanuska Thunder F**k put us on the map. It was this plant that germinated my dream.

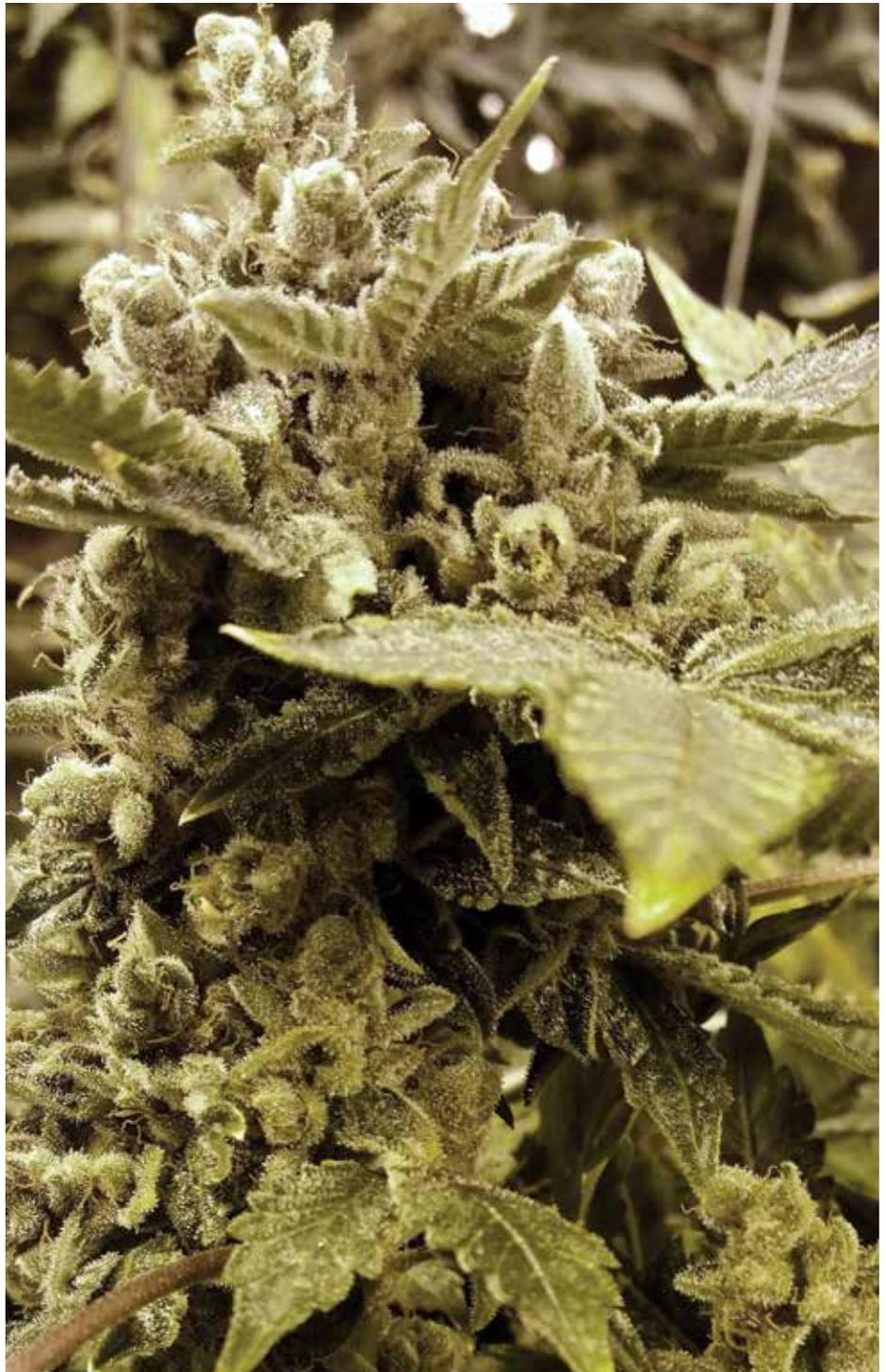
When attending the University of Alaska Anchorage, I lived like any other college student on a tight budget. Even though our grocery list consisted of ramen and PB&J's, buying weed got expensive.

While making ends meet and finding ourselves, marijuana helped us attain both, and we began to grow in more ways than one. As it turned out, we grew some quality bud. It was rewarding to create something amazing from such a small seed.

It was after graduation I felt the societal pressure to get a "real job." Having your bachelor's in business and waiting tables doesn't add up. So I put myself on the market and landed a state job. I was bounded by bureaucracy and surrounded by gossiping hens. I started to envision myself in this office 10 years down the road and promptly decided the cubical life was not for me. I quit.

I found myself selling alarm systems from Honolulu to Huntsville. While it was better than office life, something still wasn't right. Fast-forward to 2013, when a clipboard-holder outside of REI asked me to sign a petition to "regulate marijuana like alcohol."

I signed the petition and didn't think about it again — until Proposition 2 was born. Then I followed closely as the campaign unfolded. On Nov. 4, 2014, I watched the election results come in and I knew. I knew this was it. I could turn my dream into reality — creating my product from seed and growing it



into a business and not only that. I could pioneer a new industry.

I took off running. I had (and still have) a lot to learn, but with such limited resources in Alaska, I traveled south

to get my finger on the pulse. I attended the 2014 National Cannabis Industry Association (NCIA) extraction symposium in Denver. In preparation for the reception party I got dressed in jeans and a

Living the Dream photos courtesy Thomas Craig, Wendy Rall

pressed, button-down shirt.

When I arrived, I felt grossly underdressed, encircled by men in suits and smartly dressed women. I was a little unnerved by the situation (because I stereotypically assumed everyone would be wearing Grateful Dead T-shirts and Birkenstocks), but I began to mingle.

The conversation was exciting. These were passionate professionals pioneering a new industry that they love. Everyone was eager to explain their niche in the industry and network with me. I made a lot of great connections. The best part was that I could relate to these people. I thought, "This guy is just like me!" Quite the opposite of working in an office thinking, "Shut up, shut up, shut up ..."

Since then I have attended numerous conferences and expos. In March, I traveled to Seattle for the NCIA Cultivation Management Symposium. It was eye opening.

It dawned on me then that this was not going to be an easy task, as many cultivators forewarned about the importance for sustainable approaches and the many issues they experienced with heavy taxation and local bureaucracy. I was near-sighted with the already daunting task of writing a business plan, creating standard operating procedures, researching commercial grow systems, cost analysis, budgeting and on and on and on. This is not for your stereotypical pothead.

You cannot do it from your couch and it isn't a couple of plants in your basement. Attending these conferences have humbled me, yet enabled me the support and guidance to pioneer this industry back in Alaska.

While Greenfield LLC has a lot more work to do (along with the state Legislature), I am excited to be a part of this once-in-a-lifetime opportunity. Recently, the Alaska Cannabis Institute predicted that in the first full year of recreational sales (2017), there will be an estimated \$80 million wholesale market. The market is here for us. If the tiny Matanuska Thunder F**k seed from the quaint town of Wasilla, Alaska can become legendary, we can too.

Support the dream.
Find your Greenfield.

Thomas Craig is co-owner of Greenfield LLC (www.greenfieldalaska.com) and is currently pursuing a cultivation license.

Budd Branding

Wendy Rall
Winchester, Calif.
Visual design



"I feel a bit weird," I said to my colleague, as I was about to post my first cannabis design to my Facebook page.

He looked up from his computer. "Don't worry."

"I think about my family back east, especially the older ones, and some of my friends. What will they say when they see these cannabis related posts?"

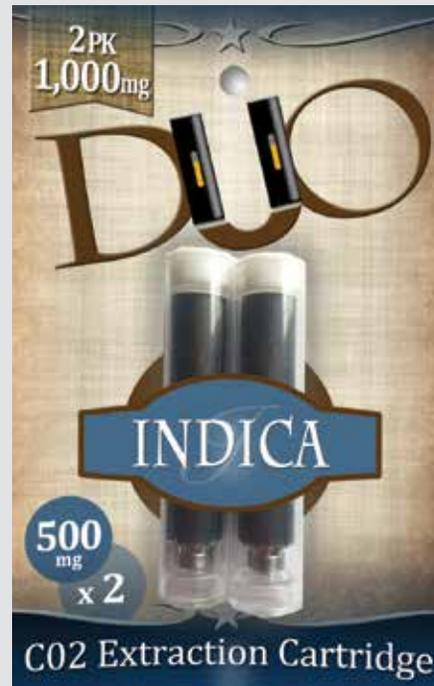
My finger hovered over the return key.

"This is what you do, and what you have been doing for the last 30 years. Your designs will help businesses become more successful, like they always have, but now it's in a different industry. Just post the design."

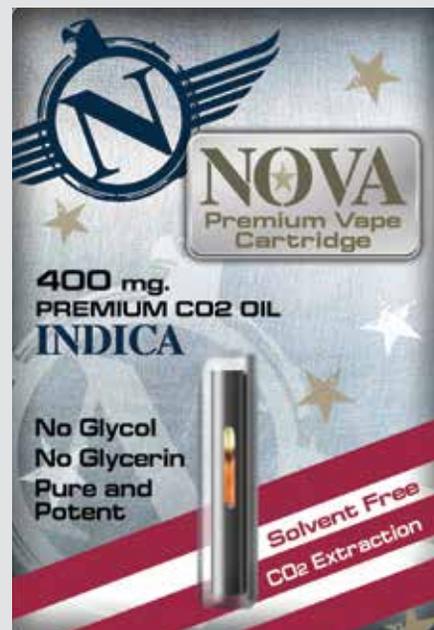
I took a deep breath and hit the return key.

In the beginning, I didn't actively seek clients. They found me. My first client, Rick Masters from Nova Vape, was looking for someone with a wider range of experience, someone who was not a cannabis-specific designer. He wanted me to create a brand identity, and packaging for his product, that would be unique from what already existed on the market. Masters was hoping to work with someone mature, reliable and professional. We were a great fit from the start.

One of the hurdles I encountered, upon entering the legal cannabis industry, was peoples' perception of cannabis. In spite of the general public's increasing acceptance and awareness of cannabis use, the stigma associated with it prevails. At first I was worried about what my family and friends would think, but then I realized that I could be part of the solution. By creating professional images for cannabis products and services, I could contribute to the improvement of the industry's overall image, transforming negative into positive.



Two package designs created by Wendy Rall's company, Budd Branding.



Wendy Rall is a professional graphic designer with more than 30 years experience. Now based in California, she owns and operates Budd Branding, a boutique design studio (www.buddbranding.com).

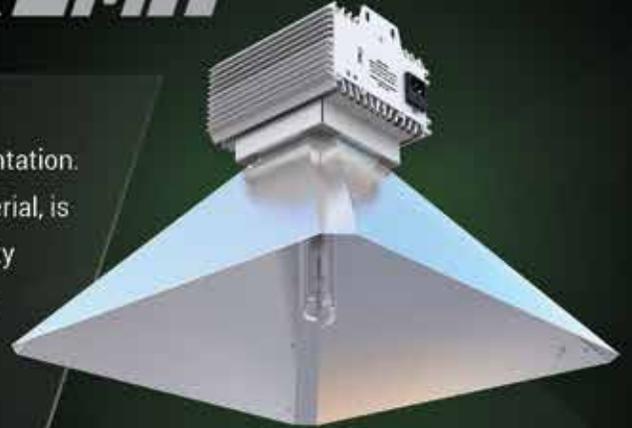
Are you interested in contributing to Marijuana Venture's 'Living the Dream' section? Email Editor@MarijuanaVenture.com for more details.

CHANGING THE GAME...

NANOLUX CMH

315 CMH Fixture

Has optimized vertical lamp orientation.
Utilizes 98% reflective German material, is
optically engineered for light uniformity
and is of course NCCS cloud compatible.
110-240V



Open commercial design with 2 - 315
CMH lamps in one fixture.
Utilizes 98% reflective German
material, is optically engineered for
light uniformity and is of course NCCS
cloud compatible. 110-240V

630W CMH Fixture

Introducing the
NANOLUX Double Jacketed
DE Metal Halide Lamp



Available in: 4K, 6K, 10K
1000W and 600W

Meets ANSI standards for open MH fixtures

Patent Pending



NCCS



Wireless Ballast Control

Saves Money on wiring
Allows for Sunrise/sunset dimming control
Multiple dimming features
Remote Access

WWW.NANOLUXTECH.COM

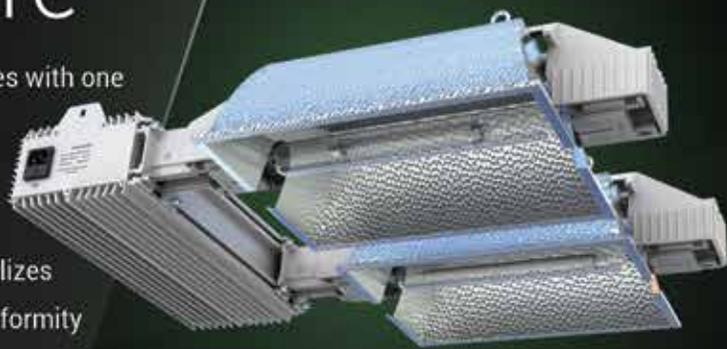
844-NANOLUX

TECHNOLOGICALLY SUPERIOR...

NANOLUX^{TE}

DUAL 600DE Fixture

Our Dual 600W DE fixture uses two 600W DE lamps. The unit comes with one 600W HPS DE lamp and a 600W MH 6K DE lamp. This creates a fixture with a 600W (50% output setting) to 1250W output (using our 110% Super lux output setting). Can also be used with our 4k or 10K MH lamps in any HPS MH combination you want. Utilizes 98% reflective German material, is optically engineered for light uniformity and is of course NCCS cloud compatible. **208-240V, 277V**



DE 1000W/600W



Commercial DE fixture for grow facilities

1000W & 600W available

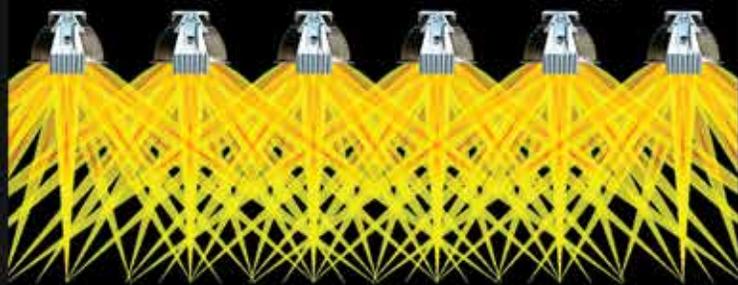
208-240V, 277V, 346V & 480V

Overlapping light spread

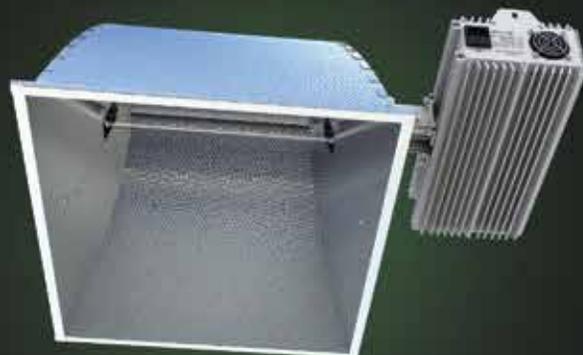
NCCS Cloud compatible

10' - 15' light spread—for optimal results requires multiple fixtures.

Commercial Overlap provides both vertical and horizontal canopy penetration.



DE 4x4 Fixture

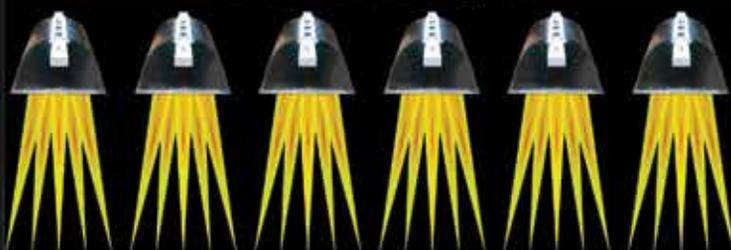


A DE open fixture designed for smaller grows which do not have overlapping light patterns from multiple lights. The reflector is optically designed to direct all of the light down onto a 4' x 4' growing area.

600-1200W adjustable output. **110-240V** input.

NCCS Cloud Compatible

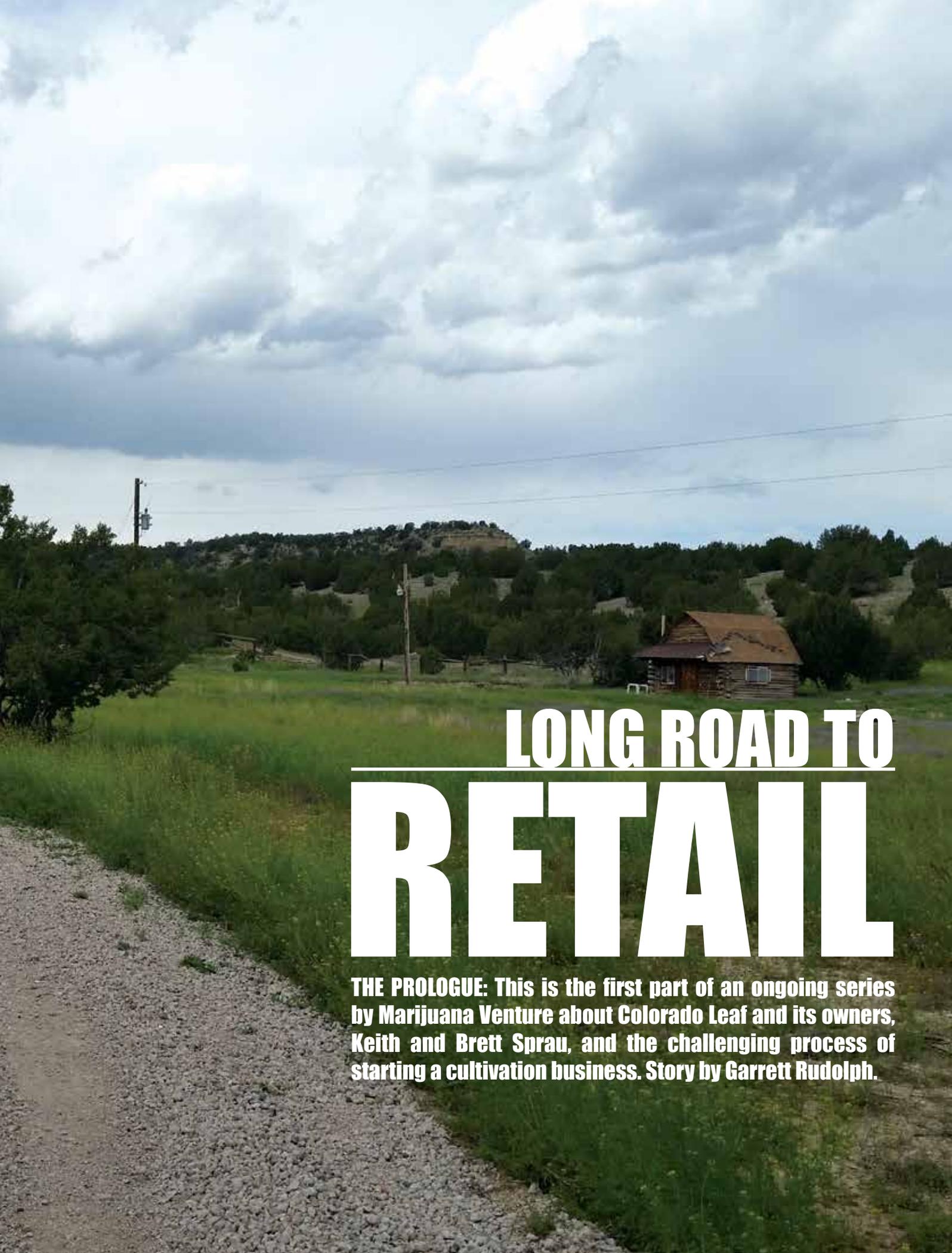
Traditional hood reflectors provide downward light covering a 4'x4' area which is better for smaller grows.



WWW.NANOLUXTECH.COM

844-NANOLUX





LONG ROAD TO RETAIL

THE PROLOGUE: This is the first part of an ongoing series by Marijuana Venture about Colorado Leaf and its owners, Keith and Brett Sprau, and the challenging process of starting a cultivation business. Story by Garrett Rudolph.



The first year: Little to show but hopes and plans

The end of Colorado's vertical integration requirements opened an entirely new avenue for the Rocky Mountain cannabis industry, allowing businesses to focus their efforts solely on cultivation or retail.

The 70% stipulation sunsetted in October 2014, paving the way for a business plan for a young, Pennsylvania native with a background in business management and no previous experience in the marijuana industry.

Over the course of a 12-month stretch, Keith Sprau quit his job, recruited his brother, Brett, to be his business partner, applied for and received a license from the state's Marijuana Enforcement Division, and raised more than a million dollars in capital.

Colorado Leaf was born.

But the Sprau brothers' journey from concept development to breaking ground on their state-of-the-art greenhouse cultivation facility is only the prologue of an epic undertaking. Colorado Leaf could still be at least six months from harvesting

>> CONTINUED ON PAGE 40



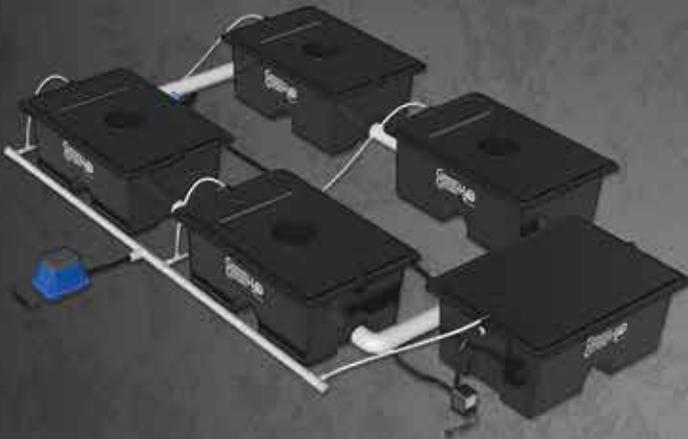
At left: Keith (left) and Brett Sprau pose for a photo after receiving their license from Colorado's Marijuana Enforcement Division earlier this year. While they bring various skills to the business, neither Keith or Brett Sprau come from a marijuana-related background, giving them a fresh set of eyes. Above: an aerial view of the Colorado Leaf farmland and the future site of the company's greenhouse.

Hydrobuilder

complete garden center



Commercial Cultivation Supplies From Seed to Harvest!



Current Culture Under Current PRO Systems ★★★★★

As soon as I got my hands on this Under Current system I could tell the difference in quality. The plant growth is EXPLOSIVE!

~ Bowser, a Hydrobuilder Customer



Twister T2 Trimmer ★★★★★

"This is the most well built trimmer I've seen. Super high quality, worth the price tag."

~ Jimmy, a Hydrobuilder Customer



Commercial Discounts

Minimal Shipping Times

Fast & Friendly Service

Financing & Consulting

Call Today For a Custom Quote on Your Next Project!

Hydroponics • Lighting • Grow Tents • Environment Controllers
Pest & Garden Care • Grow Media & Nutrients • Harvest Equipment



pro@hydrobuilder.com



www.hydrobuilder.com



888-815-9763

Concept diagrams of the Colorado Leaf greenhouse that is in the process of being built.



<< CONTINUED FROM PAGE 38

its first crop, and any number of challenges that lay ahead for the brothers could still derail well-laid plans.

PRICES WERE OUTRAGEOUS, THE LINES WERE RIDICULOUS AND THE TAXES WERE OUT OF THIS WORLD!

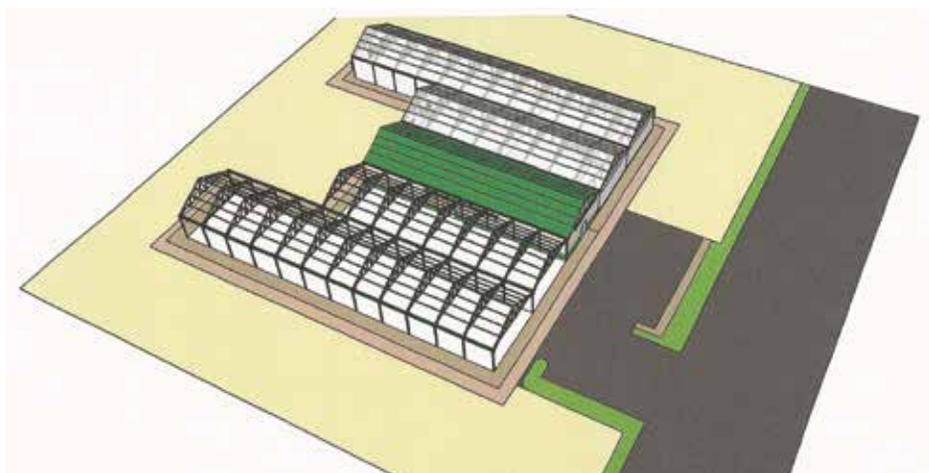
PLANNING

The Colorado Leaf team broke ground on its 17,000-square-foot Nexus greenhouse facility on May 26, just over a year after Keith Sprau first began working out the idea of jumping into the turbulent cannabis waters.

Sprau, now 32, had moved to Colorado in 2011 with two of his best friends. One of his friends was intent on becoming a part of the burgeoning industry of regulated medical marijuana.

“I told him he was crazy, there’s no way it will happen and laughed the whole drive across the country,” Sprau said.

But when Colorado’s recreational market opened on Jan. 1, 2014, Sprau found himself caught up in the cannabis fever that attracted so many business-minded



people from so many walks of life. He had grown up in Northeastern Pennsylvania, graduating from Penn State University with a dual business degree in marketing and management. He earned good money working in the corporate world, but he became intrigued by the cannabis space.

“A co-worker and I started to visit dispensaries to see what the fuss was about and we were surprised by the demographics of the clientele,” he said in an email to Marijuana Venture. “It wasn’t just hippies with dreads. It was everyone. Prices were outrageous, the lines were ridiculous and the taxes were out of this world!”

At the time, Colorado’s cannabis industry was operating under the requirement of vertical integration. Retail stores had to grow 70% of their own product they sold. The removal of that requirement, which took effect in the fall of 2014, brought

all Sprau’s festering business ideas to the forefront of his mind and he set his sights on a straight cultivation business model.

“No store fronts, no hassle of the FDA, no bums harassing your workers, nothing ... just straight cultivation,” he said. “My mind started to race and the ideas were popping up daily.”

He quit his job in August and moved to Pueblo, where he was leasing a farm, then took a cultivation seminar at Oaksterdam University, where he would meet some of his eventual investors.

Realizing the overwhelming workload he had undertaken, Keith Sprau recruited his younger brother in September.

Brett Sprau was fresh out of law school. He had just passed the Pennsylvania bar exam. He had spent years in school, as well as hundreds of thousands of dollars on tuition without ever practicing a day

>> CONTINUED ON PAGE 43

Photos courtesy Brett and Keith Sprau; Greenhouse renderings courtesy Nexus

PREMIUM. ALL-NATURAL. ORGANIC. YOU CAN'T BEAT BIOCHAR



Consistent quality from small batches to large-scale commercial quantities



Ready-to-plant soil blends increase yields, while saving time and money



Long-lasting moisture and nutrient holding ability works indoor and outdoor



Bulk loads shipped weekly throughout Washington, Oregon and Colorado

970-281-7907

MillerSoilsLLC.com

Louis@MillerSoilsLLC.com





Celebrating the craft and culture of California Cannabis.

Showcasing the small farms and businesses that have made California the global leader.

Learn more today: emeraldgrown@gmail.com

of law.

“Within minutes I had him convinced to pack his bags and move to the farm,” Keith said.

OPERATIONS

Colorado Leaf received its license from the Marijuana Enforcement Division on April 27, but the company remains miles away from putting its first plants in the ground.

According to the general contractor, the build-out will take about 14 weeks, depending on the weather, Keith Sprau said. That would put completion sometime around the first week of September. If everything goes smooth with the MED’s final inspection, Colorado Leaf could have its first plants growing sometime around October.

However, acquiring plants could be a hurdle in itself. Because of Colorado’s seed-to-sale tracking requirements, companies are forbidden from acquiring clones or seeds from outside the state’s regulated system. That means the Sprau brothers will have to obtain their genetics from another licensed producer — one

who might see Colorado Leaf as competitor. Competition aside, accomplished breeders tend to be quite protective of their strains.

Plant acquisition is probably the biggest challenge Colorado Leaf faces before the real work of growing cannabis can begin.

However, the company has already tackled each challenge that’s come along. Investors and business partners have come and gone. Part of the process has been finding an investment team that views the business through the same lens as the operations team.

“We started with the idea of starting small,” Keith said. “We realized there are already a lot of big players in the industry right now. Don’t get me wrong, you can jump into this as a small fish in the pond, but realistically, if you want to get your name and your brand established, you have to go bigger than (our initial investors planned).”

They finally found investors that agreed with their “build big or go home” philosophy and signed off on a build-out that could be in the range of \$1.5 to 2 million, including the initial purchase of clones. That allowed the Spraus to focus on a

long-term plan, rather than getting the job done fast and cheap. They’re building a state-of-the-art greenhouse to take advantage of nearly 300 days of sunshine a year in Pueblo.

Instead of using traditional HID bulbs that send electricity costs soaring, they’ve spent about \$150,000 on LEDs for supplemental lighting. The upfront cost with the greenhouse/LED setup is substantially higher than a warehouse outfitted with HIDs, but Keith said he thinks it will be better in the long run, both in terms of environmental footprint and operating costs.

“People call it a ‘green’ industry, but they don’t really treat it green,” Keith said.

His goal is to keep production costs as low as possible — somewhere in the range of 74 cents a gram — while still producing top-shelf quality cannabis.

“I think that’s a pretty good starting point considering people have been doing this for years trying to figure this out,” he said. “Our approach was that if we’re going to do this, we’re going to do it right. We’re not going to produce B+ grade products. We’re going for top of the line.”



For decades, small farmers in the hills of California have struggled against the injustice of prohibition. Persevering through the war on drugs, it was this hard work that laid the foundation for today’s rapidly changing cannabis industry. Today, you can honor this heritage by supporting the Emerald Growers Association.

Support small farms and businesses. Become a member of the Emerald Growers Association to ensure that California’s craft farmers and small businesses have professional and consistent representation in the state capitol! Membership starts at just \$100 per year.




GreenBroz Inc.

THE ULTIMATE DRY TRIM MACHINE

A machine that produces quality the way you do.

GreenBroz Standard Dry Trimmer \$4900

GreenBroz Commercial Dry Trimmer \$9800

TAKE THE WORK OUT OF TRIM TIME
Trims like a professional team. Made in the USA.

844-DRY-TRIM

www.greenbroz.com



PANDA



MONIUM!

Washington's top-selling producer, Grow Op Farms, has been selling Phat Panda products like crazy, and could have the state's first \$1 million month.

Story and photos by Garrett Rudolph





Grow Op Farms Vice President Andrew Guy monitors the cannabis jungle at the Spokane Valley grow site.

For years in the music industry, record sales were charted through phone calls and conversations with music stores. The widely-believed assumption was that rock and roll topped the charts. It wasn't until the industry started tracking records directly based on sales that the true pecking order — with country western at the top — came to light.

The same analogy can be made of the cannabis industry, where so many numbers and reports tend to be anecdotal in nature, rather than based on facts. That is, until recently, as Washington's seed-to-sale tracking and programs such as Tetra-trak reveal the true sales and production numbers of every licensed marijuana business in the state.

And what that data shows is that Grow Op Farms is absolutely dominating the Washington market.

The Spokane Valley-based producers of the wildly popular Phat Panda brand have sold nearly \$3 million dollars of cannabis in the past six months.

Grow Op Farms was the top-selling producer/processor in the state for a four-month stretch between February and May (June results had not been released as of press time).

In April, Grow Op finished the month just shy of a \$1 million milestone. Its \$946,000 in sales was more than the next two companies combined.

BMF Washington, which produces the Liberty Reach brand, sold \$471,000 of product, while DB3, of Zoots fame, sold \$458,000 of product.

Despite being operational for just six months, Grow Op Farms ranks third in the state for total revenue since Washington's recreational market launched in July 2014. Co-founders Rob and Katrina McKinley say the Grow Op team is biggest reason they've been able to grow so rapidly, with the quality of their product and their marketing and brand creation as other significant factors in their success.

The McKinleys brought a wealth of entrepreneurial experience to the grow, but had never been directly involved in the marijuana business. In addition to a wide range of other business ventures, the McKinleys own a successful marketing company, which lent its name — Phat Panda — to the company's flower brand.

The McKinleys say they've been lucky

>> CONTINUED ON PAGE 48



The plants require almost non-stop maintenance. Below: CEO Rob McKinley is engulfed in green.

<< CONTINUED FROM PAGE 47

many times in their lives, choosing the right path and picking the right people to align themselves with. It seems Grow Op Farms follows in that lineage.

“I always look at things from a business perspective,” Rob McKinley says. “If you could have been Jack Daniel’s when they removed the prohibition on alcohol, then you should probably make some whiskey.”

And so it goes following the end of cannabis prohibition in Washington that the McKinleys figured they should start growing marijuana.

THE RIGHT HIRES

McKinley points at two hires that were absolutely crucial for Grow Op’s success.

The first and most important was Andrew Guy, the vice president of operations and master grower of Phat Panda.

In terms of his growing knowledge and expertise, Guy “passed the sniff test,” McKinley says. He was confident Guy could handle the enormity of a full-size, commercial grow operation.

Plus, Guy’s contacts within the industry allowed management to build a team un-



derneath him that was up to the challenge.

“Some of our best employees came from Andrew’s knowledge and contacts in the industry,” McKinley says.

Guy probably isn’t the typical “master grower.” He started learning cultivation techniques years ago from a relative, but he also has a degree in economics and an

understanding of how to make a cost-benefit analysis.

There’s a level of trust between Guy and McKinley that’s necessary when it comes to equipment and capital expenditures. McKinley tells people he’s never said no to Guy. One of the first questions that

>> CONTINUED ON PAGE 50

WEST COAST

H O R T I C U L T U R E

SPECIALTY FERTILIZERS • GROW MEDIA

WCH CONTINUOUS FEED PROGRAM

- Lower production costs
- Improve yields
- Increase oil production
- Reduce waste and carbon footprint
- Organic, natural and pure

West Coast Horticulture produces fertilizers and growing media for certified organic, conventional and hydroponic production. We carefully select the highest quality raw ingredients. No preservatives or colors are added. We use lab analysis to make sure our products are consistent and free of unwanted impurities. Our entire organic product line is suitable for organic production and listed with the Organic Materials Review Institute (OMRI).



TEST OUR FERTILIZERS AND GROW MEDIA AND SEE THE DIFFERENCE!

www.westcoasthorticulture.com

Made in Portland, Oregon USA

(503) 477-8284

Organic Materials Review Institute

PRODUCTS AVAILABLE
OMRI
Listed



Boutique Design Studio

Brand
identity

Product and service
logos

Packaging and label
design

Grow Your Business

www.BuddBranding.com

951.704.3374

Wendy@BuddBranding.com

30724 Benton Rd. C302-524
Winchester, California 92596



During the week leading up to 4/20, Grow Op Farms employees rolled 17,000 joints, while the company sold about 80,000 grams of flower.

<< CONTINUED FROM PAGE 48

came up between them was about the type of lighting they were going to install in the flower rooms. They weighed the merits of a cheaper light at \$250 apiece or a more expensive light at \$400.

“When you’re buying lights for a single room, it might not be that big of a deal,” McKinley says. “When you’re buying a train car of them, that was a big decision.”

They went with the more expensive light — a decision that seems to have paid off considering the yields they’ve achieved.

“I’m certainly able to objectively look at what things cost, what the potential return is and make the best decision for us as to whether that’s something we need to do,” Guy says.

The second key hire was bringing in Garrison Smith as a staff designer.

McKinley calls Smith the best designer in the industry, which warranted Grow Op to bring him in-house and keep him away from other competitors.

Smith is responsible for the label designs that are one of the most recognizable aspects of Phat Panda. Whether it’s the Granddaddy Purple, the Golden Pineapple or the OG Chem, each strain has a unique, eye-catching label that sets it apart from

the vast majority of the industry.

MARKETING AND BRANDING

With the McKinleys’ background in marketing, it stands to reason that Grow Op Farms would put a heavy emphasis on establishing a brand that would stand out in Washington’s crowded cannabis marketplace.

Not only did the packaging have to stand out to potential consumers, but it was also the first step in getting Phat Panda on retail shelves.

“I would say that the packaging was very important to getting our product tested by the store owners,” Rob McKinley says. “When we would drop off samples, typically there was a basket with 50 other samples in it. Having glass (jars) and a really cool presence or label got our product tested first. All of our flower is packaged in glass. I believe we were the first to do this. Because of the labels and glass jars, our shelf presence is undeniable. When you walk into a retail store our products will be the first to catch your eye.”

The company’s original plans were to go a co-branding route, where the farm would grow the product, but it would be branded for each individual store.

>> CONTINUED ON PAGE 52

Photos by Garrett Rudolph

NEXTAIRE™

Multi-Zone Gas Heat Pump

Marijuana Cultivation with Natural Gas— because Electricity is too expensive



- ◆ Low operating cost (high efficiency & use of natural gas).
- ◆ Efficiently cools grow lights and plant environments
- ◆ Exceptional quality and reliability
- ◆ No HVAC related electrical infrastructure upgrades required
- ◆ Electric costs reduced by over 80% in summer compared to conventional HVAC units

INTELLI CHOICE
ENERGY™

COMFORT AND EFFICIENCY...RESPONSIBLY ENGINEERED

844-261-0600

| www.iceghp.com

| info@iceghp.com

<< CONTINUED FROM PAGE 50

However, the Phat Panda prototypes were an instant hit among Grow Op's employees. The name came from a lesson McKinley took from one of his early mentors — use an animal if you want to create a memorable, catchy brand. Thus Grow Op Farms utilized Phat Panda for its flower products and Sticky Frog for its concentrates.

Katrina McKinley came up with the idea of using mug-style glass jars during a trip through Hobby Lobby.

While the jars might be more expensive than the typical plastic bags most producers use, the glass helps separate Phat Panda from many of its competitors.

McKinley describes one instance where a retailer specifically requested his shipment in plastic bags. Grow Op Farms granted the special request, but in the hustle and bustle of putting the shipment together, packaged the flower in glass jars just like every other shipment.

Originally, McKinley and his team were apologetic for the mix-up. But within a couple weeks, the glass jars were flying off the shelves and the retailer completely reversed his stance.

The glass jars and catchy packaging have also created a collectible craze among some consumers, McKinley said. He regularly hears comments from people that they are trying to collect every jar, or that they save the bigger mugs to reuse as drinking glasses.

The packaging is crucial for getting consumers to buy Phat Panda products in the first place, but getting them to keep coming back for more is a factor of quality, McKinley says.

“Cool packaging might lead people to buy a product once, but if they're not satisfied with the product, they're not going to keep buying it,” McKinley says.

McKinley says he believes Grow Op Farms grows the best cannabis in the state.

But, then again, everybody in this industry says that, right?

“If our product weren't the best in the state, then the retailers wouldn't call back after we drop samples and the customers wouldn't become repeat buyers,” McKinley says.

EMPLOYEES

Guy says the employees of Grow-Op Farms are what make Washington State's largest cannabis producer successful.



The tops of Phat Panda jars.

Without having the right staff in place to manage all aspects of the garden, as well as the trimming, processing and packaging needs, Phat Panda wouldn't be what it is today, he says.

The business currently has about 40 full-time employees and 27 part-timers.

“A lot of the employees really enjoy working with the marijuana,” Katrina McKinley says. “They love it. Not only do

we try our best to treat them well, but they like their work. They want to be there, because they like what they're doing. It's awesome that they get the opportunity to do something they used to have to hide in their house to do and now they can actually do it for work and get paid to do it, legally.”

The attrition rate has been extremely

>> CONTINUED ON PAGE 54

BRANDSY™

CANNABIS CREATIVE



Elevate your mind. Illuminate your brand.



206.790.6088

www.brandsy.co | hello@brandsy.co | [skype: brandsyco](https://www.skype.com/brandsyco)



Branding &
Logo Design



Website &
Graphic Design



Banner &
Print Ads



Photography



SEO & Copywriting



Product Dev &
Package Design



Signage &
Tradeshow Design



CEO Rob McKinley credits the company's 67 employees for keeping the business running smoothly.

<< CONTINUED FROM PAGE 52

low since Grow-Op Farms began operating. That's been crucial in getting everybody up to speed and on the same page, Guy says.

The company has been able to retain the bulk of its work force by taking care of the employees.

"We treat them well, and in turn reciprocate with their time and energy," Guy says.

Grow-Op Farms' lowest-paid employees make at least \$12 an hour, while many make \$15 an hour or more, plus the possibility of overtime during especially busy times.

The entire management team has the option for an ownership stake written into their contracts, and every employee is eligible for profit sharing. Rob McKinley says 4% of the net profit at the end of the year is set aside for bonus dividends for all employees at the end of the year.

On the busiest days of the week — Tuesdays, Wednesdays and Thursdays — the company provides lunch or dinner for all employees

The McKinleys don't take a salary from the company. Instead, they've been reinvesting any profits back into the enterprise.

"Right now, as long as we're bringing in more than we're spending, that's a good month," Rob says.

Staffing was originally one of the biggest obstacles Grow-Op Farms had to address.

"We grossly underestimated the amount



of people that we needed, mostly on the processing side," Guy says.

McKinley adds that the operation grew so fast during its first few months that employees were working 10-12 hours a day for several weeks at a time. That shortage cost the company a lot of money in overtime as it tried to keep up with the staffing needs.

"Since we are growing plants and they have schedules, flex time is difficult to offer any of the growing staff," McKinley says. "Processing is a similar situation. Certain jobs have to get done in a very organized way. There isn't a lot of free-wheeling like you might find in a small

tech startup where as long as I get my code written no one else is harmed. With plants if they aren't attended to correctly it will negatively affect the whole operation, not just that one person and their job."

Grow-Op Farms currently does not offer health insurance, but could be offering a medical/dental plan in the next few months for employees who wish to participate, McKinley says.

While working for Phat Panda is extremely fun, it's certainly not easy, Guy says.

"It's challenging," he says. "Every day it's the most challenging thing any of us

>> CONTINUED ON PAGE 56

Defeat the Criminal



How do you protect against cannabis threats?



Burglary



Internal Theft

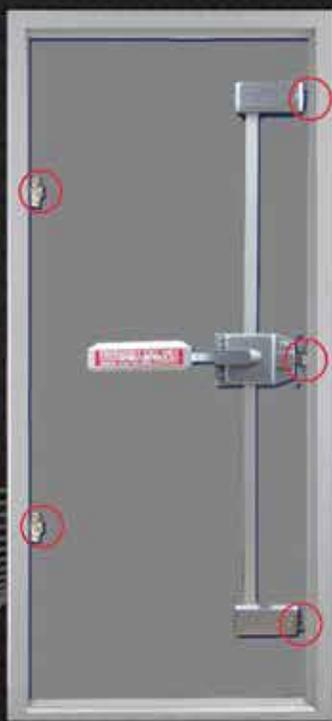


Fire



Armed Robbery

Can be retrofitted or used in new building construction



Trident MD
MULTIPOINT EXIT LOCK

Ideal for Back Doors of Dispensaries and Perimeter Doors of Marijuana Grow Facilities



The Rolland Drawer Management System

EXTREME CANNABIS SECURITY

Safes • Locks • Door Hardware • Access Control

Request a free security consultation at sales@rslc.net

ROLLAND
Delivering Security with Inspired Service

Physical Security Experts since 1905

TPSB# B13643

3140 Towerwood Dr | Dallas | TX | 75063

1 (800) 225-2984 | www.rslc.net | sales@rslc.net

have ever done.”

There have been times when Guy has worked 24-hour shifts — or more. The magnitude of the grow makes it easy to lose track of time taking care of necessary tasks, he says.

“We shackle him at night so he can’t leave,” McKinley jokes.

OPERATIONS

One challenge almost all state-licensed growers face is scaling up to commercial quantities.

“It’s one thing to grow one room, but changing that to 16 big rooms and meeting the labor demands is completely different,” Guy says.

There really is no secret to how Grow Op Farms has managed to tackle that challenge better than any other producer in Washington. The growers have done everything they can to maximize their allotted 21,000 square feet of canopy. They’ve had to learn how to manage the balancing act of keeping enough clones and mother stock to supply the 16 grow rooms. They use top-of-the-line lights and nutrients, McKinley says. They capitalize on econ-

omies of scale.

The company initially faced a challenge with keeping the full-automated programming running correctly, McKinley says. With such a high-tech operation, it took a while before employees were familiar with the inner workings.

The growers have kept the operation within their means, focusing on what they do well. There are plans of introducing a line of non-perishable edibles in the near future, but rather than investing in extraction equipment and hiring somebody to handle concentrates, the company has outsourced that part of the operation to Weed Bunny, a Rainier-based processor.

On an average week, Grow Op Farms puts out about 40,000 to 50,000 grams of flower, 12,000 pre-rolled joints and 1,000 grams of concentrates.

The week leading up to 4/20, the grow facility stepped up its production to put 80,000 grams of flower and 17,000 joints on the shelves of retailers.

Despite consistently high revenue, McKinley admits the company is probably not making a lot of profit right now. The operating cost of a nearly 600-light grow operation, coupled with the cost of labor,

is tremendous (all Phat Panda buds are trimmed by hand).

McKinley says his goal is to build Grow Op Farms into a \$50 million dollar company in gross revenues.

“I think we can get there within 18 months or so,” he says.

Without a background in the cannabis industry, McKinley said he initially didn’t know what to expect in terms of yields. When early numbers came out, Grow Op was averaging about three pounds per light.

That set a high bar to follow, McKinley says.

“We didn’t really set out to dominate (the market), but as soon as that was provided to us, then there’s only one way to do it,” he says. “You’re either going to do it or you’re not. We fortunately have the team that can take it by the horns and do it.”

The company is in the process of implementing changes that could push its weekly production to around 80,000 grams.

“When we’re at that point, I think it’s going to be really hard for people to keep up with us,” McKinley says.

>> CONTINUED ON PAGE 58



DURING SEATTLE HEMPFEST

SATURDAY & SUNDAY | AUGUST

08.15.15
08.16.15

HEMPFEST IS A BRAND YOU CAN TRUST!

**WE ARE WASHINGTON’S OLDEST CANNABIS BUSINESS
LET OUR 24 YEAR OLD BRAND WORK FOR YOU!**

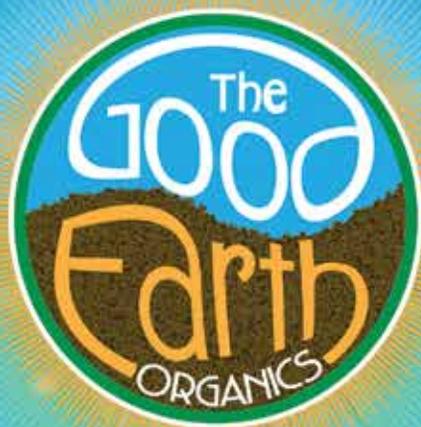
**HEMPFEST BUSINESS IS ABOUT CREATING AN ENVIRONMENT IN WHICH THE CANNABIS
INDUSTRY FLOURISHES & MATURES. RUNNING CONCURRENT WITH SEATTLE
HEMPFEST, TAKING PLACE MINUTES AWAY, HEMPFEST BUSINESS WILL CONNECT
BUSINESS OWNERS WITH THE SUPPLIERS OF THE PRODUCTS AND SERVICES THEY NEED.**

@ SEATTLE CENTER EXHIBITION HALL

SPONSOR, VENDING, & ATTENDEE REGISTRATION AT WWW.HEMPFEST.ORG

THE HEMPFEST BUSINESS MIXER IS SATURDAY 8/15 FROM 8 PM - MIDNIGHT IN SEATTLE’S ICONIC SPACE NEEDLE’S SKYLINE LEVEL. TICKETS ON SALE AT WWW.HEMPFEST.ORG

It's a great day to grow...



...with the best organic soil in the world.

As the #1 supplier of bulk and bagged soil in Southern Oregon, we are gratified to hear about the exceptional results our customers have described when using our soils. We strive to meet your needs and work hard to source and use only the highest quality starting materials. Come talk to our experienced staff to help plan your garden!

We make Zen Blend™, Gaia's Gift™ and several other local southern Oregon premium organic blends in bulk, bags and totes.

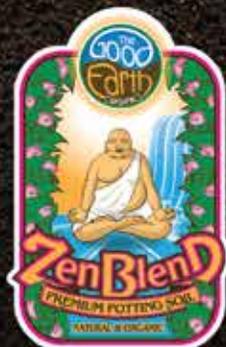
Please Contact Us:

541-592-4855 • 541-840-9352

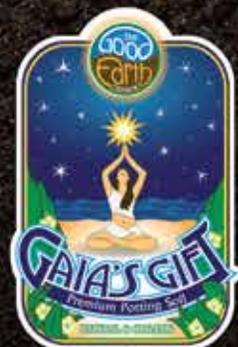
www.thegoodearthorganics.com

mail to: sales@thegoodearthorganics.com

30088 Redwood Hwy • Cave Junction, OR 97523



The Good Earth Organics is proud to present our locally famous **Zen Blend** and **Gaia's Gift** premium organic potting soils - available in bulk and bags.



One challenge for Grow Op Farms was balancing the amount of canopy for flowering, cloning and mothers.



<< CONTINUED FROM PAGE 56

SALES

One might think sales would be easy for a company that's producing more cannabis than anybody else in Washington.

"As fast as we can cure it, is as fast as we can sell it," McKinley says.

But, like anything, the balancing act is half the battle. Despite its tremendous production, the demand for Phat Panda currently outstrips the supply. McKinley says he has to turn down at least one retail store per day, and the company already has to keep its 40 active retailers happy.

"We currently have a waiting list of 50 retailers that we cannot fulfill due to lack of product," McKinley says.

As soon as Grow Op Farms had product to sell, McKinley and Johnny Wilson, his vice president of sales, were cold-calling retailers and dropping off product to as many stores as possible. McKinley and Wilson saw the value of developing a great rapport with the owners and buyers at retail stores.

McKinley handles the two Spokane stores — Satori and Green Light — while Wilson handles the west side of the state.

"They have parties for him when he shows up," McKinley says. "They're giving him hugs and high-fives and they're taking pictures with him because they



want everybody to know they got their Phat Panda in."

With a limited supply to spread throughout the entire state, Grow Op Farms has had to focus on working with like-minded retailers, while also trying not to oversaturate a particular region of Washington. McKinley says it was important to hire

the right person to handle sales, but the company doesn't have a particular policy that sets it apart from other producer/processors.

"It's very important to have good open and honest relationships with all of our retail partners," McKinley says. "We are

>> CONTINUED ON PAGE 60

Packaging is the Perfect Finish to Your Brand

Packaging is the final element to present your product effectively. WS Packaging is the single source to help you differentiate your brand and products.

- Single-source provider of labels, folding cartons, shrink decorations, and labeling equipment
- Product identification and labeling experts to decorate your container, regardless of size or format
- Products and tools to help you promote and cross-promote your products on your package and on the shelf
- Experts in compliance labeling, serialization, and track-and-trace technologies

Labels

Shrink Decorations
Compliance Labels
Serialization

Folding Cartons

Flexible Packaging
Promotional Labels
Label Application Equipment



In Colorado contact:
Adam Peek
apeek@wspackaging.com
303-748-8741

In Washington contact:
Phil McCutcheon
pmccutcheon@wspackaging.com
425-583-8952



WS Packaging Group, Inc.

www.wspackaging.com

*There's more
to this industry
than cannabis.*



*Our cannabis industry attorneys will
help you navigate every complexity to
protect your investments and operations.*

GSBLAW.COM/INDUSTRIES/CANNABIS 888.768.5939

ANCHORAGE
BEIJING

NEW YORK
PORTLAND

SEATTLE
WASHINGTON, D.C.



Rob McKinley stands in the midst of one of the 16 flowering rooms at Grow Op Farms. Below: A look at the labeling for several Grow Op Farms Strains.

<< CONTINUED FROM PAGE 58

growing plants. This can cause variances in supply due to unforeseen circumstances and having a good relationship that's open and honest allows us some goodwill on the retailer's part."

REGULATORY CHANGES

If there's one regulatory change, McKinley and Guy would like to see, it's the canopy limitations the Washington State Liquor Control Board has implemented.

Grow Op Farms is fortunate that demand is exceeding supply, McKinley says, but in the long run, he would like to be able to fulfill more orders and have a larger retail footprint. Grow Op isn't ready to expand just yet. But McKinley and Guy say they want to have the option when the company is ready. It's only a matter of time before Grow Op Farms is going to need more canopy.

"The goal is to get rid of the black market. If enough product can't be grown, at a reasonable enough price, that will never happen," McKinley says.

Overall, most of the regulations haven't been too burdensome, but Grow Op Farms has had a bit of a "head-bashing contest" with the Liquor Control Board about the topic of expansion.

McKinley says it doesn't make sense to



penalize businesses that have maxed out their canopy and still need more room to grow.

"They don't limit how many grapes you can grow, or even how much tobacco you can grow," Guy says.

One idea that would ease the canopy restrictions on successful growers would be to make it so non-flowering plants don't count toward the canopy, Guy says.

That would allow the canopy to focus

on flowering plants, while allowing plenty of room for clones and mothers needed to keep the operating running.

However, the McKinleys recognize that the Liquor Control Board regulations are a fluid guideline.

The legal cannabis industry is so new, it will take time to shape rules that provide the right level of regulation without stifling business growth, Katrina McKinley says.

Native Nation Events

in conjunction with

Indian Country Cannabis Association
presents the

NATIVE AMERICAN MARIJUANA & HEMP CONFERENCE & EXPO

September 9 – 10, 2015

Harrah's Resort Southern California



www.nativenationevents.org

201-857-5333

sales@nativenationevents.org





An education in EXTRACTION

The bottom line is this: Don't make a capital investment before doing plenty of research, due diligence

By Nick Tennant

With extract-derived products accounting for as much as 50% of retail sales in the cannabis marketplace, a professional extraction industry has been born — and business is booming.

More and more growers are jumping on the extract bandwagon, out of necessity and increased profitability. The demand for extracts has also engendered a burgeoning cottage industry of extract equipment suppliers.

Until just a few years ago, the most efficient way to create cannabis extract was with a case of butane lighter fluid and a glass tube. Don't try this at home. Stories abound of home explosions caused by this dangerous, hobbyist method. Those days are done.

For those would-be extraction professionals who enjoy keeping their fingers attached to their bodies, and avoid unnecessary property damage and trips to the hospital burn unit ... read on.

EXTRACT BASICS

For your average marijuana entrepreneur, the terms, technology and machinery involved in the cannabis extraction process can be dizzying.

Extraction, simply put, is the stripping of cannabinoids and terpenes from the less desirable plant matter. This creates an extract that can then be refined into oil, shatter and wax and infused into seemingly limitless products. This is done

by a variety of methods which involve solvents. Ethanol, hexane, supercritical CO₂, butane and propane are most commonly used.

This article will focus on butane and propane methods, commonly referred to as "light hydrocarbons," and later lightly delves into the debate between light hydrocarbon and supercritical CO₂.

Light hydrocarbon solvent extraction is by and large the most popular method of cannabis extraction. Some processors prefer this method for a number of reasons, including lower cost of the extraction equipment, speed of extraction and ease of production.

Light hydrocarbon solvent is inherently non-polar (chemistry jargon meaning the electrons play well with each other), which effortlessly dissolves cannabinoids into soluble form, without dissolving other undesirable compounds like chlorophyll (as ethanol or a more polar solvent would). Light hydrocarbons also pose a low health hazard, and the solvents are easily purged from the end product, resulting in a safe consumable good when properly processed. The result is a top-quality extract, created in minimal amount of time.

As they say, time is money.

SAFETY CONCERNS

One must always keep in mind that

>> CONTINUED ON PAGE 64

light hydrocarbon solvents are inherently combustible, so safety is paramount to any extraction operation.

An extraction lab must be set up in a controlled environment, constructed to UL Class 1, Division 2 standards. Meaning, according to Underwriters Laboratories, there is moderate to severe risk of flammable gases creating explosions. This classification is now quickly becoming the standard when using light hydrocarbons as a solvent in cannabis extraction.

Generally, one should have a separate room for running a light hydrocarbon extractor, with spark-proof ventilation, electrical and fireproofing that conforms with National Fire Protection Association code, as well as the aforementioned UL listing classification. Actually, it really isn't that complex; most newbies find it to be more common sense than anything else. The bottom line is that light hydrocarbon extraction can be completely safe in a controlled environment.

However, the equipment you use and the extraction equipment company you work with are very important considerations because the stakes are high, both in

DON'T BELIEVE ANYONE WHO BASHES EITHER LIGHT HYDROCARBON OR CO2 EXTRACTION.

terms of safety and business.

Every extraction equipment company should have at least one product in its lineup that is certified for use according to the guidelines of each state's regulating agency. In Washington, extraction equipment certification requires an engineer peer review (or EPR for short). An EPR is a certification from a licensed engineer who meticulously reviews the equipment in question for safety, functionality and to ensure it meets applicable national safety codes (such as NFPA and ASME). Other states like Colorado and Nevada also require similar EPR reports, with the city of Denver having the most meticulous compliance requirements in the nation. If the

company you're considering doing business with can't produce an EPR in a flash, then consider other options.

RESEARCH YOUR OPTIONS

Customer service is another very important consideration. When investing as much money to buy a fancy sports car, you should expect a certain level of service, particularly in terms of technical support. As with even the finest engineered vehicle, things can go wrong or you may need a quick walk-through of a feature. You need a competent professional, with decent response time, to get your extraction business back on the road. Again, time is money.

So before dropping all that cash, ask around. Talk to customers of different extraction equipment companies, ask for referrals, and check out social media. Is their equipment in stock? What are lead times for replacement parts? How is the technical support? Is response time reasonable? These are a few of the questions you should ask prior to making your investment.

Lastly, and this is a big one, would be

>> CONTINUED ON PAGE 66

Photo by Sean Moore/Dankshire Photography

The FIRST and ONLY Safe Food Grade, HVAC Pump Free, Butane Extractor

THC 82%
CBD 62.26%

Analysis Data

No Air Conditioner Pumps Required to Recover Solvent.
Designed to be pump free.

Lower Cost Pump versions available for states that have not yet disallowed HVAC Pumps to make consumables

- Dewax (Delipidate) and clean your extracts without Dry Ice.
- Extracts waxes, oils, polar and non polar compounds.
- Target or Avoid any compound to create anything.
- Low Pressure Low Temp Easiest Safest System.
- Extract process isolated from Solvent Recovery Process NO LOOPING NECESSARY
- Fastest Extraction. SILENT Operation
- Lowest Cost Operation, Highest Yields. Safest System!
- Nationally State Certified Safe.
- 10 models to choose from.

Tamisum Extractors Inc.

Learn More (817) 726 7525
www.tamisumextractors.com
david@tamisumextractors.com

Immediate Shipping, Lifetime Warranty, FREE Support, Illustrated Manual
Coupon Code MV25



extract from nature.



terpp.com

Washington I-502 and Colorado M605 Compliant. Meets ASME engineering standards.

the level of consulting your extraction equipment supplier can provide. A great company will have engineers to help you with room design and compliance, and a competent service and support team, and experts to help you get it all going. Dollars to donuts, hiring an expert to help you set up and run your lab will be one of the best investments you can make.

EXTRACTION METHODS

When doing your due diligence, you are bound to encounter one particularly and hotly debated question: Should I go with light hydrocarbon or supercritical CO2 for my lab?

Many new extraction companies get “sold” one way or another by thirsty salesmen and manufacturers eager to get your business. Don’t believe anyone who bashes either light hydrocarbon or CO2 extraction. The simple truth is both methods have their pros and cons, and they both have a growing demand for the end product they produce. But there are important considerations to take into account when deciding which way to go, including price, processing times and the

needs of your customers.

A light hydrocarbon extraction “system” (meaning with all the pumps and other appendages to make your system complete) typically may be purchased for \$20,000 to \$40,000. A comparable CO2 system, in terms of volume of material it can run, will cost at least \$100,000. Hence, the upfront cost of starting a light hydrocarbon lab is significantly less.

However, since light hydrocarbon is combustible and CO2 is not, one must factor the additional cost of building a light hydrocarbon lab to applicable fire and safety codes, which may cost an additional \$15,000 or more. A CO2 lab is also generally easier to pass inspection because it lacks the “kaboom” factor.

When choosing between light hydrocarbon and CO2 equipment, processing time is a very serious consideration. A light hydrocarbon system generally processes material faster than a supercritical CO2 system.

Hence, quick, large-volume production is challenging with a CO2 system. However, a CO2 system may be scaled to do very large volumes (albeit with a large price tag), because they are not restrict-

ed by limits on flammable solvents. It is not uncommon for international extract companies to have single material vessels as large as 500 liters. The U.S. industry hasn’t yet reached that threshold.

Finally, some people just love supercritical CO2 extract and others just love light hydrocarbon (commonly referred to as butane hash oil or BHO) extract. What your customer is in the market for should be considered. With that being said, there is a huge market for both, and the demand exceeds supply.

Many of the businesses I work with employ both methods of extraction, and dominate different sectors of the market, with different brands, for each method. Your path may ultimately take you to both destinations.

Again, do your due diligence. Learn a lot before you make the leap. It is a big decision, and you deserve a healthy return on your investment.

Nick Tennant is the lead engineer of Precision Extraction Solutions, a Detroit-based extraction equipment company. More information about the company may be found at precisionextraction.com.

If you're not carrying Buddy Boy, you're not playing with a full deck!

Sun-Grown Series Bud Cards 1-12 available now at select retailers

i502 recreational cannabis www.buddyboyfarm.com

Strike Oil

with the **Hi-Flo** Co2 system



FAST • QUIET • ENERGY EFFICIENT

The latest generation of Co2 and compressed gas systems from your partner in high-tech extraction equipment and protocols. Superb oils and concentrates for every product line.



Eden
LABS LLC

Bench top to industrial systems. www.edenlabs.com



BRINGING YOUR CUSTOMERS A MORE EFFICIENT WAY TO SHOP.

Jane is a complete cash management solution for medical and recreational marijuana retailers.

SIMPLE. SAFE. SECURE.

JANE[™]
sell smarter.

844-JANE420 (844-526-3420)



sales@trustjane.com | www.trustjane.com

MEET JANE

Marijuana Venture continues its ongoing coverage of cash management for the cannabis industry by looking at a Colorado-based manufacturer of point-of-sale kiosks

By Garrett Rudolph

You might think about Jane as the most reliable, low-maintenance employee ever. It doesn't require an hourly wage, bathroom breaks or health insurance. It doesn't show up late to shifts and it's not tempted to steal cash or product. It doesn't gossip about other employees or ignore instructions from management.

Jane is 300 pounds of reinforced steel, machinery and wires, with built-in cash vaults, high-definition cameras and biometric scanners. It's a point-of-sale kiosk

>> CONTINUED ON PAGE 70



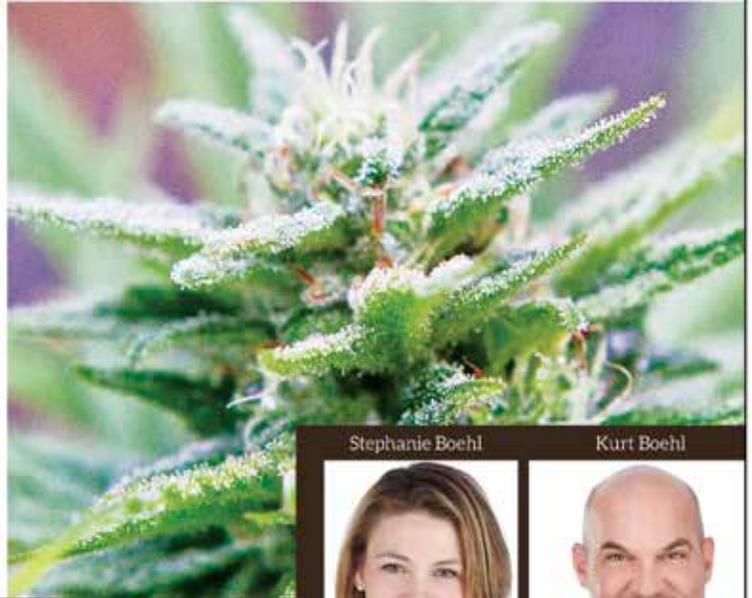


LAW GROUP PLLC
SEATTLE420LAWYER.COM

Call (206) 728-0200
for a confidential consultation

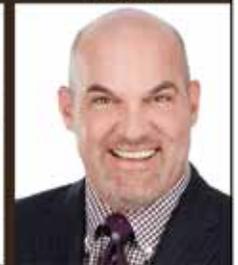
We have been protecting your responsible use of cannabis since 2005.

Get legal counsel with attorneys experienced in marijuana law and regulations. We advise Washington and Oregon businesses and individuals with experienced guidance and zealous defense.



Stephanie Boehl

Kurt Boehl



REMINDER: Despite Washington law, manufacturing, distribution, and possession of marijuana is a federal crime. Compliance with Washington State's medical cannabis laws (RCW 69.51A) or licensed, recreational marijuana laws (RCW 69.50), is not a defense against federal criminal charges.

We protect what is most important in your life.

Your Complete Security Solution for Video and Intrusion Alarms Systems

- Smart Phone and remote computer access to systems
- All camera systems remotely assessable with your internet wifi
- All Intrusion systems guaranteed to be remotely accessible in any location, no internet or phone lines needed.
- We ship product nationwide-Free Shipping on camera packages
- We Guarantee our video solutions and Intrusion Solutions to be compliant with all State Regulation(s).
- In Washington and Oregon we offer onsite Technician during inspections
- Free Plans for State requirements with purchase of Video System and/or Intrusion systems
- We sell 4-8-16-32- and 64 channel NVR and DVR/TVI recorders up to 32 T Memory
- New IP and HD Analog camera systems available.



Statewide
Security Network

1.888.681.6068

www.statewidesecuritynetwork.com

1245 Auburn Way North #143 – Auburn, WA 98002

3-year warranty on all camera equipment

designed to reduce cash shrinkage, promote responsible banking behaviors and reduce violent crime, said James Perez Foster, chief operating officer of Payteller Compliance, the parent company of Jane.

It's similar to a self-checkout system for the marijuana retail industry.

"We built this kiosk that we envision being on the floor of every dispensary in America," Foster said. "When the banks finally do come online, the first types of clients they will service will be the types of businesses that promote full reconciliation of revenue."

The Jane kiosks operate simply enough and eliminate the need for peer-to-peer cash transactions, Foster said.

When customers enter the store, they interact with the budtenders, just as they would pre-Jane. Once they've decided on a purchase, the budtender issues them a receipt and directs them to Jane to pay. The customer scans the receipt at the kiosk, which pulls up a payment screen.

The customer inserts payment into the machine, which can then dispense exact change or allows the change to be donated to a charity that is set up through Jane and the retailer.

Budtenders can also be tipped through the Jane kiosk.

Customers do not have to register or set up an account to use Jane, and there's also a mobile app that allows them to reserve products in the store and eliminate the initial interaction with the budtender if they so choose. After making payment, the customer gets a paid receipt and they receive their purchase from the pick-up counter.

The kiosks themselves are being manufactured in Denver by a company called Kiosk Innovations. They operate on Windows-based programming and were designed to be compatible with all point-of-sale software.

The company is in the process of working with armored car services to get them trained at using the machines.

The risk to retailers is negligible, Foster said. The biggest benefit is removing the cash transaction between the customer and store employees, which allows for more accurate and reliable cash management.

Business owners must pay a \$1,000 deposit to have a Jane kiosk installed in their shop. The deposit is refunded on the



Dozens of Jane kiosks sit in a Colorado warehouse while awaiting their next homes. The Jane machines are made by a Denver-based company called Kiosk Innovations, which creates a wide range of interactive machines and digital signage.

366th day of operation. Jane doesn't require a rental fee, subscription or installation charges. It takes 3.49% of every transaction, similar to the way a credit card processing fee works in traditional retail spaces.

Jane kiosks are available in all markets that allow some form of legal cannabis.

Foster said Jane will likely gain traction initially in Colorado, where the company is headquartered, with Washington and Oregon's marijuana markets as the next likely targets.

"Illinois could be a big market too," Foster said.

In some cases, start-up companies servicing the cannabis industry are simply capitalizing on the lack of traditional banking. Foster said he sees Jane as both a stop-gap solution for the industry's immediate needs, as well as a long-term solution even when banks do relax their stance on marijuana businesses.

"It's a stop-gap in the sense of immediately removing cash from transactions," Foster said. "The long-term objective

WE BUILT THIS KIOSK THAT WE ENVISION BEING ON THE FLOOR OF EVERY DISPENSARY IN AMERICA.

here is to offer a piece of secure technology that plays directly into the behaviors that consumers expect to see within retail environments.

"Even when banks finally do come around, we anticipate and hope and encourage that it will be our dispensaries with the Jane kiosks in them that will be the first clients within a legislatively-easing banking environment."

The company is also closely following the trend of consumers steadily shifting more toward portable technologies. Within the next decade, Foster said he expects a lot of banks to divest away from brick-and-mortar locations.

One factor that differentiates Payteller and Jane from their competitors is that the founders raised \$25 million raised in capital, allowing them to build a world-class team of professionals and a product that is adaptable to the demands of the market, Foster said.

"We have a very, very healthy runway of capital to really do the R&D on this correctly," he said.

The company was originally founded in 2014 as Jane Four20, before simplifying the name to Jane (www.trustjane.com). Although Jane and the cannabis industry are both works in progress, Foster said being part of the so-called "green rush" has been a fascinating journey for entrepreneurs who come from the corporate, buttoned-down world of financial institutions.

"We're having so much fun. I know that's such a stupid, quirky little thing to say, but we're kind of suits coming into this space," he said. "At the end of the day, we're just trying to bring as much maturity as we can into this sector, but we're having so much fun. ... Coming from a conservative Wall Street background, and now bringing mobile banking compliance technologies to the cannabis space, it's a thrill."



Point of Sale Designed for Marijuana Retailers

Technology that powers the cannabis industry

Chosen by over 35% of all i502 retailers

Call 877.420.7628

SAVE \$500 ON SET UP



www.greenbits.com



The Bud Pod™

*The Next Generation
of Sample Pods*

- Airtight
- Aroma Holes
- Optical Magnifier
- Card Holder
- Bud Post
- Tether Ready
- Compliant Security Seals available

www.budbardisplays.com

916 • 858 • 2000

See the
Complete Product Line
designed exclusively for
The Cannabis Industry!

The Way Cannabis Is Sold®





Sun Goddess

FARMS™

- Coming summer and fall of 2015.
- Premium quality.
- 100% sun grown, all- natural marijuana from Eastern WA.
- Certified.
- Grown exclusively for Washington I-502 recreational outlets.
- Various strains selected for both CBD and THC.
- Naturally aged and cured tobacco-style in wood drying rooms.
- Priced consumer friendly and supported with appropriate marketing.

YOUR BEST OPPORTUNITY TO

GROW

YOUR CANNA-BUSINESS

AUGUST 6-8



WASHINGTON STATE FAIR
EVENT CENTER

NW CANNABIS CLASSIC

2015 INAUGURAL EVENT

INVEST IN A TARGETED AUDIENCE

Be sure that the money you invest is directly reaching people who have an interest in what you offer.



Facebook 27% | TV 2%
Radio 1% | Newspaper 2%
Missed Opportunity 68%

VS



97% OF NWCC ATTENDEES
WILL HAVE AN INTEREST
IN CANNABIS

SHOW NEW PRODUCTS

put yourself in front of a captive and targeted audience who **WANTS** what you have to offer.

INVEST IN YOUR BUSINESS

WHY YOU NEED TO BE A VENDOR AT THIS EVENT

build your customer base and grow your email lists in 3 days

NETWORKING AND INVESTOR OPPORTUNITIES

SELL DIRECTLY TO YOUR AUDIENCE*
*CALL OR CANNABIS IS PROHIBITED

For More Info on Vendors, Sponsorship and Tickets, go to

NWCANNABISCLASSIC.COM



Why advertise with Marijuana Venture?

- Marijuana Venture is the only monthly B2B for the exploding legal marijuana industry.
- There are never any ads featuring sexual content or questionable products.
- Marijuana Venture is not a "culture" magazine. Our focus is on the business of growing and selling marijuana.
- Marijuana Venture distributes 10,000+ hard copies of the magazine to book stores nationwide, and to applicants and licensed growers in WA, CO, OR, AK, NV, NM, AZ, MT, and IL.
- Our readers are business owners and entrepreneurs with cash to invest in their legal marijuana company.



If you're looking for a smart and effective way to reach the thousands of new licensed companies starting up in the recreational marijuana industry, look no further. Marijuana Venture is your resource!

"Our business took off after advertising in Marijuana Venture"

– Craig Allen, co-owner Groco Supply.

For information, call:

Lisa Smith:
425-306-4706
Lisa@MarijuanaVenture.com

Greg James:
425-656-3621
GJames@Topics-Ent.com

Or go to:
www.marijuanaventure.com





Your Voice in Olympia

The Washington CannaBusiness Association is a professional organization comprised of **I-502** licensed cannabis producers, processors, and retailers representing Washington's regulated cannabis industry.

Our mission is to advocate for our members with state and local governments, and to promote our industry's commitment to a safe, quality-controlled system for the entire cannabis marketplace.

Together, we can build a vibrant cannabis industry.

Join us. WaCannaBusiness.com

CORE MEMBERS

Agrijuana, Camas
BMF, Raymond
botanicaSEATTLE, Seattle
Cannabis Central, Ellensburg
Clarity Farms, Fife
Db3, Seattle
Ellensburg Apothecary, Ellensburg
Every Bright Green, Seattle
Gabriel, Bellevue
Green America, Kelso
Green Theory, Bellevue
GrowState, Spokane

HempZen Enterprises, Woodinville
JDC NW, Seattle
Lester Farms, Woodinville
Mello Times, Seattle
Monkey Grass Farms, Wenatchee
New Vansterdam, Vancouver
Nine Point Growth Industries, Bremerton
Okanagan Natural Farms, Tonasket
Patriot Meds, Raymond
Peninsula Cannabis, Port Angeles
PolygenixTHC, Seattle
Right Patch WA, Seattle
Rio Nine Eleven, Raymond

Royale Leisure, Seattle
S & K Greengoods, Lakewood
Sea of Green Farms, Seattle
Torch NW, Tacoma
The Werc Shop, Bellevue
World Organics, Seattle
World of Weed, Tacoma
Uncle Ike's, Seattle
ASSOCIATE MEMBERS
EcoGrow Lighting, Camas
Fortune Management Group, Tacoma
Vuber Technologies, Seattle
High Minded Concepts, Federal Way

Optimizing a marijuana enterprise for tax savings

Vertical integration creates both opportunities and pitfalls

By Bernard Chamberlain



When it comes to business ventures, optimizing means making the operation as effective and functional as possible.

Certainly, one way to make a business structure more effective or functional from a financial perspective includes taking steps to lower the tax expense associated with the enterprise.

While the tax-planning playbook for the vertically integrated marijuana enterprise has not yet been written, the tools of traditional tax planning suggest using the approach described in this article.

A SYSTEMATIC APPROACH

• **Step 1: Identify the business activities that make up the enterprise.** This step is important because each business activity is likely to present different planning opportunities and challenges. For example, a grower might find a dispensary is willing to take delivery of inventory at the grow site. In that case, the dispensary may be able to deduct transportation expenses the grower cannot.

Another example would be the consulting business engaged in activities prohibited under federal law (i.e., trafficking in marijuana). Such a business could be operated through an employee-owned tax partnership (e.g., a limited liability company taxed as a partnership). By being structured without payroll expenses, the consulting business would expect to significantly limit the impact of IRC 280E on after-tax profits.

What is a business activity for purposes of this initial step? A business activity for this purpose is generally the most limited set of activities that includes both income and expenses, could theoretically be sold or transferred to another person, and could be operated by that person for

profit.

• **Step 2: Identify stakeholders of the enterprise and their tax priorities.** Different owners or employees may be involved, or may wish to be involved, in different business activities. Where this occurs, tax opportunities and pitfalls should be considered.

A tax opportunity that may arise is the identification of a business activity not subject to IRC 280E. For example, expenses incurred as part of a business activity are less likely to be subject to IRC 280E if the ownership or management is different from that of affiliated trafficking business activities.

An example of a pitfall is failing to account for the personal liability concerns of outside investors for business taxes. It should go without saying that it is wise to protect outside investors from unexpected personal liability. A common securities law disclosure states that IRC 280E will disallow deduction of all or some ordinary and necessary business expenses of the enterprise. When faced with this disclosure, many outside investors choose business structures that reduce their chances of being individually responsible for business taxes of the enterprise.

Another pitfall is inadvertently saddling a key employee with unexpected income tax liability. Employees are sensitive to unexpected personal liability for taxes. In non-marijuana industries, it is not unusual to compensate a key employee with an interest in the business. Like other forms of equity compensation, the hope is the employee will be incentivized to work hard for the success of the business. However, an employee of a marijuana business is unlikely to be motivated

if she discovers her expected income is offset by outsized personal tax obligations.

• **Step 3: Group business activities by IRC 280E-related type.** Business activities within the vertically-integrated marijuana enterprise may be categorized by IRC 280E-related type. Each type presents specific challenges, and opportunities. There are four major types, which may overlap: businesses with production activities that have significant nondeductible expenses under IRC 280E; businesses without production activities that are subject to IRC 280E; businesses that consist solely of the pas-

sive holding of assets; and businesses that include no activities prohibited under federal or state drug law.

Benefits of treating businesses differently by type include obvious benefits such as identifying opportunities for increased expense deductions, avoiding unintended income duplication,

and capitalizing on opportunities to be responsive to investors' comfort levels with tax issues.

• **Step 4: Consider transitional challenges.** More often than not, a new vertically-integrated marijuana enterprise will be made up of one or more pre-existing business activities. A failure to take into account the tax characteristics of existing businesses can lead to unexpected consequences. Two examples are the desirability of existing accounting practices of the business activity and the ability of any existing business entity to change how it is treated for tax purposes (e.g., a limited liability company may or may not be eligible to be taxed as a corporation).

• **Step 5: Evaluate one or more business structures.** Arriving at an entity structure for a vertically-integrated marijuana enterprise requires decision makers to make informed judgments. A decision maker must be mindful of the risks being taken on behalf of the business entity and its stakeholders, but should also be aware of the cost of opting for an approach that

**ANOTHER
PITFALL IS
INADVERTENTLY
SADDLING A KEY
EMPLOYEE WITH
UNEXPECTED
INCOME TAX
LIABILITY.**

>> CONTINUED ON PAGE 78



Confidence Analytics

14797 NE 95th St
Redmond, WA 98052
2312 N Cherry St Ste 202
Spokane Valley, WA 99216
(206)-743-8843 info@conflabs.com

Proud to bring excellence in laboratory testing to I502

- \$60 p/Test
- 2 gr sample
- 2-4 day turnaround
- Transport Available
- No Account Setup Fees
- No Contracts

NEW LOCATION!

**2312 N Cherry St Ste 202
Spokane Valley, WA 99216**

**Opening June 1, dropping
off means no more
transportation fees!**

When you invest in us, we invest in you...

It's not hard to see why we test more cannabis for the recreational market than any lab in the state. With no account setup fees, no contracts, fast turnaround, and a base price of \$60 for a complete I502 test, we offer a level of science and service that can't be beat.

We provide the data, consulting, and tools that ensure you get the most from your production and processing workflows. Let us help you lean your costs, improve your yields, and find your operation's best practices.

Need transportation? Our vehicles travel more than 3,000 miles a week to every corner of the state to help get your samples to the lab quickly, so you can get your product to the retail stores quickly.

Need to test more than a few samples? Call us for volume discounting!

Better Science, Better Service

www.conflabs.com

<< CONTINUED FROM PAGE 76

appears to be the simplest, or the safest. As in other areas of business taxation, there are few cookie-cutter solutions.

• **Step 6: Optimize important agreements to account for income taxes.**

An often-overlooked step in the business formation process is the optimization of important business contracts to account for deductibility of expenses. Such agreements should be optimized to account for the fact that IRC 280E may not affect both parties to an agreement the same way. For example, a company that licenses its technology and brand to a local producer may be able to deduct marketing expenses, whereas the local producer likely cannot. In such a case, a few changes to the licensing agreement can increase the after-tax profits of both parties.

• **Step 7: Monitor income tax expense monthly.** Once the vertically-integrated enterprise is operating, monitoring its income tax expense monthly can save the business. It is common for a business activity subject to IRC 280E to develop significant differences between its financial books and its tax books. Thus, a business that appears to be profitable over a course of months may in fact be incurring mounting losses on an after-tax basis. Identifying an after-tax loss early allows decision makers to make necessary changes in a timely fashion.

CONCLUSION

The reason businesses engage in tax planning is simple: when a business enterprise controls its tax expense, it has more funds available to pay employees, reinvest in the business, and return to investors.

Following an approach like the one described in this article may appear unnecessarily involved or complicated to some. It should not. It has more in common with the approach to tax planning taken every day in established industries than it does with the hope-and-pray approach that is unfortunately still common in the marijuana industry.

Bernard Chamberlain is a tax attorney with Emerge Law Group. He can be reached by email at bernard@emergelawgroup.com.

— RA —

ROSS ANDREW

WINERY

*Singularly distinctive wines
from Washington state*

**VISIT US IN
WALLA WALLA!**

31 E. Main St.
Walla Walla, WA 99362

ROSSANDREWWINERY.COM



INDOOR TROPICS

Central Washington's #1 Supplier of Growing Equipment

BEST PRICES GUARANTEED!

ALL MAJOR BRANDS OF:

FERTILIZER SOIL LIGHTING HVAC

SERVICES FOR YOUR SUCCESS:

CONSULTING BULK SIZES DELIVERY

GROW WITH THE PROS!

3 LOCATIONS IN CENTRAL WASHINGTON

Cashmere

Open 7 Days a Week!
5930 Sunburst Lane
509-470-7782

Ellensburg

Open Mon-Sat
801 N. Prospect
509-933-4441

Omak

Open Tues-Thurs
18 E. Apple Ave.
509-670-3816

www.IndoorTropics.com



Multiple agencies oversee different compliance factors

Compliance goes beyond Liquor Control Board regulations

By David Kerr



The Washington State Liquor Control Board rules are the touchstone of regulatory compliance for recreational marijuana businesses. After all, if you make a habit of violating Liquor Control Board rules, or if you violate one of the rules that can result in termination of license on the first violation, you are not going to be in the legal marijuana business very long. These rules are codified by WAC 315-55.

Every applicant and licensee needs to read, understand and be familiar with the rules. Keep in mind that these rules are constantly changing, as is the LCB's interpretation and application of the rules, so reading them isn't a "once and done" activity.

To emphasize this point, the LCB has issued 373 administrative violations to date. The violations include: failure to maintain required security alarm and surveillance systems; failure to submit monthly tax reports and/or payments; licensee and/or employee opening or consuming marijuana on a licensed premises; failing to display required security badge; improper recordkeeping; retail outlet selling unauthorized products, and so on and so forth. Twenty-six of these violations resulted in fines between \$500 and \$5,000. There were nine license suspensions ranging from five days to 30. One producer was hit with the destruction of 25% of its harvestable marijuana.

Compliance with LCB regulations is not something to take lightly. But compliance with LCB rules isn't the end of your regulatory compliance obligations. Recreational marijuana businesses are also subject to additional local, state and regional regulations and requirements.

Looking at some of agencies and areas of regulation will help you be prepared (or at least make it less of a shock) when they come knocking.

• **Department of Labor and Industries:** L&I has several branches, including the Division of Occupational Safety and Health (DOSH) that focuses on employee health and safety. Developing an accident prevention plan specific to your business operation is the first step in compliance. Then there are specific regulations that apply to the hazards of the job that must be followed and these can have additional requirements for the prevention of employee injury or illness during their day-to-day activities. DOSH explains that businesses that grow marijuana are mainly subject to the safety standards for agriculture (WAC 296-307). Processors who perform extractions need to be aware of their responsibilities when it comes to providing safety data sheets for the chemical extract that they produce (WAC 296-839 through June 1, 2015 and WAC 296-901).

• **Department of Agriculture:** The Department of Agriculture provides oversight of scales used for all commercial transactions, including marijuana transactions. Since these scales must meet strict accuracy and technical standards, they require annual inspection.

The Department of Agriculture is also responsible for the required sanitary inspections at state-licensed marijuana processing operations to ensure product safety and maintain state-level oversight of food safety concerns for both processors and retailers.

The department maintains the registry of pesticides allowed for use for the production of cannabis. Growers can use any fertilizer that is registered by the Department of Agriculture except for those fertilizer/pesticide products that are specifically not allowed for use on marijuana. However, pesticide use has areas of overlap between different government agencies, including the agriculture, ecology and L&I departments.

• **Department of Ecology:** Waste management is regulated by the Department of Ecology. Regulation of dangerous waste is

of particular concern. Since legal marijuana is such a new industry, the scope of potential dangerous waste isn't fully known, but potential hazards include: waste from marijuana processing with 10% or greater THC content; waste pesticides; waste fertilizers, process waste contaminated with solvents, waste solvents, lighting with mercury and lead content, and laboratory wastes generated in QA testing. A dangerous waste generator is responsible for designating waste and keeping accurate records of the designation, the management and the proper disposal that waste.

• **Clean air agencies:** The regional air quality agencies are based on the county. Eleven separate agencies cover the state of Washington. For example, the Puget Sound Clean Air Agency covers King, Kitsap, Pierce and Snohomish counties. Because marijuana production and processing can "impact air quality, produce odorous emissions, and/or cause off-site nuisance impacts due to odor," marijuana producers and processors are subject to air quality regulations.

Puget Sound Clean Air Agency requirements include permitting and registration. The permitting program is referred to as a Notice of Construction (NOC). This is a pre-construction application and review process that results in a permit for your business. A \$1,150 filing fee is required with your NOC application. Additional processing fees are due after review of the permit application. They are based on the information in your application and the specifics of your facility and equipment. The registration program includes on-site inspections, compliance reviews and annual fees. To keep your permit in effect, you must maintain an active registration.

There are useful publications available on the websites of each of these agencies (and others) that provide more information and greater detail with respect to the numerous, varied and complex regulatory environment that awaits marijuana licensees. Avail yourself of these. Be proactive and don't assume that "all that stuff doesn't apply to me," because it does. Keep your business on the right side of the compliance curve.

Attorney David Kerr serves business clients throughout the state, including an emphasis on the emerging legal, regulatory and compliance issues facing new cannabis businesses.



**Harvest
EXCEL™**
The Leader In Light Dep Technology



Watch the video on www.HarvestExcel.com
CREATED IN HUMBOLDT COUNTY
Please Call 707-986-4430

A grower who can beat weather and market conditions and have more than a single crop in a growing season will have huge advantages in the market place. Northern climates are particularly vulnerable to adverse weather and short growing seasons: just as the crop is beginning to mature, rain, mold and other conditions can ruin a much anticipated harvest. By "fooling" the plants to mature during the height of summer these problems can be mitigated.

Northern California has always been a trend setter in growing and light-dep is no exception. Light-dep techniques have been used and perfected here for many decades. Light deprivation is now fast becoming the preferred method of growing throughout most regions. Growers are finding that the intensity of mid-summer sun and the lower humidity levels are allowing them to command premium prices for a superior product that's available before the market place is glutted by outdoor fall harvest. With the "green" movement gaining momentum and the desire to become carbon neutral, along with a more predictable high quality harvest many indoor growers are switching to light-dep and this trend will surely accelerate across the country. Overhead costs are significant with indoor and using the sun's natural energy is an obvious way to increase profit.

In addition, we believe the drought will play a significant role in driving people into the light dep arena, as water shortages may mean a full term crop will not be possible.

Harvest Excel offers systems to accommodate many different sizes of greenhouses.



www.harvestexcel.com
sales@harvestexcel.com
PO Box 276, Redcrest, CA 95569
Phone: 707-986-4430

We build I-502 fencing.

Angler Fencing builds any type of fence – wood, vinyl, chain link, ornamental iron, split rail cedar fence, farm and ranch.

See www.anglerfencing.com or call 509-535-9909 for estimate

502 FENCING: The most standard is 8' tall chain link with barbed wire on top and 96% obscurity windscreen. A heavy duty industrial quality fence. Other options are available 8' vinyl privacy, 8' wood privacy, 8' metal fences.



You name it, we will build it. Fast turn around.

Licensed and bonded in WA since 2000. Anglfc890ot

Oregon legislators battle for changes to cannabis laws

One possible change could be the introduction of a sales tax

By Matt Goldberg



Oregon's Joint Committee on Implementing Measure 91 bounced back from its recent failure to pass medical marijuana legislation by introducing a 104-page bill aimed squarely at the forthcoming recreational marketplace. One of its highlights is a change from the weight-based harvest tax approved by voters as part of Measure 91 to a "point-of-sale" tax to be levied on consumers at the retail level.

Legislators are being careful not to call the new tax a "sales tax," given Oregon voters' longstanding opposition to such taxes. But, semantics aside, the proposed tax is a sales tax. It would tax recreational marijuana at the retail level, as a percentage of the purchase price. Advocates argue that such a regime will better tolerate fluctuations in price. A weight-based harvest tax — the \$35 per ounce of flower called for in Measure 91, for example — creates a comparatively larger tax burden on the consumer when the price of marijuana decreases. The argument is that a tax structure that can more easily accommodate price instability will more effectively keep consumers within the legal market rather than seeking out black market channels for relief from perceived excessive taxation. Though the legislation did not include a specific percentage for the proposed tax, Sen. Ginny Burdick (D-Portland), co-chair of the Joint Committee, has said that a tax of 12.5-17.5% would be "reasonable."

Besides the disdain Oregonians have for sale taxes in general, another irony of the widespread support among legislators for the point-of-sale tax is that it will result in every marijuana retailer delivering cash collected from customers directly to the state, due to the banking industry's continued unwillingness to accommodate cannabis businesses. The Oregon Liquor Control Commission (OLCC) has asked the Legis-

lature for more than \$600,000 to build out facilities in Portland and southern Oregon specifically to collect these cash payments. Of course, the banks will have no problem taking the money once it is the state's "tax revenue," though, from a certain perspective, it still seems like the kind of federally proscribed money laundering the banking industry professes to worry about so much.

The new recreational bill also makes explicit what legislators have been promising for months now — a residency requirement for would-be licensees. The bill calls for a two-year residency requirement, smaller than the four-year requirement proposed only months before by Sen. Floyd Prozanski (D-Eugene). Unsurprisingly, the residency requirement has populist support among the mom-and-pop businesses that are the bedrock of Oregon's emerging cannabis industry. There are cautionary voices warning against too strict an approach, however, from Measure 91's chief petitioner Anthony Johnson to Seattle-based private-equity firm Privateer Holdings.

Johnson has argued that the mom-and-pop Oregon-based businesses the residency requirement is supposedly designed to protect likely will need access to capital from outside the state in order to compete effectively in the new industry. Privateer, which has hired lobbyists to try to defeat the residency requirements, has couched the issue, in written testimony submitted to lawmakers, as one of ensuring sufficient access to capital so Oregon businesses can produce and distribute "lab-tested, professionally packaged cannabis" that stays out of the black market and out of the "hands of children." In response to such warnings, Sen. Prozanski has suggested the residency requirements might be phased out as the market matures.

Another major issue confronting legislators is how to address the disconnect between marijuana being legalized effective July 1, 2015 and the OLCC's estimates of late 2016 for the opening of licensed retail

locations. This gap of at least a year has some lawmakers concerned that legalization will, in this early stage, actually promote black market activity rather than curb it.

A solution to this problem that seems increasingly likely is the sale of recreational marijuana to adults 21 and over by Oregon's 200-plus licensed medical dispensaries, potentially as early as October 2015. The dispensaries presently cannot admit someone who does not possess a medical marijuana card, of which roughly 70,000 have been issued by the Oregon Health Authority (OHA). The prospect of these dispensaries opening their doors to Oregon's adult population in the space of a few months has the industry buzzing — and legislators scrambling. The OHA, as the agency likely to oversee such a plan (if it makes it through the Legislature), will be thrown into the spotlight as it tries to craft implementing regulations on a very tight timeline.

Meanwhile, efforts to rewrite the Oregon Medical Marijuana Act (OMMA) have been taken up by the Senate and House separately. Sen. President Peter Courtney convened a Senate-only committee on marijuana, which almost immediately passed Senat Bill 964, its own version of the OMMA rewrite that died in the Joint Committee. The Senate passed the bill with a 29-1 vote, with Sen. Prozanski as the lone dissenter.

The most contentious part of the bill, which first will have to make it through the House before it can go to the governor for signature, involves the extent of local governments' power to outright ban medical marijuana dispensaries. This issue is also seen as a harbinger of how the question of local control ultimately gets resolved in the recreational context. While Measure 91 provided that opt-outs can only be enacted by a local option put to the voters, the new medical marijuana legislation gives opt-out authority directly to city councils and county commissioners — setting up a potential conflict that may only be finally settled in the courts.

Matt Goldberg is an attorney at Cannabis Lawyers NW, LLC (www.cannabislawyersnw.com). His firm advises cannabis businesses in Oregon and Washington on business law, real estate transactions and regulatory compliance.

Trimmer Rentals



Wet and Dry Rentals & Sales

Give us a call to discuss your trimming needs. We have experience with all brands and styles.

(We also rent Dehumidifiers!)

www.grocosupply.com

Ballasts, HVAC, Hoods,
Bulbs, Soil, Nutrients,
Consulting, and
everything in between.

grocco
Commercial Marijuana Gardening Equipment and Supplies

PHONE: 425.998.7212

EMAIL: sales@grocosupply.com



MARIJUANA VENTURE

THE JOURNAL OF PROFESSIONAL
CANNABIS GROWERS AND RETAILERS

Marijuana Venture is the only monthly B2B trade publication dedicated to the legal, licensed cannabis industry.

**One Year
(12 issues) \$39.99***

*Offer includes print & digital issues

**One Year Print Only
Subscriptions \$29.99**

**One Year Digital Only
Subscriptions \$19.99**

**SCAN &
SUBSCRIBE**



GROWER? RETAILER?

We offer complimentary subscriptions to companies licensed as growers and retailers.**

SUBSCRIBE NOW AT
www.marijuanaventure.com

**Go to <http://www.marijuanaventure.com/subscription-request> for complimentary subscription. Must be a qualified business related to the growing and production of marijuana.

What to keep in mind if your business gets raided

Federal laws make it vital to understand your rights

By Joseph Tully



Marijuana remains federally illegal, despite state laws that permit possession under certain circumstances in 23 states across the U.S. Further, many cash-strapped local jurisdictions have ordinances on how medical marijuana can be grown and shared. This makes for a perfect storm of federal cash funding local task forces to bust businesses. You, your home, your assets and your freedom are all potential targets for a multi-agency drug task force.

Caregivers, collectives and cultivators need to prepare themselves for when, not if, the law will come knocking. You have rights. Make sure your staff and clientele are aware of their rights and establish a policy to follow. Run drills role-playing scenarios so your staff are prepared for potentially harsh treatment they will suffer at the hands of raiding law enforcement.

So what should you do when police show up at your home or collective?

A search warrant is issued by a judge based on evidence presented by law enforcement. The judge will have seen witness statements and other evidence. A warrant means a judge has found probable cause that a crime is being committed at a location, and that evidence of the crime will be found on the premises.

The police are there to send someone to jail. Do not make their job easier. Everything you say and do once the police arrive can and will be used against you. So be careful and be safe. If law enforcement agents claim to have a search warrant, you must let them in. They do not need to show it to you. They will break your door down if you do not open it.

Writing and executing search warrants are often complicated procedures and prone to error. To cover their bases, cops will present the warrant, and then ask,

“Mind if we look around?”

This is a trick to get your consent for a search. Always tell them you do not consent to a search, even though the warrant gives them permission. Let them in; be polite and professional. Do not try to explain the situation. Do not describe what you do there. There is no “mistake” to clear up. You must identify yourself and answer basic questions like date of birth and address. Otherwise, say nothing.

At this point, investigators are rummaging through your effects and seizing evidence. Police could seize your cannabis products, destroy plants and take your computers and cash. Do not interfere with them, but have your attorney ask for an inventory of everything taken. You should keep digital backups of your records remotely or saved on a cloud drive. If you have privileged documents, such as attorney-client communications, they should be stored separately and clearly identified.

An experienced criminal defense attorney will help protect you and your rights. An attorney will make sure the search warrant was properly issued and executed, although judges nowadays are often loathe to second-guess law enforcement. If you are arrested, an attorney will defend your status as a patient or caregiver, and also defend the documents and recommendations establishing your legality. Discussing medical recommendations with law enforcement will only help them build a case against you. For example, if you say: “I have a recommendation to grow these plants,” the district attorney will present that to the jury as a confession for producing a controlled substance. Let your attorney do the talking.

Joseph Tully has more than 15 years of criminal law experience in California. He has extensive experience defending medical marijuana collectives, cooperatives, cultivators and caregivers facing criminal charges. His firm, Tully and Weiss, handles cases statewide.

FREE SHIPPING



The Twister T2 Trimmer. Trim More. Faster.

The Twister is the world's fastest leaf trimmer, equipped with the industry's most powerful vacuum along with proprietary blade geometry to deliver the closest cut possible without damaging your product.



The New Twister T4 Trimmer is Here

Trimming sucks. But it doesn't have to. The new Twister T4 transforms the game by using advanced, patent-pending trimming technology to do the work for you. It makes your life easier and your pockets fatter.

And remember: **Machines don't need lunch.**



TrimBud.com

Trimming Equipment Sales and Rentals. We'll beat any price.



**New showroom in Monroe, WA
Visit www.trimbud.com**

RENT IT

425-998-7724 | www.trimbud.com



FDA-Approved Conveyor

The biggest thing to happen to trimming since the Twister. The new conveyors will change the way you harvest forever.



Premier Dealer

TrimBud.com is owned and operated by NWSS LLC. Authorized Twister dealer.

OBC NORTHWEST, INC.

Nursery & Greenhouse Supplies

Everything you need to grow!

- Shade Cloth/ Privacy Screen
- Fans
- Soil Mixes



Greenhouses

Quonset, Semi-Quonset, and Gutter Connected models also available.

PRICE

30' x 96' Semi-Gable Greenhouse \$10,365.89
(bows 2 3/8" x 13G 4' on center, 6' side wall)

Double layer 6 mil film, springlock, endwall frame with 8 mm double wall polycarbonate. Two 4' wide swing doors.



**Call 800-477-4744
or visit obcnw.com**

**1076 SW Berg Parkway,
Canby, Oregon 97013**

Licensed & Bonded

- License #127055 (OR)
- OBCNO1 H022CR (WA)

Challenge brews between IRS and cannabis industry

Constitutional grounds may support marijuana businesses

By Matt Kaden and Michael Kosnitzky



With Tax Day 2015 fading into the rearview, a constitutional fight is looming between the IRS and the cannabis industry that could determine the long-term viability of legal marijuana businesses.



That constitutional tussle became virtually inevitable earlier this year, when the IRS issued a ruling that has become infamous among growers and dispensaries.

The ruling mapped out a bold new attack plan for the IRS in response to decisions made in the United States Tax Court that were friendly to cannabis businesses, including one in which the court allowed 75% of the deductions claimed by the taxpayer.

Basically, the IRS has taken the position that, even though the Constitution requires that the government allow all taxpayers deductions for their cost of goods sold (COGS), cannabis businesses alone are subject to a different set of old, outdated rules governing COGS deductions.

In our view, this violates the U.S. Constitution.

For example, under the old COGS rules that the IRS wants to resurrect for cannabis businesses, a dispensary would only be able to deduct the payments to the grower, as well as certain transportation costs. Under the new rules, a dispensary would be able to deduct these costs, but also indirect costs attributable to purchasing, handling, processing, and storing the marijuana, including labor, materials and supplies, off-site warehousing costs, utilities, insurance and certain taxes.

It is not hyperbole to say that the value

and savings of these additional deductions could mean the difference between a profitable business and an unprofitable one.

We are aware that even before the ruling was issued, the IRS was applying this new reasoning in audits of cannabis businesses.

Any affected taxpayers should consult their tax advisor as to whether the constitutional argument can and should be made to the IRS audit examiner or appeals officer. Given the IRS policy as expressed in the ruling, such an argument is likely to have little traction at the au-

dit level, but may persuade the appeals officer into a settlement favorable to the taxpayer. Unlike the audit examiner, the appeals officer is required to consider the possibility that the IRS could lose in court.

Most of the time, however, an IRS appeals officer will not be persuaded by constitutional challenges, and such a case could ultimately be heard by a court. And what would happen in such a case? While the argument that the ruling is unconstitutional is not a slam dunk by any means, the arguments advanced by the IRS in the ruling are susceptible to attack and, in our view, taxpayers have the better of the argument.

In some respects, the constitutional issue is only one battle in a larger war. Even if the issue were to be resolved in the taxpayer's favor, the next issue would be which indirect costs are "attributable to" purchasing, handling and

storing activities (and are thus included in COGS deductions) and which are attributable to selling activities (and are thus not included).

Here, the taxpayer and his or her advisors need to have a system in place (before the audit) for allocating costs among the company's purchasing, handling/processing, storage and selling functions.

Just as important, the taxpayer needs to keep pristine records of these allocations and their bases (e.g., employee-time spent, square-footage employed for each function).

Even then, there will be issues. For example, can a portion of the Washington State excise tax on marijuana sales be allocated to non-sales functions (and thus be partially included in COGS deductions), even though it is imposed on the sale?

It can be anticipated that the IRS will take a hard line on this and similar issues, even if taxpayers ultimately prevail

IT IS NOT HYPERBOLE TO SAY THAT THE VALUE OF THESE ADDITIONAL DEDUCTIONS COULD MEAN THE DIFFERENCE BETWEEN A PROFITABLE BUSINESS AND AN UNPROFITABLE ONE.

on the constitutional issue.

These issues are not likely to go away any time soon.

Even if Congress moves to bring federal marijuana laws into line with states where it is legal, it would most likely only do so for medical marijuana, leaving federal taxes on recreational marijuana businesses out in the cold. With so much at stake for the cannabis industry, and with a period of uncertainty ahead, the time for consulting an advisor is before a problem arises.

Michael Kosnitzky is the partner in charge of Boies, Schiller & Flexner's tax practice, while Matt Kaden is an associate with the law firm.

Kosnitzky represents high net worth individuals, as well as corporations, partnerships and other entities in a variety of tax matters, including before the Internal Revenue Service in tax controversies. Kaden specializes in the taxation of partnerships and LLCs, and has a broad experience with taxation and controversy.

THE GOLD STANDARD FOR FENCING

Portland Fence Co. has been in business since 1984 and we're still growing strong! Over the past 30 years, we have been dedicated to making our company the 'gold standard' for fencing in the Pacific Northwest, and we always remember who we work for. Licensed in Oregon and Washington, we specialize in several styles of Fence: Wood, Chain link, Wrought Iron, Vinyl & many other Specialty Styles.

**No job too large or small,
we do them all!**



A Division of McDermott Fence

CCB# 201616

9940 SE Oak St.
Portland, OR 97216
503-256-3060

www.mcdermottfence.com

Bollards
Chain Link Fence
Colored Chain Link Fence
Dog Kennels
Emergency Repairs
Farm Fencing
Gate Operators
Gates
(Standard & Custom)
Key Pad Entry Systems
Ornamental Fence
(Steel & Aluminum)
Privacy Slats
Sport Court Fencing
Trash Enclosures
Vinyl Fence
Wind Screen
Wire Partitions
Wood Fence



SERVING THE
EASTERN
WASHINGTON
CANNABIS INDUSTRY

Let us build the garden of your dreams.

HORTISTRUCTURE, INC.

CONSULTING - DESIGN - BUILD

SERVING ALL LEGAL CANNABIS STATES

- * Build proprietary strains via breeding
- * Strain selection and procurement
- * Representing retailers in product selection
- * Access to top HVAC, electrical and security contractors

509.710.2820 • cbayley@hortistructure.net

Chris Bayley, from Hortistructure, Inc., is a contributing writer for Marijuana Venture.

ELEMENTAL GARDENER

PRODUCTION AND PROCESSING SOLUTIONS
CENTER LOCATED IN TONASKET, WA

- * Water and soil testing
- * Packaging and scales
- * Specializing in organic growing methods

509.486.2300 • Craig@growingelemental.com

Assessing risks requires plenty of due diligence

Investors must know the risks before diving into the industry

By Andrew M. Walsh



Private equity investments in cannabis businesses have totaled more than \$100 million over the last two years, according to CB Insights. The opportunity for investors and entrepreneurs is unique — and so are the risks.

Sophisticated investors will ask about them, and cannabis-related businesses need to identify them early on, and manage them. The following is a quick outline of the salient risks.

STRICT ENFORCEMENT OF FEDERAL LAW

As states continue to decriminalize cannabis in a variety of ways, cannabis remains a Schedule 1 controlled substance, right alongside heroin and methamphetamines, under the federal Controlled Substances Act.

Accordingly, businesses that engage in various forms of commerce in the cannabis industry and individuals who purchase and use cannabis-derived products remain subject to federal prosecution and seizure of assets. Federal enforcement could lead to dissolution and total loss of investment.

While the Department of Justice indicated in mid-2013 that it would not direct resources to block recreational and medical marijuana in “legal” states, that position could change at any time. Newly-confirmed Attorney General Loretta Lynch has testified that she does “not support the legalization of marijuana.”

Many bills that would ease cannabis businesses’ path have been introduced in Congress, including, most notably, the CARERS Act that would classify cannabis as a Schedule II drug, alongside legal opiates.

However, there is no guarantee that any of these bills will ever become law. The risk of federal prosecution remains for businesses, even if they are in compliance

with state law.

NO ADEQUATE BANKING SOLUTION

Most banks are not yet willing to take deposits, issue credit cards, open checking accounts, or assist with payroll services for cannabis businesses. They fear violating federal law and being accused of money laundering.

After Oregon-based MBank was contacted by federal banking regulators, it promptly ceased welcoming customers from Colorado, and announced in April that it was closing all of its cannabis-related accounts, citing extraordinary compliance costs. In November 2014, another banking institution, Fourth Corner Credit Union, received its state charter from the Colorado Division of Financial Services, but it is still waiting for approval from the U.S. Federal Reserve while it seeks insurance from another department, the National Credit Union Administration.

For now, cannabis businesses are handling lots of cash, which presents numerous risks, including inability to secure and invest funds, manage cash flows and pay taxes. Other facets in play are safety/security risks and expenses, as well as crimes such as theft, assault, burglary, employee skimming and tax evasion.

COMPLIANCE WITH STATE REGULATIONS

Companies are subject to changing laws and regulations in their home states and in the states in which they do business. Rapidly changing laws can create numerous expenses for a growing business and enable “fast-followers” to gain a competitive advantage by learning from

the early entrants’ mistakes. Increased regulatory compliance costs could result in lower gross margins or higher retail prices, or both, while competition from the black market looms.

A prospective investor should understand whether the company is in compliance with state law and should ask questions about this. For example, Colorado requires a person to have been a resident of the state for two years before applying for a license, and it requires equity investors (and holders of convertible debt) to be residents.

Washington State also has a residency requirement for the entrepreneur. The penalties for violations of these regulations are unclear, and an investor should insist that the company represent in transaction documents that it is in compliance with state laws.

FEDERAL TAX LAW CHALLENGES

Except for “cost of goods sold,” IRC 280E prohibits cannabis businesses from taking tax deductions for numerous ordinary and necessary business expenses. This should not be a surprise to the cannabis entrepreneur who is seeking capital from investors.

A company’s inability to take advantage of deductions for ordinary business expenses significantly hurts profit margins and may cause investors to think twice about investing. A business’ financial statements and projections

of after-tax profits should take this into account. How the target handles this issue in its solicitation materials could help a prospective investor gauge an entrepreneur’s sophistication or naïveté.

**FOR NOW,
CANNABIS
BUSINESSES
ARE HANDLING
LOTS OF
CASH, WHICH
PRESENTS
NUMEROUS
RISKS.**

PRODUCT LIABILITY CLAIMS

Insurance law for cannabis-related risks is not developed, and product liability lawsuits against manufacturers of cannabis products are a top concern. Accordingly, investors and companies should review their insurance policies

>> CONTINUED ON PAGE 90



CenturionPro[®]
 ELITE TRIMMING TECHNOLOGIES

THE ESSENTIALS OF EVERY COMMERCIAL GROWERS BUSINESS

POWER OF 40 BLADES



Does the work of
over 40 people



15 - 24 lbs. / hour
processing capability



75,000 + cuts
per minute



GLADIATOR Noun [glad-ee-ey-ter]

"A gladiator was a armed combatant who entertained audiences and condemned criminals. Some gladiators were volunteers who risked their lives and their legal and social status by appearing at the shows"



PROVIDING SECURITY AND COST SAVINGS WITH ELITE TRIMMING TECHNOLOGIES



1 855 535 0558

WWW.CPROSOLUTIONS.COM

INFO@CPRO SOLUTIONS.COM



<< CONTINUED FROM PAGE 88

with counsel and understand that coverages may be limited or challenged by insurance carriers.

BACKGROUND CHECKS

An investor should not be surprised if a cannabis entrepreneur developed his or her interest and expertise long before legalization. It is therefore wise to conduct criminal background checks on the founding team. An arrest for possession at a frat party a decade ago may be overlooked, but if a member of the founding team, for example, served time in prison for numerous violations, the investor should seriously consider passing on the opportunity.

MARKET ACCEPTANCE

Even if a majority of voters support adult non-medical use of cannabis products, retailers and distributors may be reluctant to carry them for a variety of reasons.

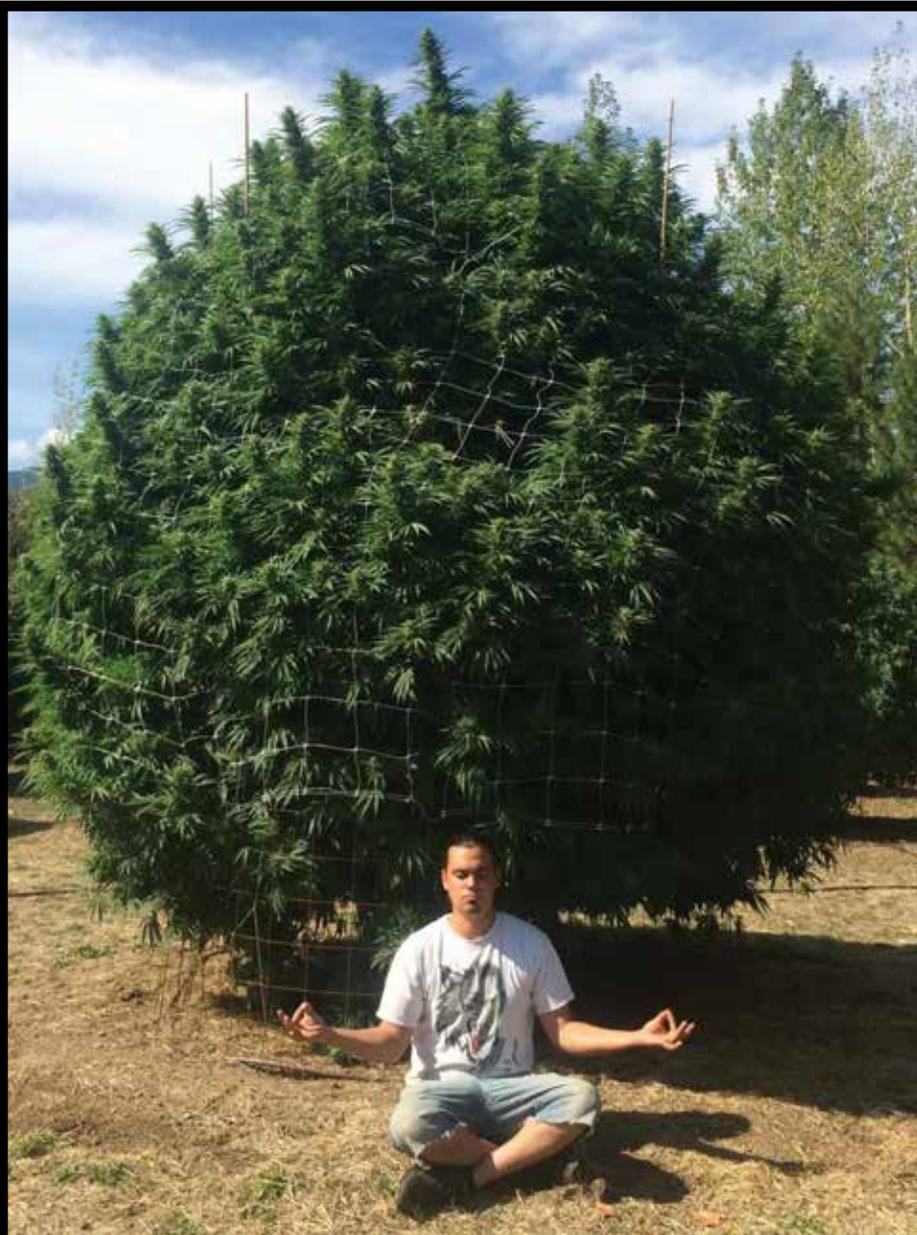
One common mistake that entrepreneurs make is the belief that their product is so good that it will sell itself. Cannabis products are no exception, and have the added challenge of convincing retail partners to carry their products.

CONCLUSION

These are only a scattering of some of the risks that a prospective investor should consider. Risks may also arise in connection with oversupply, intellectual property (inability to register a federal trademark), lower-priced competition from the black market, labor issues, and of course, more general risks arising from agricultural, supply chain, employment and economic/market conditions.

Many more risks that prudent investors should be aware of and companies should disclose will certainly develop along with the industry and changing law. Identifying and anticipating such risks is essential in this very green field.

Andrew M. Walsh is an attorney in Anderson Kill's Stamford, Connecticut office. He advises entrepreneurs, emerging companies and private equity investors, including those in cannabis-related ventures, in company formation, capitalization, mergers and acquisitions, commercial transactions and corporate governance.



ENTER THE

**MARIJUANA
VENTURE**

PHOTO CONTEST

We want to see your biggest and most beautiful plants! Send us photos of your monster plant or garden, and at the end of the season, the best of the best will be selected for a number of cash and advertising prizes. Photos must be high-resolution and allowed to be published to qualify for a prize.

For more information, or to submit an entry, email
Editor@MarijuanaVenture.com



HempTech

An Infrac Systems Company

HempTech Corp. provides design, personnel and professional services, configuration and support for any project from site selection to first harvest. Our Engineering and Professional Services are specifically developed to address the needs of the agriculture and cannabis grow industry.

HempTech Corp. clients are provided solutions from enhancing an existing grow to a complete turnkey solution, from property development to installing grow system and computer automation, be it a greenhouse or an indoor grow facility.

HempTech Corp. offers technology packages for grow facilities for the 21st century.

Grow Smart. Grow Better

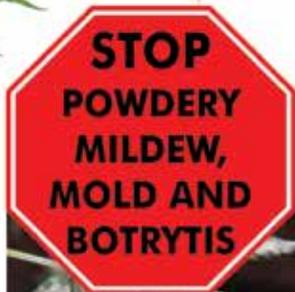
Please visit www.hemptechcorp.com

Helping America's Tomorrow Take Root Today



3637 4th Street North, #330
Saint Petersburg, FL 33704
Phone: (727) 474-1810

Follow us



Air Sanitation

**SAFE SUSTAINABLE ALTERNATIVE
FOR TOXIC PESTICIDES**

- Destroys Airborne Fungal Diseases (Powdery Mildew, Botrytis & Mold)
- Easily Integrated Into These Rooms; Vegetative, Flowering, Drying/Curing, Cloning & Labs
- No Toxic Gases Or Chemicals
- Energy Efficient - Less Than 2 Amps

Mention This Ad For Free Shipping



KES Science & Technology, Inc
1-844-247-3913
www.kesair.com



KNOW THE ROADBLOCKS

Before investing your money, spend some time learning the landscape

By Dr. Aseem Sappal

Crossroads, right turns, speed bumps and highways. Sound like directions? Perhaps, but this isn't the yellow brick road. The bricks are green and navigating the roads of the cannabis industry faces its fair share of roadblocks.

If you have travel plans to enter the licensed and regulated marijuana industry, be prepared to hit a few pot holes. But understanding what to do and what not to do within the industry should be your first stop.

It's not only important to find your area of interest or niche but your area of expertise. What you don't want to do is start

a business without any business experience. The fact that your main commodity — marijuana — is something that is still sold on the street doesn't make business management or dispensary operations any easier. In fact, the challenge is greater as you have far more regulations and far less tax breaks. This is often when a grower and businessperson may choose to partner their skills.

For the purpose of this article, we will focus on four aspects under the umbrella of marijuana enterprise: law, business, dispensary operations and horticulture.

>> CONTINUED ON PAGE 94

Your Electrical Solution To Your Cannabis Grow



DO YOU NEED AN ELECTRICAL CONTRACTOR TO DESIGN AND BUILD YOUR CANNABIS GROW OPERATION FROM THE GROUND UP?



Since 1971, Hamer Electric, Inc. has been an electrical contractor located in Southwest Washington. Due to our long history of

experience, we have the capability to follow a project from conception to completion—including the engineering, designing, and installation—of your electrical system.

“Hamer Electric is the contractor to contact when it comes to providing electrical services for your cannabis grow operation”

We have more than three years of experience specifically designing and installing cannabis growing operations, including assistance with the permit and plan review process. Additionally, we have the knowledge and resources to help you choose your lighting and power distribution system to provide you with the most cost effective system to suit your needs.

- Design Build Services
 - LED Lighting Service Design
 - HID Lighting Service Design
 - Timing Controls for Lighting
 - Air Circulation/Movement
 - Hydro Setups
 - Life Safety Exit/Egress Planning
- Permit Processing
- Plan Review Processing
- Training
- Professional and Friendly
- No Job too Big or Small



Hamer Electric, Inc.

Commercial Division
126 Industrial Way
Longview, WA 98632
(360) 636-2227 Office
www.hamerelectric.com

Please call for a free estimate >>>

LEGAL MATTERS

Before you do anything in the cannabis industry, it's imperative that you understand your local, state and federal laws. Keep in mind that cannabis is federally illegal. Whether you're talking about one plant, one seed or one flower, the federal government sees it as a crime. So take this moment to give yourself a pat on the back for helping legitimize, monetize and materialize this nascent enterprise.

If you're entering this industry, you should have a number of legal questions for an attorney. Have your questions prepared so you can get as many of them answered before your \$400 hour expires. It's important that you also understand your rights as a citizen, business owner and patient. Keep in mind that it's not just important to know your rights, but know how to exercise those rights.

If your state has medical or recreational marijuana laws and you operate within those laws, that doesn't mean you cannot be arrested. Remember, anything can happen when you have an encounter with law enforcement. Not all politicians, law enforcement officers, dispensary owners or even marijuana doctors know the law in its entirety. It's often open to interpretation and left for the courts to sort out.

Having a medical marijuana card doesn't make you exempt from arrest. So how do these marijuana laws help you? The difference is prosecution versus arrest. You can still get arrested in this endeavor, but if you follow state law you should be safe from state prosecution. But because marijuana is federally illegal, you are technically still subject to federal mandatory minimum sentences, so it's important to study those guidelines. The good news is that the federal government has recently backed off on interfering in state affairs, but remember that doesn't mean it cannot happen.

You should consider retaining both a business attorney and criminal defense attorney for your team. Generally all state marijuana initiatives that have been approved by voters were partially written by or assisted by these two types of attorneys. Seek them out. Working with them assures you that you're working with very experienced industry experts.

BUSINESS

Do you want to work directly with mar-



ijuana or prefer an ancillary business? You don't have to touch the plant to work in the cannabis industry. Figure this out before speaking with your attorney so you know what questions to ask.

Plan out your business name and DBA. Do not use cannabis-heavy names for your legal business name, because you may run into issues when retaining a

bank. Research banks and merchant services that will work with the cannabis industry.

Know that even if you have an ancillary business that has nothing to do with marijuana, you can still have issues with banks and merchants services, especially if you have the word marijuana in your business name. If big banks won't take your mon-

ey, you can always try small, local banks or credit unions.

You can and should know which legal business entity works best for you and your portfolio, whether it's a corporation, sole proprietorship, partnership or limited liability company. A mutual benefit corporation works well for an individual that will be the sole board member, such as a one-person delivery business. Cooperative corporations require three board members and cost more to form, but for many businesses they offer greater protection.

If you have assets, then generate an asset protection plan. Understand the potential for asset forfeiture. Study recent case history and discuss best entities alongside a potential trust with your accountant and/or attorney.

Make sure you know section 280E of the IRS code. It states the following:

"No deduction or credit shall be allowed for any amount paid or incurred during the taxable year in carrying on any trade or business if such trade or business (or the activities which comprise such trade or business) consists of trafficking in controlled substances (within

PEOPLE FEAR WHAT THEY DON'T UNDERSTAND. PROVE THEM WRONG.

the meaning of schedule I and II of the Controlled Substances Act) which is prohibited by Federal law or the law of any State in which such trade or business is conducted."

Know that cannabis is a Schedule 1 controlled substance, which means that it has no medical use, according to the United States government (despite the government's ownership of Patent 6630507 B1, which registers cannabinoids as antioxidants and neuroprotectants).

In business, it's important to get out of the red and into the black. In this business it's important to get out of the gray area first.

DISPENSARY OPERATIONS

The moment you open up a dispensary,

law enforcement will pay you a visit. You just may not know when they do. Good or bad, they will pass judgment on your operation the moment they walk in. Do you operate a professional, even clinical patient facility or is it less serious, safe or secure?

Do you remember the last time you went to a store? Were you treated well? Provided good customer service? Will you go back? Law enforcement will judge you the same way you judge stores. A dispensary is no different. Give them a reason to believe you are providing a quality and much needed service to the community.

Don't just sell dried cannabis. Provide cannabis in other methods of ingestion. Provide sublingual tinctures, topical applications, edible medicine or even inhalers. Provide literature, resources and educational materials. Use proper labels on your products and have them lab tested. Doing so shows that you are less concerned with cash and more concerned with care and compassion for patients and customers.

Train your staff on the different strains,

>> CONTINUED ON PAGE 96

LABEL IT – BRAND IT

Fast • Easy • Affordable

- Increase Brand Recognition
- We Know Your Requirements
- We Have It All — Laser/Inkjet, Foils, Full Color, Rolls & more...
- Any Shape, Any Size, Any Quantity
- Instant Online Quote & Order







www.MaverickLabel.Com/mv2
mj@MaverickLabel.Com
800-537-8816

See us at **CANNACON**
DENVER June 11, 12 & 13



MARIJUANA VENTURE

THE JOURNAL OF PROFESSIONAL CANNABIS GROWERS AND RETAILERS

Marijuana Venture is the only monthly B2B trade publication dedicated to the legal, licensed cannabis industry.

**One Year
(12 issues) \$39.99***

*Offer includes print & digital issues

**One Year Print Only
Subscriptions \$29.99**

**One Year Digital Only
Subscriptions \$19.99**

**SCAN &
SUBSCRIBE**



GROWER? RETAILER?

We offer complimentary subscriptions to companies licensed as growers and retailers.**

SUBSCRIBE NOW AT
www.marijuanaventure.com

**Go to <http://www.marijuanaventure.com/subscription-request> for complimentary subscription. Must be a qualified businesses related to the growing and production of marijuana.

<< CONTINUED FROM PAGE 95

genetics and terminology. Don't use words like weed, or street terms like "zip" to reference quantities. Take your time with customers, as you often need to exercise patience with new patients and people unfamiliar with cannabis.

Remember when you move into a neighborhood, your neighbors may be uneasy.

People fear what they don't understand. Prove them wrong. Introduce yourself with a handshake and a smile. Don't allow your customers to use products in your parking lot. Have your security guard circle the block. When you clean outside your entrance, clean to the left and right of your neighbors' entrances. Have your staff patronize the local restaurants. There will be public hearings regarding your business. When there are, rather than calling you a nuisance, they will say that the block is cleaner, crime has gone down and business is better.

If you're planning on opening a dispensary, you still need to understand the basics of growing cannabis for two primary reasons. The first is that many states require dispensaries to cultivate their own products.

The second is that the dispensaries need quality assurance that includes an educated conversation with their suppliers.

Ask your growers what type and wattage lights they use for growing, what medium they use and how they treat pests and pathogens or mold and mildew. Do they use organic or veganic nutrients or neither? This will also help you grade and price your product for retail.

HORTICULTURE

Just as there are many ways to grow cannabis, there are just as many ways to maintain safety for your grow, your crop, your employees and yourself. The first is security. Security starts with silence. Be discrete about talking about your grow, and be careful about showing the size and location of your facility. Do not poke the bear.

Exercise safe and responsible practices. Make sure your electrical is set up by a licensed electrician. Do not steal electricity. Exercise proper waste disposal of chemicals and nutrients. Do not empty contents into the sink. Do not place trimmings in your garbage. Keep in mind that

IF YOU'RE PLANNING ON OPENING A DISPENSARY, YOU STILL NEED TO UNDERSTAND THE BASICS OF GROWING CANNABIS.

your outside garbage is public property and anyone can go through it once it's on the curb.

Transportation is a big concern for growers. Before you transport your product, have a friend help you with your vehicle check. Check to make sure your break lights and signal lights are working. Do you have bald tires? Do you have a tassel hanging from your rear view mirror? How about bumper stickers? Law enforcement can potentially use any of these reasons to pull you over. Keep any cannabis in a locked container in your vehicle. It is best not to speed or cross state lines while driving. Never drive under the influence of marijuana. Don't give law enforcement a reason to pull you over.

Now, you might say, 'Why should I be concerned with these things when I am following local and state laws?'

Although you are following the law, that doesn't mean every law enforcement officer knows that. Following state marijuana laws doesn't mean you can't be hassled or arrested. You can win your argument in court, but exercising these practices can avoid the headache all together.

Your best GPS in navigating a marijuana-related business venture is an education in higher learning. Don't just invest your money, but invest your time into as much research and education as you can. And remember, if you don't follow the rainbow, you won't find the pot ... the pot of gold, that is.

Dr. Aseem Sappal is the provost and dean of the faculty at Oaksterdam University, which has been conducting cannabis-related educational programs since 2007.

Photos by Sonja Yuel/Drug Policy Alliance

Don't Let

VAPORTEK® 

Odor Nuisance Ordinances

Affect Your Business!



Optimum 4000™
Treats 20,000 ft³
—Residential/commercial space—



Heavy-Duty Standalone™
Treats 20,000 ft³
—Industrial/commercial cartridge—



Vapor Shark®
Treats 10-50,000 ft³
—Industrial space—

◆ No Ozone & No Chemicals

◆ Moisture Free

◆ Safe & Botanical

◆ American Made

Pioneering simple solutions for tough odors naturally since 1979

VaporTek's environmentally preferable technology is available in a variety of delivery systems. Originally developed for use in cancer wards, our unique, safe technology has successfully serviced many markets faced with organic odors for the past 36 years, including hydroponic and marijuana markets. Our internationally renowned dry vapor systems utilize natural essential oils to eliminate smells, not mask. Use our proven technology in grow room and on smoke odors alike, and replace carbon filters, ionizers, gels, sprays, etc. with our economical systems. Try us risk free today!



Visit us at www.VaporTek.com



**SUPPLYING GREENHOUSES & GREENHOUSE SYSTEMS
to WASHINGTON GROWERS for 19 YEARS**

Let us Design and Build your Greenhouse,

Structures, Systems, Lights, Black Out & Retention Curtains, Benches, Automatic Controls

800.256.0021

sales@hortservicesinc.com

hortservicesinc.com



A grower lifts the lid to reveal an impressive root structure of a cannabis plant.

Go with the Flow

Taking a dive into water culture and hydroponic growing techniques

By Chris Bayley

With various levels of legalization being implemented across the nation, an increasing number of cultivators are practicing all-natural gardening techniques while taking advantage of temperate, sunshine-infused climates. This is mostly due to working within the parameters Mother Nature has provided.

However, for many growers, these great conditions simply may not exist (hello, Alaska!). For those growing indoors, water culture is an alternative to using soil that lands on the opposite end of the cultivation spectrum.

Growers even have the choice to ditch mediums altogether if they want to. No medium? That's right. Some hydroponic systems like the nutrient film technique (NFT) rely on a thin layer of water that travels through enclosed channels, whereby plants retrieve all the nutrient-rich solution they can tolerate.

If you're an indoor grower, and knocking out heavy, consistent crops is your goal, then using a hydroponic system might just be what the doctor ordered. Controlled environments and hydroponics go hand-in-hand, and the combination gives growers the chance to really push the extremes that are possible when growing indoors.

Arjan Roskam, owner of the Greenhouse Seed Company and a great proponent of synthetic growing, once said "Grow big or go home," and that's exactly what this growing methodology is all about.

In this article, we'll discuss why hydroponics and controlled-atmosphere growing environment (or C.A.G.E. for short)

work so well together. We'll look into the different parameters needed to fully optimize this growing technology, and then we'll wrap things up by reviewing the most applicable hydroponic systems for unleashing your plant's genetic potential.

THE THOUGHT OF GROWING INDOORS AND NOT IN THE GROUND MAY SEEM UNUSUAL, AND A LITTLE COUNTER-INTUITIVE TO SOME GARDENERS.

REPLACING MOTHER NATURE

The thought of growing indoors and not in the ground may seem unusual, and a little counter-intuitive to some gardeners. Right out of the gate, the decision to grow indoors defies thousands of years of plant evolution, which have blueprinted plants to work within multiple symbiotic relationships that exist outdoors. The challenge that exists with growing indoors is to replicate Mother Nature using artificial lights and HVAC equipment, while simultaneously getting plants to thrive when clearly out of their element.

Lucky for us gardeners, plants, like humans, have different ways of utilizing nu-

trients. Outdoors in nature, plants utilize what's called the soil food web (SFW) to receive their nutrients. When growing with synthetics, you bypass the SFW system and are essentially force-feeding plants.

It's akin to humans receiving nutrients intravenously as opposed to eating. The nutrients get there, just by a different means of delivery. It's this different delivery system that makes hydroponic growing possible.

PUSHING BOTANICAL EXTREMES

A good analogy to explain the extremes that plants can be pushed to comparing a "natural" athlete to a performance-enhanced athlete. We have all heard by now how prevalent the use of performance-enhancing drugs are in the professional sports world. Just as these artificial means allow athletes to reach new levels of performance, cannabis producers can use C.A.G.E., hydroponics and CO2 to "push" their plants well beyond standard growth rates. Growing "performance-enhanced plants" really has no downside in the short term. Like with humans though, these high-performance rates would likely take a toll on the plant's physiological system if it were to endure these extremes over a sustained period of time.

However, this should be of no concern, considering that most hydroponically-grown cannabis can go from clone to crop in under 12 weeks.

Consistent, heavy crops are a direct by-product of combining beautiful growing conditions with a dialed-in fertilizer reg-

>> CONTINUED ON PAGE 100



Young clones growing in a Current Culture H2O setup.

<< CONTINUED FROM PAGE 99

imen. The goal should really be to grow your plants in what's referred to as "pharmaceutical" type growing conditions. The fertilizer regimen includes the nutrient formulation, nutrient ratios and total dissolved solids, as well as the frequency and duration of feedings.

Here's one of the biggest secrets to achieving a high metabolic growth rate in plants (and it's the same for humans) — don't ever feed the plants more than they need. This concept seems simple, but unfortunately this idea gets largely overlooked in the synthetic growing community, where more is generally considered better. The goal should always be to use as little fertilizer as possible, or rather, learn to match the nutrient strength to the plant's growth rate.

HYPER GROWTH PARAMETERS

There are a multitude of factors to keep in mind when you begin pushing plants past their normal growth rates, and when doing so, it's mandatory that all other pa-

rameters adjust accordingly. The old adage about the weakest link in the chain absolutely applies when obtaining this level of performance. Here is a breakdown of the parameters you'll want to manipulate in order to facilitate faster than normal growth rates.

CO₂

Our earth's atmosphere currently has an ambient CO₂ concentration of around 400 parts per million, which is up from around 250 parts per million before the Industrial Revolution went into full swing, starting in the mid- to late-1700s. Scientists have been experimenting with increased concentrations of CO₂ to learn just how much plants can utilize. Through these experiments, it's been observed that plants can handle upwards of a 500% increase in CO₂ concentrations, which would be around 2,000 parts per million. Even though plants can handle those high concentration levels, a more ideal CO₂ level for indoor cultivation is around 1,500 parts per million.

Plants are more efficient at utilizing these increased levels of CO₂ if the grow room temperatures are kept in the 80-85 degree range, which may prove favorably for growers having a hard time keeping their temperature in check. Keep in mind that if you're relying on constant ventilation to keep your room cool, then adding CO₂ will be a waste of time. CO₂ is best used in rooms where the ambient air temperature can be kept in check via air conditioning systems that recirculate the air rather than removing it.

Also, if you're attempting to operate what is known as a closed-loop growing environment, then CO₂ will be mandatory. These closed-loop systems rely on sensors to maintain a preset CO₂ concentration level.

HEAT

Along with in-room environmental regulation, the temperature of the water used in your hydroponic system may need to be augmented also. This is accomplished through a piece of equipment call a water

Photos courtesy Current Culture H2O

chiller. These systems are closed-loop water recirculators that operate just like the radiator in your vehicle. As water recirculates from the growing system's reservoir to the chilling unit, the nutrient water passes through coils where air is used to wick away the heat. There are industrial units capable of handling commercial size operations.

If you are having a hard time regulating the ambient heat in your grow room, you will need a system like this to keep your plants happy and thriving. Plants can withstand higher temperatures in the growing rooms as long as the solution their roots are subjected to can be kept between 68 and 74 degrees.

OXYGEN AND TEMPERATURE IDEALS

Aside from oxygen being one of the essential nutrients for plant survival, root systems live and thrive in an aerobic world. The amount of oxygen that can be contained within the nutrient solution and utilized by the plants is referred to as dissolved oxygen (DO). There is a direct correlation between temperature and DO levels. The higher the temperature rises in the nutrient solution, the less DO the solution can hold.

In order to fully saturate your nutrient solution, you'll want to use an air pump along with air stones. Air stones break the incoming air stream into very small bubbles, which create a greater surface area, or point of contact, for the oxygen to dissolve into the nutrient solution. Creating a waterfall effect within the hydroponic system is another great way to keep the solution fully saturated. Full oxygen saturation is important for accelerated growth.

CHOOSING THE RIGHT SYSTEM

With so many ways to cultivate hydroponically, how does one go about deciding which method to use? To answer that question, let's talk about the considerations to keep in mind when contemplating water culture systems. Then we'll take a look at the systems that are available and how they operate.

USER-FRIENDLY SYSTEMS

Hydroponic systems come in a variety of styles. In the simplest terms, a basic hydroponic system can closely mimic growing in containers with soil, or can be as technical as a fog-infused aeroponic system. Whichever type of system you decide

to go with, just remember, cleaning the system will be imperative between crops. The time involved for cleaning your system will be predicated on the complexity of the system. It's highly recommended to follow the KISS philosophy here (keep it simply smart), especially until you've got a solid grasp of these growing methodologies' idiosyncrasies.

SOLUTION OR MEDIA BASED SYSTEMS

Some hydroponic systems require a medium to be used; others can be operated without using a medium at all. The biggest difference between the two is the buffering capacity that using a medium will provide.

Buffering capacity is defined by a medium's ability to resist pH fluctuations throughout the growing cycle. Stabilizing the pH is critical for averting nutrient deficiencies and toxicities, which can happen through nutrient lock-out if the pH swings too far up or down. Growing mediums all have some degree of buffering action that can help stabilize the pH.

Solution-based growing systems have no medium to help buffer the nutrient solution's pH and therefore must be monitored.

>> CONTINUED ON PAGE 102

PROVEN PRODUCTION SYSTEM | DESIGNED FOR COMMERCIAL GROWERS

CURRENT CULTURE H₂O

- We're a manufacturer of high performance cultivation systems and premium plant nutrients used at commercial grow facilities throughout North America.
- Our patented **Under Current®** water culture systems are considered by many to be the world's most productive and efficient method for plant cultivation. When used in conjunction with our **Cultured Solutions®** nutrients, Current Culture H₂O offers commercial growers a **Proven Production System**.
- Let our industry experts provide you with the tools and techniques necessary to optimize yields and increase your profitability. For more information on facility design, system recommendations or general questions, contact our **CCH2O Commercial Division** at 559-266-4769 ex.3 or commercial@cch2o.com

CULTURED SOLUTIONS

GREENHOUSE SINCE 2006 GRADE

CULTIVATING HYDROPONIC EVOLUTION

More info @ www.cch2o.com

tored constantly.

MEDIUM CULTURE

This type of system requires a medium that the plant's roots will need to grow into. Simply fill your containers with a soilless mix or other inert medium which can then be hand watered. To automate this system, place the containers into flood and drain tables. Next, connect a reservoir to the table via poly hoses, and then attached to pumps, and voila, you just automated the system. This simple system can be scaled up as much as you'd like — no size is too large. This is a bottom-feed system that relies on the capillary action of the medium to move moisture up the container.

Stone wool works wonderful in this type of system. It's an inexpensive way to grow hydroponically on a large scale, while producing great results. Top-feed systems, also known as drip systems, are just like the bottom-feed system, except it uses drip emitters that allow nutrient solution to enter the top and flow out the bottom. An advantage to a top-feed drip system is that the medium gets continuously flushed with every watering, taking away excess salts in the process.

Stone wool, perlite, vermiculite and expanded clay aggregate are some of the best substrates to use in medium culture. Commonly, these substrates are mixed to achieve differing levels of solution retention. There are many more substrates that could be used, but on a commercial scale, inert mediums are more suitable for decreasing possible pathogenic contamination. However, using biodegradable all-natural mediums have their upsides, such as being compostable, as opposed to taking up landfill space. These substrates include wood byproducts, coconut coir and rice hulls. A newer substrate some growers are experimenting with is sheep's wool, which acts much in the same way as stone wool, but is completely renewable, like with the other natural sources. With different solution retention properties, some mediums will require one to two feedings a day, whereas others will require hourly feedings.

SOLUTION CULTURE

Just as the name implies, these type of hydroponic systems require no medium at all. These systems operate by constantly submerging the plant's roots in the nutri-



Maturing plants thrive in a hydroponic system.

ent solution, or are intermittently sprayed on timed cycles, or a hybrid system using both. The different systems that fall into this category are NFT, deep-water culture (DWC), aeroponics and fogponics. Unlike medium-based systems that offer some buffering, solution-based systems require the most attention. Depending on your experience level, it may behoove you to work your way up to these types of systems. The margin of error is smaller with solution-based systems and doesn't take long for things to get out of control.

HYBRID SYSTEMS

Here is a solution-based hydroponic system that incorporates multiple system designs with outstanding results. This system integrates flood and drain tables with the operating efficiency of an NFT system.

This system has been dubbed CRSPT, which stands for continuous-recirculation shallow pool technique. Most often the system is operated using four-foot by eight-foot flood and drain tables. Panda plastic or dark-colored Plexiglas sheets are used to sit atop the trays. Panda plastic can be cut to allow the placement of rock wool blocks, or your medium of choice, through to the tray below. If a medium-free version is desired, spaced holes in Plexiglas can receive neoprene pucks that are used to hold the plants in place. Once the plants are placed into the system, the pumps are turned on permanently and the water level is set to about a half inch. It is not uncommon to end up removing a one-inch deep mat of roots out of this system upon harvesting. This is an important point that should not be overlooked because a larg-



er root system is directly correlated to a plant's eventual size.

ALL-NATURAL HYDROPONICS

The two most common terms describing the use of all-natural fertilizers in hydroponics is organoponics or bioponics. The attempted goal of this experiment is to replicate the quality potential of cannabis grown using an all-natural living soil mix. This method is perhaps the most difficult growing methodology in all of horticulture to master. Growers using this method are attempting to replicate the SFW within a liquid construct. There's no place for stagnation in this system, and it's absolutely fascinating. Get some time under your growing belt before taking this one on, but for seasoned growers, it is definitely a worthy challenge to experiment with. And

if pulled off successfully, the results will be nothing short of spectacular.

CIRCLING THE VORTEX

One great thing about hydroponics is that there are systems for any skill set. These systems can operate anywhere in the world. For example, NASA exclusively experiments with water culture as its choice for plant cultivation in space, which is one of the hurdles for interstellar exploration. Closer to home, hydroponics make it possible to grow food and cannabis in places that would normally be inhospitable to growing plants at all, such as our planet's Polar regions.

Water culture is truly a beacon of hope for some. However, this article would be remiss if it didn't address the main reason hydroponics gets a bad rap. Thousands

of gallons of used nutrient solution gets dumped into our environment each year. Although this pollution pales in comparison to large-scale petro-chemical agriculture, it damages the environment all the same. If hydroponic systems are managed correctly, it's possible to cut back on what exits your facility by 95%. There is no reason why cannabis growers shouldn't take the lead in demonstrating earth-friendly agricultural practices. Hydroponics does have the capacity to be green. And isn't being green what it's all about anyway? Until next month, remember, stay focused and let it grow.

Chris Bayley operates Hortistrukture, Inc. and Elemental Gardener out of Tonasket, Washington. He can be reached at 509-710-2820, or through hortistrukture.net.





Pro tips for growing a better cannabis crop

Understanding your soil, your strain and your process will improve yields and the final product

By Jennifer Martin

In this emerging age of state-legal marijuana manufacturing, professional growers need to strive for continually improving results in order to stay viable as businesses.

Growing cannabis is somewhat of an art, but it's also a science in the sense that you can systematically up your game by testing and implementing new equipment and methods. Just like the human body, the full potential of the cannabis plant is unknown and not yet realized. Truly professional growers approach their cultivation technique the same way athletes employ special diets and physical exercises to keep reaching new world records.

Here are some tips to help build and maintain a top-notch cultivation facility.

KNOW YOUR MEDIUM

What are the particular traits of the different root-zone media, and how do their tendencies affect the nutrient regimen and the watering system?

Water culture has its own special needs in order to work properly. Cocofiber, inert media (like rockwool) and soils do too. How fast does the water move across the roots and how frequently does it need refreshing with food and oxygen? This will vary noticeably from one medium to the next and needs to be identified and balanced as quickly as possible.

Since cannabis plants grow and change throughout their lifecycle, balance can be

SINCE CANNABIS PLANTS GROW AND CHANGE THROUGHOUT THEIR LIFECYCLE, BALANCE CAN BE A MOVING TARGET.

a moving target. They'll use less food and water when first planted and more over time, with nutrient proportions changing as plants progress through the flowering cycle.

Additionally, each medium has its own tendency toward grabbing and releasing nutrients to the plants that depends on several factors such as cation exchange capacity (CEC), pH and microbial activity.

KNOW YOUR WATER AND NUTRIENTS

Send your source water, soil mix and nutrient solution to a local lab for testing. Your pH and TDS (total dissolved solids) meters will tell you some of the story, but the lab will give you very specific data.

When it comes to nutrients, keep in mind that the labels never really tell the

>> CONTINUED ON PAGE 106

whole story.

Labeling laws require listing the proportions and percentages of three significant nutrients — nitrogen, phosphorus and potassium (N-P-K) — but they don't require listing details about the 11 others: calcium (Ca), sulfur (S), magnesium (Mg), boron (B), chlorine (Cl), manganese (Mn), iron (Fe), zinc (Zn), copper (Cu), molybdenum (Mo) and nickel (Ni).

Marijuana plants prefer a certain proportion of all these elements, but there's no way to know if your water, medium and nutrients comprise the right combination without scientific testing.

Soil testing labs will accept liquid and soil samples to analyze the quantity of available nutrients, and sending in regular samples for testing will allow pro growers to obtain and create nutrient maps that show where supplementation or adjustments in the feeding regimen are warranted throughout the course of the plant's lifecycle.

Some labs in cannabis-legal states will even accept leaf and flower tissue samples for nutrient analysis. Matching tissue analyses with soil and nutrient data will

MATCHING TISSUE ANALYSES WITH SOIL AND NUTRIENT DATA WILL PAINT A DETAILED PICTURE OF THE NEEDS AND TRAJECTORY OF THE GARDEN, WHICH WILL VARY SOMEWHAT BETWEEN DIFFERENT CULTIVARS AND ENVIRONMENTAL CONDITIONS.

paint a detailed picture of the needs and trajectory of the garden, which will vary somewhat between different cultivars and environmental conditions.

KNOW YOUR STRAINS

Dogs are all dogs, but Chihuahuas aren't much like German shepherds. The same is true with the physical nature of different cannabis strains. They are all cannabis, but some strains are like vines, others are like bushes, and many are in between.

Along with different physical profiles come different handling methods, and

even feeding regimens.

To get the most out of a cannabis garden, growers need to learn how to shape each strain with its own unique pruning technique. Lanky strains react better to more regular pruning early in life while stout strains need time to stretch out. Some strains branch more readily while others need encouragement. Each plant canopy yields the most when the optimal number of flowering tops is maintained.

This number can only be determined with experimentation over time.

The best growers have found that sweet spot with each strain and learn to train it to

Leasing Now - 100% Turnkey Facility

Receive 6 months Free Rent on ALL New Leases with a Purchase Option at the End of Lease Term!!



You Design → Your Space
We Build → Your Space
Your Cost → \$0.00

FOREVER GREEN FARMS

"A HIGHER LEVEL OF INDOOR FARMING"



**If a Plant Doesn't Grow, it Withers.
Don't Let your Business Withers
Position yourself to Grow!**

10,000 / 20,000 / 30,000 Sqft. Floorplans Available

7 of 21 Producer / Processor Spaces still Available!

www.forevergreenfarmswa.com

360.200.8722

*502 Approved site-plan, qualified tenants only



Dutch Methods

Growing with Dutch Rootz

Premium Medium



Certified for Horticulture

Dutch Methods LLC
1200 Westlake Ave N # 1006
Seattle WA 98109 USA
sales@dutchmethods.com



its ideal height and density for maximum yield.

MINIMIZE VARIABLES

Always make sure to properly balance experimentation with reliability. Perhaps the most common trait of a less experienced grower is allowing too many variables in the system, thereby not knowing which product or method is causing what result.

Removing as many variables as possible will make steady, ongoing improvement more feasible.

This means measuring and documenting as much data as possible, including photos that reflect the garden's physical changes that are associated with different handling techniques. The data must be reviewed, analyzed, compared with images, and lab tested in order to achieve optimal results.

CULTIVATE SYSTEM AWARENESS

With investors now taking their seats at the table and the wholesale value of cannabis flowers trending downward, good growers should make sure they use the most effective tools and methods to obtain

great results.

That means using quality testing meters, atomizers for effectively applying sprays, high-efficiency full-spectrum lighting, and reliable environmental control systems. All of these pieces must be assembled into a system that is ergonomic, efficient, safe and sensible for site workers.

Good workflow depends on the right tools and the right environment coming together, and workers always perform better when systems are sensible, simplified and well explained.

ENGENDER EMPLOYEE SATISFACTION

Create incentives for employees to care about results and reward them for improving their outcomes. Legal cultivation facilities receive hundreds of resumes from people excited to legitimately participate in the industry, and this phenomenon has driven down the pay rate simply due to the law of supply and demand. What many facility managers don't realize is that low-wage replaceable workers rarely go the extra mile to make sure problems are immediately addressed and details are attended to.

Flowering plants won't wait to get help.

The flowering process continues to unfold with its own countdown clock, and even one day of light, nutrient, or pH imbalance will stop plants from reaching their potential. Workers who care about outcomes will stay late to solve a problem as soon as it's identified, thereby minimizing the potential loss in value to the crop.

Cultivators in the legal cannabis industry must embrace complexity as a way of life.

Cannabis plants are living beings that are sensitive and reactive to their conditions, just as humans are. But unlike humans, cannabis lives its entire lifespan in a few short months, rapidly changing every day. Truly professional growers are those who combine a sharp eye with quick reactivity, the right materials, good tracking methods, scientific data and years of experience.

Jennifer Martin is the winner of the 1998 San Francisco Bay Area Cannabis Cup, and is a pioneer in the US marijuana clone industry. She currently speaks at national conferences and consults for the legal cannabis industry. She can be reached through her website MarijuanaPropagation.com.

HUMBOLDT COUNTY'S OWN

The real deal in Humboldt County

The **only** company in the industry dedicated to high performance additives:

Deep Breath / G10 (Gravitation #10) / Snow Storm Ultra / Purple Maxx / Killer Tea / Sonic Bloom

- Drastically increase mass w/out losing density
- Shorten veg cycle without using CO2
- Protect plants from accidental pollination
- Resin / fragrance enhancement
- Intensify color
- Trichome stimulator
- "Pharmaceutical quality" tea - no brewing
- Unique bloom Boosters - AND MORE

On-going R & D programs since 1998.
We can work with you to optimize effects for your particular plants. 5, 10, 30, 55, and 275 gallons

www.HumboldtCountysOwn.com • info@EmeraldTriangle.biz

FROM THE FIELD

By Chris Van Hook

Attorney at Law

Clean Green Certification Program

Crescent City, California

Date: 5-25-2015

This past month has allowed me to travel up through Oregon and Washington to visit clients and to get new farms certified. It was a good opportunity to see firsthand the issues looming on the horizon for the Washington State farmers and to compare the approaches taken by Oregon and Washington as both states try to fine-tune regulations for the legal marijuana industry.

The first thing that struck me was that Oregon's barrier to becoming a legal marijuana grower is set at a level that makes it possible for many small, diverse farmers to become legal growers under state law. This ease of entry does require state registration and other requirements, so it is not without effort. However, the cost of state compliance is low enough for many farmers to reap the benefits of this exciting new agricultural crop. A model such as this, where many cultivators from different economic levels can join the industry, and the economic benefits are shared by those throughout the state, is a far better model than the trend toward high entrance costs and high taxation.

Washington, by comparison, has made the entrance barrier difficult and expensive. The requirements of abundant security sys-

tems, fencing, product tracking, paperwork and a system of tax points has made the Evergreen State's legal market very difficult to get into for an undercapitalized farmer. Hence, fewer, but larger, farms are being developed. While this may seem good from a state security viewpoint, it is short-sighted in that the economic benefits to the state would be far greater if more residents who wanted to grow for the legal market could participate. Instead of the economic benefits being more equally dispersed throughout the economy, high entrance costs and limited entry give monopolies to a very few well-connected people. Limited entry makes the process of permit acquisition more susceptible to corruption and closed-door arrangements.

The manner in which the two states have allowed retail outlets, whether for medical or adult-use, to develop is also very different. In Washington, the state did not limit the number of grower applications, but it did limit the number of legal retail outlets. Hence, a large number of farmers got into the business and successfully grew more cannabis than could be moved through the limited number of legal outlets. This bottle-neck in

>> CONTINUED ON PAGE 110

<< CONTINUED FROM PAGE 109

the system created an over-supply of high quality cannabis, causing the farm price to plummet as growers jockeyed to get their product into the legal market.

Oregon, on the other hand, has again opted for lower barriers to entrance into the retail outlet market. Here, smaller producers or business people are able to navigate the permit process, as well as handle the expenses. So more outlets have opened, allowing for a more market-based equilibrium to develop between consumer demand, number of retail outlets and production. In Washington, an operation that grows cannabis is prohibited from opening a retail outlet. In the over-supplied market, the owners of the legal outlets are able to demand lower and lower prices from the producers. The fact that the farmers are not allowed to sell directly to their consumer puts a serious barrier in place to the orderly growth of the industry in Washington.

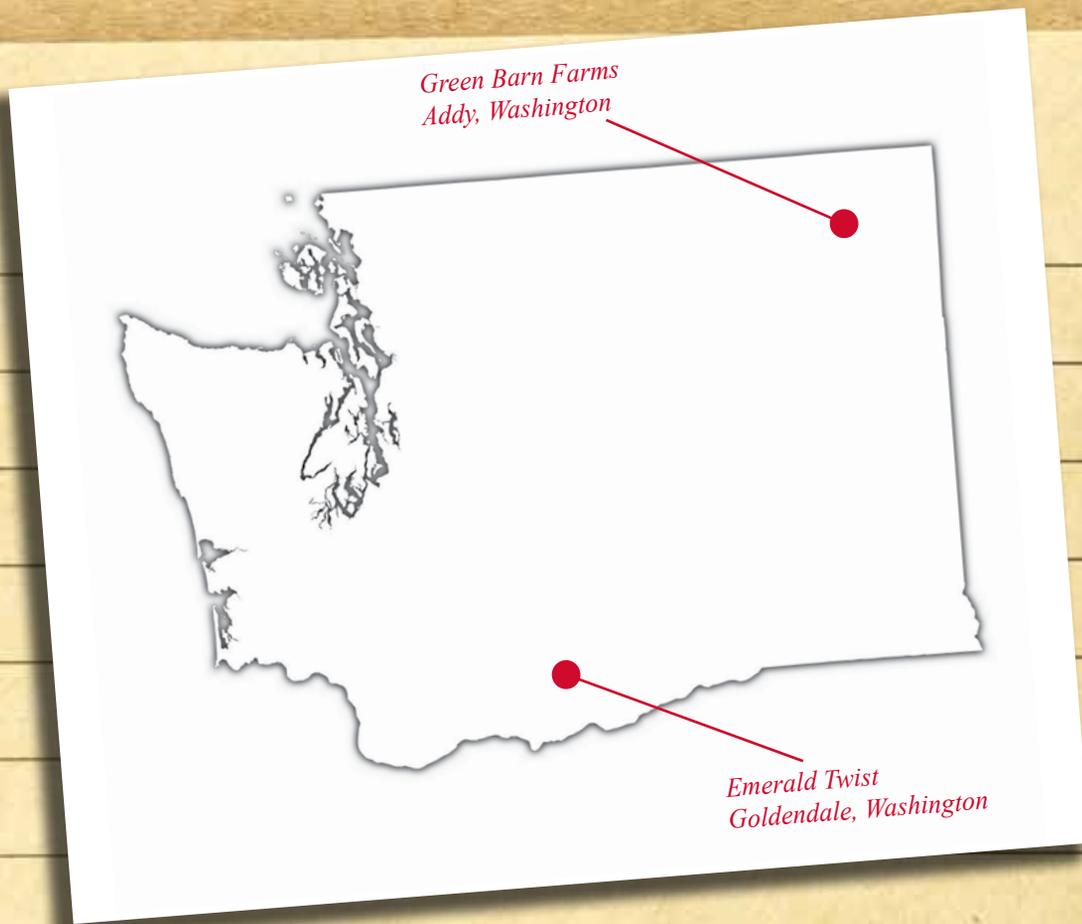
Lastly, Washington's current model of taxing the producer, processor and retail outlet separately has kept the price of legal marijuana so high that the black market has continued to thrive.

>> CONTINUED ON PAGE 112





Ryan Hamreus, co-owner of Emerald Twist Farm, meets with Chris Van Hook (right) to discuss the new crop. Photos courtesy Chris Van Hook and Green Barn Farms.



<< CONTINUED FROM PAGE 110

However, Washington farmers I've spoken with did have reason to be cautiously optimistic. The phasing out and reduction of the medical marijuana market will move a lot of those purchasers into the adult-use marketplace. A reduction in the tax bite from 75% down to the mid-30% range, more in line with the taxes on alcohol, would help open up the legal marketplace as well. Real solid growth in the production segment of Washington's industry will not be possible, however until the barriers to opening a retail outlet are lowered and the number of permitted outlets are allowed to rise.

All of the farms I spoke with in

Washington were frustrated with the packaging requirements of the state. Packaging large outdoor crops into 1-, 2-, and 3.5-gram packages is not only time consuming and expensive, but it has a huge environmental footprint as well. Cutting buds down to get an exact weight is a disappointment. One suggestion was to allow for the "deli weight" type of packaging, where a complete flower would be packaged and sold by its unique weight, much like random cuts of cheese.

Allowing producers to take bulk units to retail outlets where each sale will be weighed out and packaged at the point of sale would also help reduce the time

>> CONTINUED ON PAGE 114

Forever Flowering Greenhouses has been leading the Light Deprivation industry since 2006.

FFG offers greenhouses that meet or exceed NGMA standards from sizes to fit your backyard grow to fully compliant acreage size structures. FFG also offers greenhouse and light deprivation fabrics for designing your own system. Recognized as the Leaders in Light Dep FFG offers consultations to custom design for your individualized needs. Contact us to get your project done right the first time.

888-784-4687 or 530-273-5483
lightdep.com
info@foreverflowering.net
IG-foreverfloweringgreenhouses



KNOW BEFORE YOU GROW!

With opportunities in both the medical and recreational cannabis industries booming, you need a partner with decades of strategic and operational experience to help you decide when to plant and when to pass.



DUE DILIGENCE



STRATEGIC CONSULTING



PLANNING & OPERATIONS



PRODUCT DEVELOPMENT



LICENSE MANAGEMENT



OUTREACH & POLICY

CULTIVATION EXTRACTION INFUSION PRODUCTION RETAIL LICENSING BRANDING FACILITIES REAL ESTATE

Over **100** business feasibility studies produced
100% success in securing licenses in IL and NV

Visit our website to see how our experts can help you!



CANNABIS ADVISORS INSTITUTE

www.cannabisadvisorsinstitute.com



Farmer Brian
Crawley, hard
at work Green
Barn Farms.

<< CONTINUED FROM PAGE 112

and expense of the current system. One way or another, Washington will have to look at and amend its packaging regulations and requirements.

Two farms that are leading the way in this difficult industry are Emerald Twist (www.emeraldtwist.net), and Green Barn Farms (www.green-barn.com). Both Emerald Twist and Green Barn Farms are sun-grown farms in Eastern Washington. Both have reduced the amount of artificial light used to the minimum, relying mostly

on the full bright sunshine Eastern Washington receives during a large part of the year. Greenhouses allow both farms to extend their growing seasons, or to run a second light-dep crop during the natural growing season. Emerald Twist is entering its second year as a state-licensed grower, while Green Barn Farms is gearing up for its first season. Both farms see lower prices for their product as a real challenge to remaining viable in the industry, but both have begun taking steps to reduce their production

>> CONTINUED ON PAGE 116

FOR SALE OR LEASE

16 ROOMS ❖ 44,000 SQUARE FEET ❖ \$2,400,000

Large, insulated industrial warehouse on 14 acres of irrigated ground located in Okanogan County, Washington. The property is just off Hwy. 97 in Tonasket, about 20 miles south of the Canadian border, and could be a prime location for a Cannabis business.

CALL 509.322.4732 OR EMAIL BILL@MCDANIELPROPERTIES.NET



GROW GREEN™

with G8LED™ Technology

Full Spectrum Grow Lights for Healthy Growth & Maximum Yield



G8-90RR Red

Flower Booster

\$159



G8-240 Veg / Flower

Coverage 6+ Sq. Feet
110 / 240V - 1.2/0.7Amp

\$309



G8-450 Veg / Flower

Coverage 12+ Sq. Feet
110 / 240V - 2.2/1.0Amp

\$599

call for catalog [888.771.GROW](tel:888.771.GROW)
www.DormGrow.com

Become a G8LED™ Authorized Store at www.G8LED.com



An aerial view of Green Barn Farms in Addy, Washington.

<< CONTINUED FROM PAGE 114

costs and to market the benefits of outdoor, sun-grown produce.

Consumers have a lot of power by the choices they make with their dollars. Consumers need to consider the impacts their cannabis has on the environment. By supporting the legal growers within the state, Washington cannabis consumers can help reduce the black market industry. By looking for a sustainably-farmed cannabis, they can make a choice to support sound water use, farming methods that encourage environmentally-friendly farms and to reduce the reliance on fossil fuels.

Both Emerald Twist and Green Barn Farms are doing more than their share to move Washington's cannabis industry into a more viable and balanced future.

In the next installment, I will be traveling south through California where a major drought is playing havoc on all agriculture, including marijuana cultivation in particular. Nonetheless, growers are planting large numbers of plants hoping they will be able to secure the water. We will see you then!

Chris Van Hook is the program director for the Clean Green Certified Program (www.cleangreencert.com), as well as a California medical cannabis compliance attorney.

OAKSTERDAM



UNIVERSITY

CANNABIS CAREER TRAINING & CERTIFICATION COURSES

GAIN THE SKILLS NEEDED FOR THE CANNABIS INDUSTRY

LEARN HOW TO OPEN OR MANAGE A DISPENSARY,
STRUCTURE A LEGAL CANNABIS ENTITY,
PROTECT YOUR LEGAL RIGHTS UNDER
LOCAL, STATE, AND FEDERAL LAWS,
GROW, VEND, AND MORE!

WHY OAKSTERDAM?

- ✦ OVER 20,000 GRADUATES
- ✦ OVER 100 FACULTY MEMBERS
- ✦ ONLY \$35 TO \$45 PER CREDIT HOUR
- ✦ MOST ACTIVE ALUMNI IN THE WORLD
- ✦ ONLY HANDS-ON HORTICULTURE LAB IN THE WORLD.
- ✦ OUR FACULTY ARE THE MOST RECOGNIZED IN THE INDUSTRY
- ✦ HORTICULTURE INSTRUCTORS HAVE A MINIMUM OF 20 YRS GROW EXPERIENCE
- ✦ WE DON'T JUST TEACH THE LAW, WE HELPED WRITE IT.

15%
VETERAN
DISCOUNT

ENROLL ONLINE OR CALL (510) 251 - 1544

www.OAKSTERDAM.com

1734 TELEGRAPH AVE. OAKLAND, CA 94612



At Tetra Gardens, iUNU lights play a critical role bringing harvest to reality.

Technology that feeds the world

Energy-efficient lighting could help revolutionize farming, iUNU founders say

By Garrett Rudolph

For the Seattle-based team at iUNU, energy-efficient lighting isn't just about saving growers money on their electricity bills. Co-founders Adam Greenberg and Kyle Rooney believe it's about finding a way to feed the world's ballooning population in the not-too-distant future.

"By 2020 it will be nearly impossible to feed the whole world from farming outdoors," Greenberg, the company's CEO, says. "That's only five years away."

Greenberg says exponential population growth, coupled by major water shortages, could force traditional outdoor farming to move indoors.

"The way you end world hunger is you grow food closer to where it's needed most," Greenberg says. "Enabling that

radical change of growing food in greenhouses and indoors wherever it's needed is part of what we do."

Traditional outdoor farming means matching crops with the ideal growing climate, and therefore a tremendous amount of time, fuel and money spent in transportation. Nowhere is this more evident than an American supermarket, where one might find apples and cherries grown in Washington, avocados, grapes and almonds from California, corn from Illinois, oranges and grapefruits from Florida, lettuce from Arizona, potatoes from Idaho, broccoli from Texas and pears from Oregon.

"I look forward to the day where you have kiwi vines, you have grapes and mel-

**THE WAY YOU END
WORLD HUNGER IS
YOU GROW FOOD
CLOSER TO WHERE
IT'S NEEDED MOST.**

ons and this local ecosystem that is cultivating everything people are consuming, and that can be crops that are normally not found in their region because of climate," Rooney says.

"It would be cool to be able to empower that. When you factor in transportation

>> CONTINUED ON PAGE 120



GROWERS SUPPLY IS YOUR PREFERRED SOLUTION FOR ALL YOUR GROWING NEEDS

Energy-efficient designs. Growing solutions designed for you.
 Custom or turnkey hydroponic and aquaponic systems. Grow anywhere.
 Convenient one-stop shop for greenhouses, accessories, controls and more.



7-YEAR FINANCING
 ZERO DOWN, NO INTEREST & PAYMENTS
 - FOR UP TO ONE FULL YEAR -
Some restrictions apply

Think outside the bag



On crowded store shelves, your packaging must break through the clutter and make a great first impression with a potential customer. DCG ONE works with our clients to create specialty packaging that protects the integrity of their brand while delivering great product visibility.

CUSTOM PACKAGING MANUFACTURING
 HIGH QUALITY OFFSET & DIGITAL PRINTING
 CAD & GRAPHIC DESIGN
 FOIL STAMPING & LABELS
 PROMOTIONAL MERCHANDISE

DCG ONE

Linda Kepper • 206.829.2516 • linda.kepper@dcgone.com
 DCG ONE • 4700 9th Ave NW, Seattle, WA 98107 • dcgone.com

and time, a lot of fruits and vegetables aren't as fresh, flavorful or nutritious as they could be."

That concept may prove even more valuable outside the United States, where lack of resources and climate challenges make outdoor farming even more untenable.

However, the prohibitive cost of indoor farming comes largely from electricity, which was the driving force behind iUNU's origins.

The company introduced its energy-efficient dual plasma lights in October 2014 with the goal of providing a high-output, full-spectrum light for the entire indoor agriculture industry. Plasma technology, Rooney says, mimics the way the sun creates light, using radio waves to excite and ionize gases inside tubes.

"The combination of optics, performance and spectrum is some of our secret sauce," he says.

Greenberg adds that the iUNU lighting system was developed to be modular, so it's simple to replace individual components if a part malfunctions, as well as easy to upgrade as the company introduces

WHEN YOU FACTOR IN TRANSPORTATION AND TIME, A LOT OF FRUITS AND VEGETABLES AREN'T AS FRESH, FLAVORFUL OR NUTRITIOUS AS THEY COULD BE.

more advanced products.

"It's like Legos," Greenberg says. "You can just unplug something and plug something else back in to replace it. We don't want people to have to buy a whole new fixture."

While many lighting companies have aimed directly at the cannabis market, iUNU takes a fairly agnostic approach to marijuana.

"There are a lot of lighting companies out there that are focusing just on cannabis," Greenberg says. "We have to maintain the stance that we're better at growing everything."

The majority of iUNU's customers are cultivating greenhouse crops, such as tomatoes, peppers and cucumbers, as well as lettuce, Greenberg says.

"It is an expensive lettuce light, but for leafy greens and lettuce we're finding

there's a much different taste profile," he says.

"The same things you're seeing in food, where you're increasing flavor, you're increasing nutritional value, the smell and the aroma and the terpenes, all of that translates across a variety of crops," Rooney adds.

At about \$2,500 apiece, the iUNU dual plasmas do carry a steeper entry point than most HID and LED counterparts. The company is headquartered in Seattle, with its manufacturing facilities in nearby Auburn, Washington. It currently employs about 15 people.

"People always ask us, why aren't you manufacturing in China?" Rooney says. "There are so many reasons not to manufacture in China. ... We like to look at all the reasons we have to keep it here (in Seattle)."

gleam law PLLC
entrepreneurs. cannabis advocates. political pioneers. attorneys.

613 19th Ave E, Ste. 202
Seattle, WA 98112
seattle (206) 319-5296
portland (503) 445-8574
www.gleamlaw.com

CONTRACTS LICENSING COMPLIANCE BUSINESS TRADEMARKS PATENTS

» Serving Commercial Accounts Nationwide »

CALL NOW
FOR A QUOTE



growlights.net

LIGHTING

- LAMPS
- COMMERCIAL FIXTURES
- BALLASTS
- CONTROLLERS

ENVIRONMENTAL

- HVAC
- DEHUMIDIFIERS
- FANS / FILTERS
- TEMPERATURE CONTROLS

FEEDING

- IRRIGATION
- NUTRIENTS
- POTS & CONTAINERS
- GROWING MEDIUMS
- DOSING SYSTEMS

EVERYTHING BUT THE PLANT

info@growlights.net

www.growlights.net

503-807-9923

Business social media for i502, by i502.



3tLink connects businesses in the marijuana industry quickly and easily.

3tLink is only for owners, managers, and full time employees of the recreational marijuana industry. i502 companies can get contact information and even email prospective customers or vendors. Producers and processors can post their wholesale menus, and retailers can post what they are looking to buy. Plus, ancillary businesses and vendors are not allowed to have 3tLink profiles, so you will not have to worry about unwanted spam or solicitations. Register and forward the link to the others you know in recreational marijuana.

www.3tLink.com

A macro look at a pair of hemp seedlings Cliff Thomason is planting near Grants Pass, Oregon.



Obstacles at every turn

Oregon's start-up hemp industry faces challenges from inside and outside the state

By Patrick Wagner

Oregon lawmakers laid the groundwork for allowing hemp cultivation in 2009. Five years later, Congress gave its own approval of research-based, state-approved hemp projects with the signing of the 2014 Farm Bill.

It would seem the industrial wonder-plant was on its way to becoming Oregon's next big agricultural product. The Oregon Department of Agriculture apparently thought so too, issuing 13 licenses for hemp cultivation to farmers throughout the state. However, the licensing process kicked up opposition from nearly all sides of the issue, including the DEA, the medical marijuana industry and the agriculture department's failure to follow its own policy.

NOT IN MY BACKYARD

Almost all progress for Oregon's hemp industry has been halted to a standstill, and the state doesn't know quite where to begin to solve the many problems.

When the state Department of Agriculture issued 13 cultivation licenses earlier this year, the process was completed without obtaining GPS details of the proposed hemp farms, in direct violation of the agency's own rules.

The missing GPS data would indicate both the intended location of the hemp farms, as well as the size of the operations. The omission could force all 13 licenses to be revoked, before hardly a single seed has been planted. If that happened, Southern Oregon's medical marijuana industry could breathe at least a temporary sigh of relief. Marijuana growers, fearful that cross-pollination could decimate the potency of their crops, have fought to keep a



Edgar Winters, the first hemp licensee in Oregon.

substantial distance between the two cannabis cousins.

"Any hemp industry that produces pollen around here is going to destroy the value (of marijuana crops)," Cedar Grey, president of the Oregon Sungrown Growers Guild, told *The Oregonian*.

Rep. Peter Buckley, D-Ashland, proposed an amendment to House Bill 2668 that would prohibit growing hemp within five miles of a marijuana farm. The amendment, if passed, would also revoke all 13 previously issued licenses and reduce the number of farms down to six test plots, one for each hardiness zone already established by the U.S. Department of Agriculture.

Buckley is also one of the members of the committee that will be responsible for

regulating legal marijuana. Details in the amendment outline financial compensations for revoked hemp growing licenses but do little to atone for reduction of allowed hemp farms until the end of 2017.

Critics of the proposed amendment say it has been written in clear support of the already existing marijuana farmers and its five-mile buffer would prohibit hemp growing in some areas of the state.

Cheryl Walker, a Josephine County commissioner, told the *Bend Bulletin* that the amendment would remove the chance of growing hemp in every possible location of Josephine County. Cliff Thomason, one of the current hemp license holders, told *The Oregonian* that this legislation is basically the death knell of hemp in Jose-

>> CONTINUED ON PAGE 124



Ed Lehrberger and PureVision are right in the thick of the Colorado hemp industry.

Harnessing the future with industrial hemp biomass

PureHemp Technology brings whole-plant processing to the emerging industry

By Joy Beckerman

Industrial hemp and its extraordinary destiny are coming to fruition thanks to the perseverance and ingenuity of brothers Ed and Carl Lehrberger and their partner Dr. Dick Wingerson, the founding team behind PureHemp Technology.

PureHemp Technology was formed to use the new biorefining fractionation technology developed by parent company PureVision Technology to quickly turn hemp stalks into raw materials for the manufacture of thousands of hemp-based products. In addition to traditional uses such as pulp for papers, tissues, personal hygiene and building products, there are emerging products and markets that can be produced from hemp using PureVision technology, such as beverages, plastics, sweeteners, composites, chemicals, nutraceuticals, resins and sealers, among other possible uses.

“Everything you can do with oil, you can do with biomass and feedstock,” said Ed Lehrberger, PureVision’s president and CEO. He said the other main focus of the company “is to get away from trees and to be tree-free.”

PureVision is already in the process of expanding into Oregon, with plans to build a commercial demonstration

plant on a five-acre site along the Columbia River. The plant will be located in Boardman, where a cornstalk supply is located within a 50-mile radius and wood components are within a 100-mile radius. Ed Lehrberger said that transportation becomes uneconomical beyond that distance.

“Once the technology is demonstrated commercially, we will deploy it anywhere there is a feedstock supply,” he said.

The Lehrberger brothers founded PureVision Technologies with Dr. Wingerson in the early 1990s, and Wingerson conceived PureVision’s patented technology in 1999. PureHemp was founded in 2014 upon legalization of industrial hemp cultivation in Colorado.

Wingerson has a doctorate in nuclear engineering from MIT, as well as a Ph.D. in the same subject from his time serving as an Air Force scientist. In 1974, after completing a distinguished 25-year military career, Wingerson — by then a colonel — built a home in Crested Butte, Colorado.

It was shortly thereafter that Wingerson met Ed Lehrberger, who was a freshman at Western State College.

>> CONTINUED ON PAGE 126

<< CONTINUED FROM PAGE 123

phine County.

In an interview with Marijuana Venture, Thomason said he has already planted seeds on his 20-acre plot near Grants Pass. He said it’s been a challenge to wait and see what is going to happen with proposed legislation. With his seeds already growing, Thomason’s operation faces the threat of being uprooted from the land, partially because Measure 91 could mandate all cannabis operations to be at least 1,000 feet away from schools.

“One of the plots we’re farming on is right next to a high school,” Thomason said. “We were hoping to engage their agricultural department on the values of industrial hemp production in Oregon as well as the United States.”

Thomason’s company, OrHempCo, has permits to grow hemp, cultivate seeds and to resell seeds for other licensed hemp farmers in the state.

Thomason’s short-term plan is to market the domestic sales of hemp seeds before launching his long-term CBD cultivar plans. But first he feels a good compromise is to only grow female hemp outdoors and regulate all males to indoor production.

“My proposal seems welcome in most circles and it seems to be a better compromise than an all-out ban or pinning system,” Thomason said. “In Southern Oregon, a pinning system wouldn’t work because of all of the medical farmers.”

In Josephine County, there are hundreds of medical marijuana growers (if not more) and just one hemp cultivation permit.

“There’s no shortage of farm land. We have thousands of acres available,” Thomason said. “It’s just trying to find a way to coexist with the medical marijuana operations, most of which would rather just not have any industrial hemp operations around them.”

Thomason said it’s tough feeling like there’s a target on his back.

“This is the first time we have been able to grow (hemp) for almost 80 years in Oregon and the obstacles that people are putting up are amazing,” he said.

While states like Colorado, Kentucky and Tennessee have managed to reintroduce limited hemp cultivation in their respective states, Oregon continues to be its own primary opponent.

SEPARATING THE WEED FROM THE CHAFF

Although it still sounds unbelievable,

the DEA remains one of the biggest obstacles of growing non-psychoactive industrial hemp for any purpose.

In Oregon, Thomason may have been the only hemp licensee to put seed in the ground to start his cultivation research. The Grants Pass farmer has declined requests to explain where he obtained the seed as the DEA has been actively trying to shut down any illegal import of hemp seeds across state lines.

While its flawed process is now coming under fire, the Oregon Department of Agriculture already faced challenges from the DEA while licensed hemp farmers looked to start growing.

Importing hemp seeds requires the DEA's approval for the import of a controlled substance. It's the same approval the DEA reluctantly gave to Kentucky in April 2014, after the state sued the drug agency for illegal seizure of Kentucky's hemp seeds.

But Randy Black, a regulatory agent for the Oregon Department of Agriculture, said he believes the federal government will have to change its definition of hemp before Oregon can proceed.

In terms of the procurement of hemp seeds, Black said it would be easy for Oregon to apply for a permit to import them. However, that permit would only allow the state to distribute seeds to institutions of higher learning, Black said. Private growers — including the state's first licensee, Edgar Winters, of Eagle Point — would not be eligible to receive seeds.

"The problem is: What do we do after we get the permit? We can't distribute (hemp seeds) to private parties," Black said.

Regardless of whether the original hemp licenses survive, Winters and Oregon's other licensees appear to be at a stalemate.

However, Rick and Lynn Foutch, of Corvallis, believe they have an angle the Feds won't be able to argue against. As the Army National Guard state surgeon for Colorado for eight years, a retired U.S. Army colonel and a board-certified physician for emergency medicine, Rick Foutch wants to test the medicinal claims of CBD oil and hemp-based products, along with the help of Oregon Health & Science University.

"Perhaps my background may be useful in helping to remove roadblocks in what could be a thriving industry in Oregon," Rick Foutch said. "I'm very interested in



One of Cliff Thomason's hemp plants.

speaking with the director of the anesthesiology department at OHSU to inquire if there are any staff members who might be interested in collaborating with me on a study looking at effectiveness of CBD oil for a specific indication."

As a published physician who prefers evidence-based medicine, Foutch has remained skeptical about both the positive and negative effects of CBD-derived therapies. He hopes that by partnering with OHSU, they can either substantiate or negate some of the claims being made by using the best method employed in the rest of the medicinal world.

"There are tons of claims regarding CBD, but very few of them have been substantiated in a placebo controlled, prospective, double-blind study, the gold standard

for medical proof," Foutch said.

The Foutches are considering a farm in the greater Eugene area for their first crop. While seeds may be available from "black market" sources, the couple remains wary of state action without the DEA's approval.

"Is the Oregon Department of Agriculture going to knock on my door at some point and say something to the effect of, 'Nice crop of hemp there. By the way, where did you get your seeds?'" Rick Foutch said.

WINTERS IS COMING

Oregon's first hemp licensee remains optimistic about the crop's future.

Despite resistance from the local marijuana community, Winters has already set

>> CONTINUED ON PAGE 129

By 1993, Lehrberger had made some money in real estate and finance. He invested in a piece of real estate in Fort Lupton, Colorado — a group of eight cannery operation buildings that were previously the Fort Lupton Canning Co. from 1898 to 1979.

It was a good deal, despite being a run-down property with many problems, and a canning building that had housed hundreds of pigeons for more than a decade. The team has been repairing and improving that industrial property every year since.

A to Z Storage was born at the cannery as each building was restored. A to Z Storage became the financial backbone that has propelled PureVision forward to this day. In 1996, the PureVision headquarters were moved to Fort Lupton.

As the saying goes, everything old is new again. But this time it's with a sustainable petrochemical-competing twist.

“Just like the canning company, we're taking locally-grown plants as an input and processing them,” Lehrberger said. “We want to promote industrial complexes that promote farmers and local producers.”

When Colorado residents voted to legalize the cultivation of industrial hemp, Lehrberger was appointed by the state Legislature to serve on an advisory committee that would assist policy formation. It took roughly two years to establish the policies. It was at one of these advisory committee meetings that Lehrberger announced for the first time that PureVision was going to be in the business of expanding biomass to include industrial hemp.

Biomass is green plant matter that is generally the “non-food” portion of plants. Using corn as an example, the kernels are starch (food), while the leaves, stalks and cobs are the biomass portion. In hemp, everything but the seed oil is considered to be biomass. Unlike oil refineries, biorefineries take in non-food biomass to produce the intermediate products and chemical building blocks for making countless consumer and industrial products.

The three primary components of biomass are cellulose, hemicellulose and lignin. The four dominant output product streams from PureHemp biorefineries are glucose sugar, pulp from cellulose, xylose sugar from hemicellulose and lignin.

LEHRBERGER SAID THE BIGGEST REMAINING CHALLENGE IS SCALING UP.

These four intermediates are the foundation for producing myriad bioproducts, including pulp-based products (tissues, toilet paper, etc.), alcohols, chemicals, fuels, nutraceuticals, pharmaceuticals, binders, coatings, adhesives, and other precursors for manufacturing plastics and composites.

The hemp plant is composed of approximately 20% lignin, which is a polymer in plants that provides rigidity. Conventional lignins are contaminated with chemicals from the pulping process and aren't suitable for formulating into plastics and higher value products. Lignin recovered from the PureVision technology is more akin to a native or natural lignin, ideal for products such as different plastics, coatings, binders and adhesives.

The majority of the hemp plant is composed of cellulose and hemicellulose, which are made of complex sugar molecules.

The cellulose is mostly glucose and the hemicellulose is mostly xylose. “Hydrolysis” is the process of breaking down biomass into sugars and lignin. Conventional hydrolysis techniques include using enzymes (enzymatic hydrolysis) and concentrated acid. The PureHemp hydrolysis technique takes a different approach, utilizing an advanced countercurrent reactor (CCR) developed by PureVision that rapidly recovers the sugar and lignin streams from biomass.

Hemp grows more rapidly than trees, grows in a wide variety of soil and climates, and requires less water than most crops.

With dwindling water supplies and continuing drought throughout much of the U.S., traditional irrigation practices are now changing in many areas. The versatile hemp plant offers an alternative to crops dependent on fertilizers and pesticides with high water demands. PureHemp biorefineries will pay farmers to cultivate hemp, while preserving their

opportunity to harvest and sell the more valuable seeds.

PureHemp intends to benefit from the revived industrial hemp opportunity not only by linking the value chain from farm to consumer, but also by licensing technology packages to project developers and entrepreneurs, Lehrberger said. PureHemp's technology is designed to utilize the entire hemp plant for the economical production of hemp-based products.

With state-by-state legalization of hemp cultivation, the company is “being flooded with inquiries from around the United States,” he said.

PureHemp is seeking additional domestic tonnage to prepare for the 2015 harvest that will need to be processed.

“We don't have enough hemp to process,” Lehrberger said. He acknowledged that the commercial re-establishment of the crop is a few years from taking off. PureHemp currently pays \$500 a ton for the commodity, compared to \$65 per ton for corn stalks.

Lehrberger said the biggest remaining challenge is scaling up. Once PureHemp obtains enough hemp, the pilot plant in Fort Lupton will process a half-ton per day, and the company plans to scale up to 25 tons per day by the fall in a larger facility.

There's no doubt that manufacturers will expand into other states as the cultivation of industrial hemp is legalized in each. As for PureVision's five-acre commercial demonstration site in Boardman, Oregon, it will be co-located with ZeaChem and its existing \$70 million biorefinery.

“The significant infrastructure in place at the ZeaChem facility will reduce the costs and timing to develop our 25-ton-per-day biorefining project ... (and) will accelerate bringing our technology to market,” Lehrberger said.

“Working with ZeaChem at their plant in Oregon provides a pathway to demonstrate the PureVision technology and establish commercial operations globally,” he said. “We expect to begin operations in Oregon during 2016 using different feedstocks, including hybrid poplar and industrial hemp.”

Joy Beckerman is the president of Hemp Ace International and president of the Washington chapter of the Hemp Industries Association.



**Financing
Options
Available**



**BUILDING & SECURITY
SOLUTIONS**

PELCO
by Schneider Electric

- ▶▶ Building & Security Solutions can handle all of your Surveillance and Security needs.
- ▶▶ Customer service is our top priority. Serving clients in Washington and Oregon.
- ▶▶ Comprehensive walk-through with complete camera placement drawing at no charge!
- ▶▶ **We guarantee compliance with LCB regulations.**

info@buildingsecuritysolutions.com 360-870-7011 www.buildingsecuritysolutions.com

GOT NO PLACE TO GROW?

PRODUCTION SPACE FOR LEASE IN BENTON COUNTY

Some of the lowest power costs in the state (\$.0684/KWH)

3-phase power, natural gas and a private well on site

6+ acres for indoor building or outdoor greenhouse

I-502 and county approved, zoned heavy industrial

On-site processor to purchase all your products

Exclusive space for Producer Only licenses

Very competitive grow space pricing

CALL NOW! WE ARE FILLING UP FAST!

Call (509) 205-1457 or email doug@ninjagardens.com



Maximize Your **420** Profits With PayQwick's Payment Solutions

Merchant Services for I-502 Businesses.

Washington's **FIRST**
and ONLY federally
registered Money
Services Business
licensed by the
Washington State
Department of
Financial Institutions
for the recreational
marijuana industry.

*Subject to credit approval.

If you are an I-502 Producer, Processor or Retailer and want to accept electronic payments from your customers or from other I-502 businesses, our fully integrated payment platform provides the tools necessary to accept PayQwick cards, eChecks and Electronic Payments. And...

**We Guarantee PayQwick's
I-502 Clients Get Bank Accounts
in Washington!***

payQwick™
It's Safe and Easy to PayQwick.™

www.PayQwick.com • 877-444-8187

GORDON THOMAS HONEYWELL

GTH proudly serves the Washington cannabis industry, providing legal counsel on:

- Licensing and Regulatory Compliance
- Business Formation and Strategies
- Land Use and Local Permitting
- Real Estate Transactions
- Litigation and Dispute Resolution



Ryan Espgaard, Jemima McCullum,
and Salvador Mungia

gth-law.com

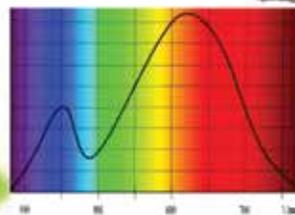
cannabis@gth-law.com • 206-676-7548

Energy Efficient Industrial High Bay Reconfigured for Grow

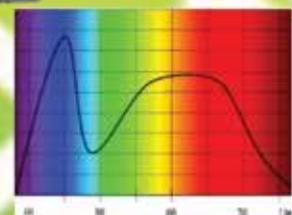
- 200,000 Hour Life Expectancy
- High Intensity Full Spectrum
- 8.6 – 9.05 Watt Diodes
- Closest To Natural Daylight
- 1000 Watt Equivalent PAR Readings
- Liquid Cooled/No Moving Parts
- Up To 10 Year Warranty



MKB Energy Solutions
The LED Lighting Experts



2,700 Kelvin



5,000 Kelvin

3,000 - 3,500 - 4,000
Kelvin Available

HiOptiX 1000
What Do You Grow With?

More Info At MKBenergy.com

his plans in motion to develop Oregon's first hemp seed bank in the Murphy area of Southern Oregon.

"I picked that area because hemp is the cousin to marijuana," he said. "It grows just like marijuana and it likes good soil, sun and the whole bit too."

The veteran farmer insists that his industrial hemp plans will not endanger any neighboring marijuana crops. Many neighboring cannabis farmers have been fearful that hemp's presence will interfere with their cash crops. Cross-pollination will render acres of cannabis plants nearly useless for the medical market, they've said. Winters said some growers have gone so far as to threaten him if he does not relocate his operation.

"It's been rough," Winters said. "I've been getting a lot of slack from other marijuana growers, and I'm one, as well. They're worried that I'm coming in and I'm going to be cross-pollinating their crops. ... We never even get to talk about hemp anymore. It's all cross-pollination."

Winters said the positive support he's received has outweighed the negativity, but he remains intent on spreading the message that industrial hemp farms are not to be feared. According to Winters, hemp pollen expires after 72 hours. The pollen is undetectable within 300 yards of the source and shows a significant drop-off within 100 yards, he said.

"Look, don't be paranoid about industrial hemp," he said. "Now I'm not saying to go ahead and build your garden right next to my hemp, by any means."

Thomason said the real cross-pollination threat to both the medical marijuana and hemp industries will be from the Oregon home growers who will be allowed to grow up to four plants per household.

Measure 91 does not require home growers to cultivate only female plants and the male and female seeds look indistinguishable. Thomason said that the focus on industrial hemp has left blind-spots like this in the legislation and could result in a further drop in Southern Oregon agriculture.

"In Josephine County from 2007 to 2012, we lost almost 10,000 acres of production," Thomason said. "So in 2012 there is almost 10,000 acres less in production than there were in 2007. We have an agriculture vacuum."

Winters agrees that the bigger threat



Kentucky seeds second round of hemp research

The University of Kentucky College of Agriculture began planting its 2015 hemp research plots May 14 on the university's Spindletop Research Farm.

This is the second year for the university to conduct industrial hemp research after harvesting the 2014 pilot project under the Kentucky Department of Agriculture's guidance.

This year's research projects are funded by several corporations and feature a collaboration of universities throughout the Bluegrass State. University researchers will evaluate the yield and fiber quality differences among different harvest times and harvest methods as well as retting times and retting methods. Retting is the process of sep-

arating the fiber from the stem.

In a second research project, lead researchers David Williams and Rich Mundell will examine the best production method for cannabinoids, that may be used in food and dietary supplements for consumer health and wellness benefits. The pharmaceutical industry is researching them for a variety of therapeutic purposes.

Another project will allow researchers to manipulate plant growth rates in the greenhouse and in the field used for grain and cannabinoid production.

Story by Katie Pratt; photo by Stephen Patton, from the UK College of Agriculture's communications department.

will be from newcomers who are just now joining the farming trade but haven't yet developed good farming practices.

"Most of the marijuana growers out there are younger than I am and haven't been growing for 45 years like I have," Winters said. "So they're not quite sure of all the genetics involved. They didn't realize that hemp only takes 110 days to maturity. Marijuana out in the field, takes eight to nine months, just like a baby. ... You know if I was a new farmer, I'd be worried about a new crop. I'd feel the same way. But I feel that after 45 years of doing hemp and marijuana products, that if anyone in this state should do it, it should be me."

In the coming years, Winters will be traveling internationally to continue his

hemp ventures in the Himalayas and India. The Himalayan trip will be to scout for genetically superior varieties of hemp to cross-breed. After the cross-breeding is successful, Winters plans to take the modified varieties to distribute in India.

"I just won a contract with India," he said. "I'm actually going to be planting hemp on the Ganges River in India to clean up their waterways, because hemp takes out all the CO2 of the air and it takes it back into the plant and distributes it back into the ground as carbon."

Winters may be a busy man these days, but he keeps a cool demeanor about it.

"Sure, I've got lots of things going on, but it's still baby steps," he said. "Just baby steps."

Lloyd's of London bails out of cannabis insurance

Spokesman cites conflict between state and federal laws

By Doug Banfelder



In a stunning announcement, Lloyd's of London announced on Friday, May 31, that it was leaving a market it had been instrumental in helping to create. The world renowned insurance market was withdrawing from the state-legal cannabis industry.

The memo penned by Lloyd's performance manager Tom Bolt sounds logical. In it he cites the ongoing conflict between federal law and the reform measures passed by 23 states and the District of Columbia, advising participating syndicates that "Any policies of this type (cannabis related) that are currently in force should not be renewed and no new business should be written."

Bolt's memo also referenced the discomforting idea that Lloyd's could be viewed as participating in money laundering, though this too seems a stretch given the February 2014 FinCEN guidance memo advising banks precisely what compliance measures they needed to observe to remain on the right side of the law.

So, considering that Lloyd's has served the cannabis industry since 1998, a time when legal, political and public opinion were all a great deal more adversarial, the scope and timing of this action raises some interesting questions.

Chief among them: How long had this decision been in the works? What initial concerns prompted it? Was the basis an increase in loss ratios (amount of claims paid out versus premium taken in)? Or, does Lloyd's know something about the upcoming presidential election the rest of us don't?

When I entered the cannabis niche, Lloyd's policies were the best, having evolved over time to meet the rapidly-expanding needs of dispensaries, cultivation and infusion/extraction operations world-

wide.

Yet, I clearly remember the day in May 2013 when the Washington State Liquor Control Board released the state rules package, being surprised (although admittedly not altogether disappointed) to find that insurance for both general and product liability were mandated. However, there were two immediate concerns. One, the Lloyd's program didn't extend general liability to outdoor grows. Two, the existing product liability policy did not cover raw flower, only manufactured products.

But it took Lloyd's a full year to make the necessary accommodations for Washington. And more recently, it has been standing pat on property limits — just \$1.25 million in crop coverage, with a total business personal property limit of \$3.5 million — amounts inadequate for mature medical markets such as Arizona's, and clearly insufficient for Colorado and Washington's recreational programs.

Which begs the question: What, then, really caused Lloyd's to yank its cannabis program? Perhaps the explosion of new businesses, combined with the increasing depth of the industry, has simply made its syndicates uncomfortable with the level of risk exposure.

The recent catastrophic fire experienced by a Washington grow could have been a tipping point — a million dollar loss will give any carrier pause, especially if the odds of additional large losses seem increasingly possible.

Also unwelcome is direct competition. This past February, a major re-insurer entered the fray with coverage exceeding that of Lloyd's, including higher property limits, at aggressive pricing.

There are approximately half a dozen other carriers in this space. Thus far, most do not provide comprehensive coverage, but as they gain experience and develop effective loss controls for the cannabis industry their policies will likely become more robust and their pricing more com-

Quotable

"You can tack this issue up along with the banking issue. We're asking cannabis businesses to be active participants in a traditional business market. They can't access banking and now it has become much more difficult to access insurance."

— Attorney Amy Margolis
(Source: Oregon Public Broadcasting)

"It may not be sexy, but insurance is vital to any business that handles property of value, whether it be a warehouse, retail storefront, manufacturing facility, or just about everything in between. We live in a world where as long as something can be insured against, somebody will undertake the venture."

— Ryan Barnes
(Source: Marijuana Investor News)

petitive.

In the meantime, the Lloyd's of London withdrawal is proceeding. While most syndicates that had cannabis programs have stopped providing new quotes, a few continue. I've gotten several back at the time of this writing, but it should be noted that these were for ancillary service providers, not retailers, growers or manufacturers. The most important point here is the certainty that Lloyd's will not be renewing any existing policies.

Current Lloyd's policyholders can expect their policies to be serviced as before. Endorsements, certificates and claims will be addressed as usual. As should be clear, however, they also need a plan for making a change when the time comes. To investigate the available solutions, business owners should talk to agents specializing in the industry, compare their offerings and proceed accordingly.

Doug Banfelder founded Premier Dispensary Insurance in 2010 to support those participating in Arizona's Medical Marijuana Act. Today the agency is a leading industry provider, serving clients nationwide with policies for the full range of cannabis business operations.



INSURANCE **REQUIRED** BY THE STATE

I-502 GENERAL LIABILITY COVERAGE

- ✔ Limits of not less than \$1 million
- ✔ Carrier rating of A – Class VII or better
- ✔ Cover claims caused by any act, omission or negligence
- ✔ Cover bodily injury, personal injury and property damage
- ✔ Name the Liquor Control Board as an additional insured

We are leading the way in providing insurance for marijuana producers, processors and sellers. We understand your risks and insurance needs.

We offer experienced agents with 25 years of practice in the greater Seattle area – Call us today for a free consultation and no-obligation quote.

(206) 628-9029

Scott Gunning
scottg@gunningins.com

Park Gunning
parkg@gunningins.com

Gina Washington
ginan@gunningins.com

200 First Ave. W. | Suite 108 | Seattle, WA 98119

www.gunningins.com

Testing standards must rein in inflated potency

Most cannabis labs are skeptics of THC content above 30%

By Aaron Stancik



An article from the April issue of *Marijuana Venture* highlighted what could have been, at the time, the highest potency marijuana ever reported on the planet. This weed was reported at an astounding 41.7% THC-A. This converts to 36.6% THC, plus around 1% native THC in the plant, for a total of 38% THC. That is 10% higher than award-winning Dutch cannabis strains.

The producer and author of the 41.7% story did his due diligence to validate the results of his lot's reported potency. He also put together a well-written article. I can tell he had good intentions, was knowledgeable and obviously an expert grower. My response is not on the authenticity of his story, but a critique of quality assurance in the Washington cannabis industry.

As scientific director of CannaSafe Analytics, I have been testing in Washington's recreational cannabis industry since its inception, as well as testing for the medical market. We have seen nearly a thousand cannabis flowers, some of which are definitely world class. After all of these potency measurements, the highest we have seen is 30% total THC. We have consistently seen the same high-THC producing strains pushing this upper limit.

In the 41.7% article, the author admitted initial shock at this high result. The editor expressed a healthy dose of skepticism too, which is a sentiment echoed by many in the cannabis science community. Heck, everybody admitted skepticism, including the manager of the lab that thrice reported it. According to the *Cannabis Inflorescence Monograph*, published by the American Herbal Pharmacopoeia, cannabis has an upper range around 25% THC. Ed Rosenthal in his book, *"Marijuana Grower's Handbook,"* cites 15-20% THC as constituting high-grade cannabis.

THC-A content is a good measure of

cannabis potency as it converts directly to the psychoactive compound THC. THC-A is the predominant cannabinoid in drug-type cannabis. In fact, very little neutral THC is present in the plant and it's usually only around 1%. So, a grower can look directly at THC-A to gauge potency.

From discussions with several of my colleagues at cannabis labs around the nation, I think most of us agree on where the actual upper limit of THC peaks. We also agree that potency inflation is a problem in the Washington market.

To try and validate the 41% result, the original lab retested the same sample. If there is a deficiency in a lab's methodology or quality systems, that mistake will be made systematically. The best way to validate a test result is to have multiple labs perform the test. That is the concept behind proficiency testing.

A proficiency test is when a standard solution of known concentration is sent to all certified analytical labs operating in an industry. The true value of a proficiency test is the average of all results from each lab. Each lab is graded by how close they get to the average. In other words, no single lab is considered right. It is the average that best represents the actual value.

Given the current backdrop of outlandish potency inflation in the Eastern Washington market, producers who think they may have a world record would be well-advised to validate the results with a second opinion. There are 14 certified testing labs in Washington State, and some of them have built a reputation on doing good science. Together a number of labs have formed the Washington Coalition of Cannabis Laboratories to advise the Washington State Liquor Control Board and state Legislature. We are all actively involved in bringing standardization to the Washington industry. The Liquor Control Board has a list of the participating labs.

Now let's look at the rationale the author used to try to validate his world-record

potency. The author cited a research study based out of Australia that was published on PLOS One. In the Australian study of 218 samples, the average THC-A content was 15.02%. The study showed a few points that were likely statistical outliers above 40% THC-A. Data points significantly above or below average are generally considered outliers.

In other words, the validity of statistical outliers should be highly suspect. Now consider that the author's 41.7% THC-A sample was 2% higher than the most outlying point in the Australian data. That definitely warrants a second professional opinion. Most dedicated cannabis labs would notice a problem if they saw a number like that.

In the article, the author makes it sound like cannabis has never been tested as much as it is right now in Washington. To the contrary, cannabis has been tested for decades by state crime labs and forensic labs. Tens of thousands of cannabis samples, confiscated by law enforcement, have been analyzed annually. This is true worldwide, as cannabis is internationally prohibited. It has also been regularly tested by the Canadian and Dutch cannabis industries, and in the Colorado and California markets.

"In five years of testing cannabis, we've only seen a couple of flower samples test over 30% THC-A plus THC," said Brad Douglass, scientific Director of The Werc Shop, in an email to *Marijuana Venture*. "And those were barely over 30%. In fact, when we see any test surpass 28% we automatically retest."

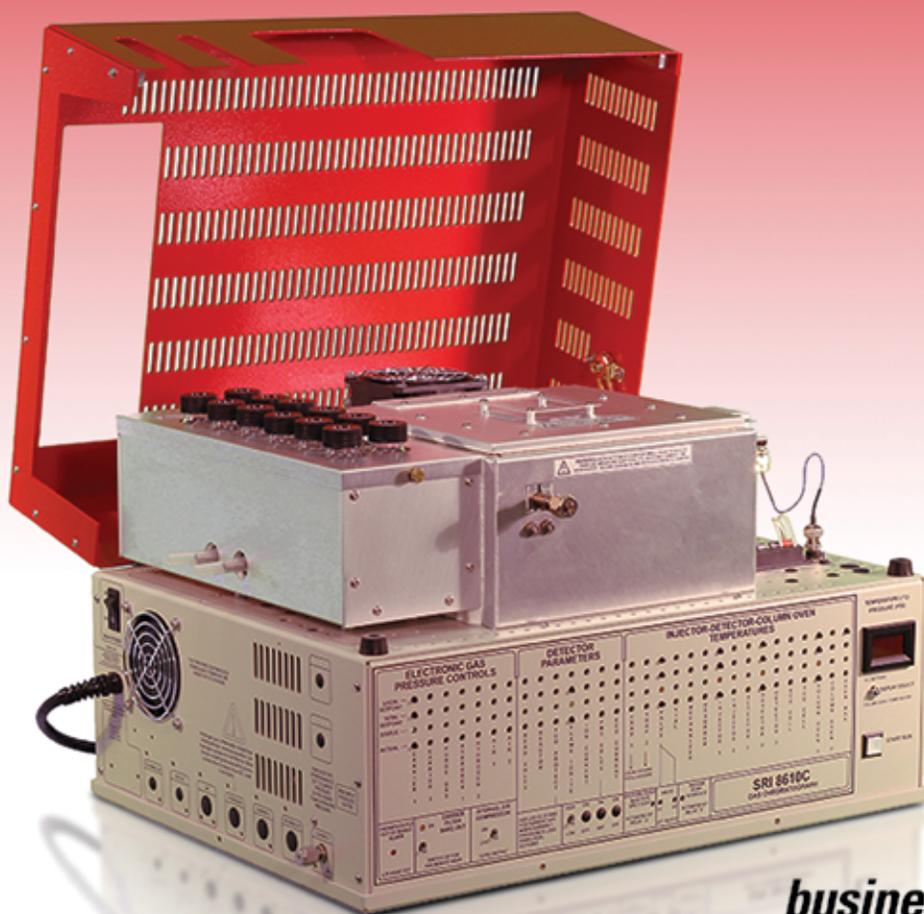
Nowhere on the planet does cannabis test out at the inflated levels being reported in Washington State.

The author mentioned that the lab in question retested the sample three times with exactly the same result. As a Ph.D. chemist with years of analytical chemistry experience, I have to disagree. No analysis with even the most expert analyst and state-of-the-science instrumentation will ever give the exact same results. There is always a spread. It is called variance. The three results should be averaged to give the most accurate result. Three tests will give three numbers, which weren't mentioned in the article. Cannabis is especially varied and individual plants can have a THC gradient of about 15% from the top to bottom

>> CONTINUED ON PAGE 134

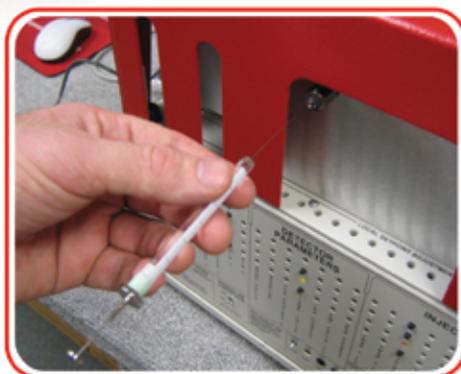
Test your own product for THC and CBD content!

The SRI gas chromatograph is the same type of equipment used by the DEA and most testing labs to test marijuana samples for THC and CBD, as well as other cannabinoids, terpenes, residual solvents and more.



- Cost of a professional machine is around \$12,000
- Test your own product to verify lab results.
- Costs less than a dollar to do the test and takes as little as 30 minutes.
- Simple enough that most people can operate one with only a few hours of training.
- Can be used indoor or outdoor. Simple to set-up and operate.

If you're serious about the marijuana business, having your own gas chromatograph testing equipment is a must!



Call: 310-214-5092
Email: sales@srigc.com



SRI Instruments
20720 Earl St. - Torrance CA, 90503

<< CONTINUED FROM PAGE 132

flowers. Even two choice buds from the same plant can vary by a few percent.

Now let's put a THC-A content of 40% into perspective. Recently, I tested half a dozen kief samples. The average THC-A concentration of the kief samples was 42.7% THC-A, and kief is processed, concentrated resin glands from cannabis flower. At 40% THC-A, nearly half of the plant would be a single chemical compound. There would literally be no plant material left. A 40% THC-A test result belongs on a

concentrate or extract.

While potency garners a great deal of attention, microbial contamination is a more serious problem. CannaSafe and another verifying lab recently performed random compliance testing on flower that was being sold in a retail store. The testing was performed independently and neither lab was aware of each other's findings until after the results were reported.

Both labs found its potency was less than half the reported number on the label, and it failed for yeast and mold contamina-

tion. It's not the inflated THC values that are of most concern. No one will die from too much THC. Microbial contamination, on the other hand, can be quite toxic. That is a public safety and consumer health concern that the Liquor Control Board needs to address immediately. Someone is going to get sick from a contaminated edible, and lawsuits will start brewing in the Washington industry.

At a recent lab meeting in Olympia, I recommended a solution to the Liquor Control Board that I believe would solve the problem of potency inflation in the industry. The agency can require BioTrack-THC, through the state's traceability system, to flag all data reported above 35% THC-A, which corresponds to 30% THC. They could then identify which producers and testing labs were turning out inflated potencies and low microbial loads.

This would be an incentive for parties to play by the rules.

For my part, I issue this challenge to the cannabis industry in Washington State: If you discover any cannabis flower higher than 40% THC-A, CannaSafe will retest it for free and report the results to the Liquor Control Board. If you are in Western Washington, we will arrange for a reputable lab from our lab alliance to retest the sample.

As an industry, let's stop the insanity and start the process of reporting potency accurately. The numbers don't have to be in the stratosphere for consumers to buy it. Consumers just need to be educated on what constitutes great cannabis. Terpenes, cannabinoids and water activity all affect cannabis quality, not just THC.

Aaron Stancik has a doctorate degree in chemistry from the University of Idaho. He is currently the scientific director of CannaSafe Analytics in Pullman, Washington.

Cancelled by Lloyd's? We have the Solution.



Premier Dispensary Insurance

A Division of Premier Southwest Insurance Group

**America's Marijuana Business
Insurance Experts**

1-855-507-2622

www.PremierDispensaryInsurance.com

CONSULTATION - CUSTOM STRAINS - COMPLIANCE

DARKHORSE GENETICS

TH SEEDS

LAPLATA LABS

EXOTIC GENETIX



GREENLIFE SEEDS

MOSCA SEEDS

G.A.S

BEST COAST GENETICS

www.SeedsHereNow.com

1-844-MY-SEEDS

Activated Charcoal Carbon

Activated Charcoal and Activated Carbon Products in Bulk Quantities

The Source for Odor Solutions and Filtration Equipment for All Indoor Air Environments

We're not just a dot-com, we're an established business with a quarter-century reputation for ethical business practices and good service. Call us, you'll talk to a professional.

Aircare Systems Air Purification Specialists since 1979

Email: sales@activated-charcoal-carbon.com
or sara@aircaresystems.com

1-800-735-7263

www.aircaresystems.com

or <http://www.activated-charcoal-carbon.com/>

The **ONLY** nationally recognized third-party certification for cannabis



Look for this logo at your favorite outlet!

If your growers or handlers aren't certified, ask them,

"Why not?"

(541) 288-8211

(707) 218-1069

cleangreencert.com  ask@cleangreencert.com



WOULD **YOU** TRUST YOUR INVESTMENT IN A MILLION DOLLAR GROW ROOM TO JUST ANYONE?

TRUST YOUR INVESTMENT TO THE INDUSTRY EXPERTS.

North Coast Electric Indoor AgriBusiness provides turnkey solutions to maximize your volume and profitability.

- HID Lights • Lighting Design Assistance
- Climate Control • LED Lights • CO2 Supplementation
- Fluorescent Lights • Electrical • Electrical Code Compliance

A Full Line Electrical Distributor ... Family Owned & Operated Since 1913

NORTH COAST
ELECTRIC COMPANY

For more information, Contact:

Cobey Woodall

Indoor Agri-Business Specialist
206-305-0253 | cwoodall@ncelec.com

www.northcoastelectric.com

How to successfully use the spirit of collaboration

Partnerships will reflect directly on your company

By Alexa Divett



Making it as an entrepreneur requires a high risk tolerance and a willingness to do something that no one has done before.

Nowhere is this truer than the cannabis industry where we are not only dealing with a new market but also a product that is still federally illegal.

Although a willingness to take risks and go it alone has launched many successful businesses, the greatest and most sustainable startup stories in the cannabis industry will involve tales of partnership and collaboration. As the cannabis industry continues its entry onto the national stage, there will be natural expansions and contractions, law and policy changes and general turbulence.

If you have strong partnerships you will be able to ride these waves in a much more calm and peaceful fashion. You want to choose companies and brands whose values, style and mission reflect who you are and your target demographic. Here are four ways you can be smart in choosing partner brands.

BE CLEAR AND STRAIGHTFORWARD

Even if you are choosing to go it alone and have no desire to partner or collaborate with similar brands, you always need to know what you do, how you do it, why you do it and who you do it for. It is incredibly helpful to know these things way before engaging in partnerships with other small businesses.

It's easy to become hopeful and excited about every potential partnership opportunity that comes your way but chances are that not every opportunity will be the right fit. Having a clear picture of your own business keeps you on target and less likely to wander outside your intended scope.

Trying to be too many things to too many people can result in a muddy brand that means nothing. If your partnerships don't make sense, you risk a poorly defined brand

that doesn't resonate with the consumer.

ASK QUESTIONS

Make a serious effort to learn everything you can about your partners and partnerships. Although you'll never know everything, it's important to arm yourself with as much information as possible. When you partner with another brand, it becomes an extension of your business. It's important to understand the other company and what it stands for, because those values will be associated with your company as well.

BE HONEST ABOUT YOUR BUSINESS

Every business has its limitations and smart business owners are well aware of what they are. As an entrepreneur, you must be willing to explore every opportunity to expand and grow your company and this includes identifying strong partners who can help fill the gaps.

KNOW WHEN IT'S NOT WORKING

One of the many traits successful business owners share is the ability to identify when things just aren't working. If your partnership isn't working you have to be willing and able to walk away. Being an entrepreneur can feel lonely at times. Being a cannabis entrepreneur can feel like being trapped on a deserted island. We all share the same journey as we work toward acceptance and recognition. Smart partnerships can contribute to the growth of your brand and help you feel less alone; they can influence customer perception in positive ways and give you access to a greater consumer base.

The best thing you can do as a cannabis entrepreneur is to be open to partnerships and collaboration and find partners who share your vision.

There really is no reason to go it alone.

Alexa Divett is the co-founder and marketing director of Maya Media Collective (www.mayamc.com), an Oregon-based marketing and design firm that specializes in the cannabis industry.

CALL US ABOUT
Rolling Benches
1-800-444-BUDS
2 8 3 7

ALTERNATIVE
GARDEN SUPPLY
altgardenmedical.com

LIGHTING
CLIMATE CONTROL
IRRIGATION
GROWING MEDIA
NUTRIENTS
PEST CONTROL

PROFESSIONAL
PRODUCTS
for
PROFESSIONAL
GROWERS



DO YOU NEED FUNDING?

MARIJUANA VENTURE GROUP
MAY BE ABLE TO HELP FUND
YOUR 502 BUSINESS OPERATION

****NOW AVAILABLE****
LEASING OPTIONS FOR LIGHTS
AND HVAC AVAILABLE

SEND INQUIRIES TO:
info@MarijuanaVentureGroup.com
or call 206-866-6986

OR WRITE: PO BOX 1419
RENTON, WA 98057
ATTN: MARIJUANA FUND

Cultivate Only the **Best!**

Optimize your System with a Seasoned Consultant whose Priorities are
Communication, Efficiency, and **Results**

"Jennifer's wealth of knowledge and real-world expertise quickly increased our efficiency and enthusiasm for what we do!"
- Chris G., CannabisHub Nursery, WA

- Customized System Design & Analysis
- State-Compliant Cultivation Business Plans
- SOP Creation & Optimization
- R&D Experimental Design Setup & Tracking
- Emergency Rescue Missions
- Energy Efficiency & Sustainability Optimization
- Plant Nutrient & Soil Testing
- Organic, Synthetic & Hybrid Feeding Regimens
- Non-toxic Integrated Pest Management
- High Yielding, Quality Focused Outcomes



- Cannabis Cup Winner
- Large Scale Clone Producer
- Professional Cultivation Writer
- Speaker at National Conferences
- Rapid Reliable Responder
- 20 Years Industry Experience

Jennifer Martin
MarijuanaPropagation.com

510-418-0454

*Equipment Manufacturers:
Contact me to make your new products known!*



MARIJUANA VENTURE

THE JOURNAL OF PROFESSIONAL
CANNABIS GROWERS AND RETAILERS

Marijuana Venture is the only monthly B2B trade publication dedicated to the legal, licensed cannabis industry.

**One Year
(12 issues) \$39.99***

*Offer includes print & digital issues

**One Year Print Only
Subscriptions \$29.99**

**One Year Digital Only
Subscriptions \$19.99**

**SCAN &
SUBSCRIBE**



GROWER? RETAILER?

We offer complimentary subscriptions to companies licensed as growers and retailers.**

SUBSCRIBE NOW AT
www.marijuanaventure.com

**Go to <http://www.marijuanaventure.com/subscription-request> for complimentary subscription. Must be a qualified business related to the growing and production of marijuana.

Strong cannabis industry requires single set of rules

More work needs to be done, but progress is being made

By Vicki Christophersen



A handful of Washington lawmakers labored long into a special legislative session, but for policymakers across the state, the work to implement a fully-regulated system for cannabis has begun. A few months ago, Gov. Jay Inslee signed the Cannabis Patient Protection Act, which codified a safe, quality-controlled system for cannabis and required that the existing unregulated medical system be fully integrated into the emerging, regulated recreational system created by the passage of Initiative 502.

Cities across Washington now have a foundation of state law upon which they can build their own regulatory and enforcement approaches that reflect the values of their communities. A single, fully-regulated system for cannabis sales, regardless of whether those sales are medical or non-medical, is critical to the success of the legal marijuana industry. But more importantly, rules that codify safety and compliance standards are clearer than ever, which is good for individuals, businesses and communities.

Seattle Mayor Ed Murray and City Attorney Pete Holmes have moved quickly with proposed legislation. It's a great start and with their peers in the state Legislature, they should be congratulated for engaging on the tough issues that accompany policy issues like this. Leaders at the local and state level are not only building policy from the ground up, but doing so against a backdrop of old stereotypes about marijuana. It's a long haul but there is a strong commitment from within the industry and with policymakers to continue to refine the policy to get it right.

For legitimate medical patients, what happens at the local level is important. Making sure that medical marijuana is subject to the Liquor Control Board's rules

on quality-control, testing and inspection will make patients safer and ensure that all consumers are more knowledgeable about what they take into their bodies.

From a business perspective, it is incredibly important to establish an effective and functioning legal marketplace. Unregulated operators have had a huge competitive advantage by virtue of not following the unenforced (at least for now) law. It has been the Wild West in many respects, and it is past time for that to change. Licensed cannabis businesses should be able to open their doors every day confident that their success doesn't hinge on whether or not they choose to follow the law. Instead, the system should support them for following the rules, for working responsibly with regulators and their communities and for paying taxes commensurate with the privilege of being in this industry.

There is still a lot of work to be done, but we are on the right track. With momentum to legalize marijuana building across the country, Washington State has a chance to show industry leadership at every level, just as we have done in aerospace, software, biotechnology and agriculture. Where others have refused to let go of "how it has always been done," there is an environment here that enables the pioneering spirit to intersect with a strong work ethic and a willingness to go forward in order to make progress long after others turned away. And here, with the exception of the Apple Cup, old contentions can fade too. As the fully legal system for cannabis gets stronger, some people from the unregulated and the licensed communities will seek and find common ground. At its core, collaboration that helps empower a safe, quality controlled and fully-regulated system is needed for the greatest consumer benefit and for a stronger system that benefits everyone.

Vicki Christophersen is the executive director of the Washington CannaBusiness Association.

**YOUR CANNABIS BUSINESS
IS OUR BUSINESS.**

dk | LAW

**GET AHEAD OF THE I-502 CURVE.
POSITION YOUR CANNABIS BUSINESS FOR SUCCESS.**

**Proven track record of getting
applications approved for I-502
Producers, Processors and Retailers**

Regulatory Compliance • I-502 Operating Plans
Licensed Business Purchase / Sale
Required Employee Training • LCB Violation Appeals
Vendor and Supplier Contracts • Lease Agreements
I-502 Business/LLC Formation

www.dkerrlaw.com

600 N. 36th Street, Suite 202, Seattle, WA 98103
206.234.5819 • david@dkerrlaw.com • sean@dkerrlaw.com

NOT JUST POT

**46 years experience
solving a wide variety of
legal problems in
administrative, state
and federal courts,
including appeals.**



**LAW OFFICE OF
JEFFREY STEINBORN**

206-622-5117
js@surlaw.com
www.steinbornlaw.com

GROW GREEN

HIGH EFFICIENCY
odor, VOC and particle filtration
WITHOUT THE HIGH COSTS
of energy and maintenance.

Dynamic
Air Quality Solutions

The Science of Clean Air.



Dynamic V8 Air Cleaning System



Dynamic Activated
Carbon Matrix

**For removing VOCs and ultrafine particles
from indoor air and outdoor ventilation air,
and for mitigating odors from exhaust air.**

Dynamic Air Quality Solutions
PO Box 1258 • Princeton, NJ 08542
(800) 578-7873 • www.DynamicAQS.com

Radio station's demise is a microcosm of the rush

Businesses will come and go as they try to capitalize on boom



Probably everybody who works in media has had this happen at least once: You work hard to put together a story on a new business or an upcoming event, only to find out either moments before or moments after going to print, that the business has already gone belly-up or the event has been canceled for one reason or another.

At one newspaper I worked for, a particularly lazy editor established a loose policy that new businesses had to be operational for at least two months before we would write a story about them. It was a ridiculous way of operating a news organization in a small town, but being burnt more than once highlighted a sickening trend for local businesses. In an economically depressed area, few new businesses could last more than six months. Many didn't have the wherewithal to survive even one month. One poorly-planned venture went defunct in the four-hour window between the newspaper sending pages to press and receiving printed copies.

There are similarities in the cannabis industry.

On April 27, I spoke with Len Williams, program director for K-High Radio in Colorado Springs, Colorado. The AM channel had just launched the nation's first all-cannabis all-the-time radio station, a massive transition away from traditional sports radio programming that had been unable to turn a profit.

Williams called the shift an example of "the best of outside-the-box thinking."

Imagine turning on your usual radio station in the morning expecting to hear about the Denver Nuggets and instead hearing people talk about a different kind of nugget. How far down the road did people get before realizing they weren't going to hear news about the Colorado Rockies and Denver Broncos?

Although I know absolutely nothing about the radio industry, I think marijuana-specific media will be an interesting offshoot of the recent legalization movement. Marijuana Venture was a perfect example of that wave, as our publication went from eight pages to nearly 150 in a 16-month time frame. The number of books and television shows about cannabis and the industry has also exploded.



However, within about three weeks of my conversation with Williams, K-High ceased to exist at its 1580 AM home.

The business isn't dead. The same radio personalities can all be found online at LetsTalkPot.com.

But a web-based podcast doesn't carry the weight of an FCC-licensed radio station (even if it might actually be a better business model and reach far more listeners via the Web).

It's the fickle nature of an emerging industry.

There will be smart business ideas out there that will fail.

There will be foolish business ideas that turn into booming successes.

And there are going to be ideas that no-

body knows whether they're smart or foolish, whether they will be epic failures or overnight trendsetters.

Williams described the staff meeting when the idea of 24/7 marijuana radio was presented as an option.

He said the company president "stood up and said, 'I've got it. How about a 24-hour station dedicated to weed?'"

"I swear to you, we all looked at this guy like he had two heads," Williams said.

The beauty of this industry is that just as many ideas were developed by passing a joint around a circle as they were around a board room. Probably nowhere is this entrepreneurial — and sometimes goofy — spirit more evident than the countless trade shows that can be found throughout

the nation. It seems everybody has an idea about how to get into the cannabis space, and sometimes the difference between failure and success is more about timing than it is quality. Ten years ago, packaging companies were largely non-existent in the cannabis world. With changing regulations and increasing acceptance, packaging has quickly become of the most critical components of the mainstream marijuana industry.

We already know there's a billion dollar demand for cannabis and cannabis-related products. But harnessing it will take the right products at the perfect time.

GARRETT RUDOLPH
EDITOR

Grow with confidence.

CANNABIS LAWYERS NW, LLC

Full Service Representation for the Cannabis Industry
in Oregon and Washington

*Business Formation and Financing
Regulatory Compliance • Commercial Agreements
Real Estate Transactions • Intellectual Property
Litigation • Taxation*



www.cannabislawyersnw.com

LAND/SPACE AVAILABLE!



GREAT PROPERTY FOR SUN GROW PLOTS IN OKANOGAN COUNTY.

- Southern exposure.
- Flat.
- 300 days of sunshine a year.
- Good water.
- Easy access.
- Elevation approx. 2800'

For more information:

PO Box 1419, Renton WA, 98057
or [Greg@ marijuanaventure.com](mailto:Greg@marijuanaventure.com)

awakening | first float \$39

They're called Floatation tanks, Isolation tanks, Sensory deprivation tanks - and they're incredible. You have stress - floating in a float tank will help deal with it. Email or give us a call.

guru@floatseattle.com | 206-673-5132

floatseattle.com

love **float** **seattle** everything moderate including moderate

You become the average of the 5 people you spend the most time with. Choose wisely

CONFIDENCE

GET NOW

and the heart
yourself clearly
creative self
inner/outer worlds

UNFINISHED WALLS **YOURSELF**

BREATHE DEEPLY

A MAN CANNOT REMAKE HIMSELF WITHOUT SUFFERING FOR HE IS BOTH THE MARBLE AND THE SCULPTOR

Live authentically - Fulfill your potential - Set your own intentions



15X

Does the work of
over 15 people

6-8lbs
/HR

6 - 8 lbs. / hour
processing capability

25,000+

25,000 + cuts
per minute

THE NEW CENTURIONPRO MINI IS A POWERHOUSE IN A SMALL PACKAGE.

The Mini is the smallest tumble-style trimmer in the world. It includes a 1.5HP leaf collection system for maximum mobility and efficiency.



COMPETITION COMPARISON

	The Mini	VS. The Competition
Cutting Reel:	11 Blades	5 Blades
Tumbler Diameter:	6.25"	4"
Leaf Collector HP:	1.5 HP	1 HP
Warranty:	3 Years	2 Years

MSRP \$6,895.00



MINI SPECS

Input Voltage: 6 Amp -110V NA
3 Amp -220V EU/AUS

Dimensions:

Length: 25" (63.5cm)
Width: 10" (25.4cm)
Height: 24" (60.9cm)

Weight: 65lbs (29.48 kg)

LEAF COLLECTOR SPECS

Input Voltage: 14 Amp -110V NA
7 Amp -220V EU/AUS

Dimensions:

Length: 24" (60.9cm)
Width: 23" (58.4cm)
Height: 23" (58.4cm)

Weight: 60lbs (27.22kg)

Airflow Capacity: 2000 CFM

Includes:

- 25 micron cloth outer bag
- 200 micron non stick inner nylon bag
- Includes large solid frame hopper
- 3 year warranty



1-855-535-0558 | WWW.CPROSOLUTIONS.COM

INFO@CPROSOLUTIONS.COM

Buildings/land available

ForeverGreenFarmsWA.....106
 McDaniel Properties.....115
 Ninja Gardens.....127
 Okanogan County land for sale.....141

Consulting/education

Hortistrucre.....86
 Cannabis Advisors Institute.....113
 OaksterdamUniversity.....117
 Clean Green Certified.....135
 Jennifer Martin.....137

Contractors

Hamer Electric.....93

Distributors/retailers

502 Enterprises.....4
 Hydrobuilder.....39
 IndoorTropics.....79
 Groco Supply.....83
 NW Garden Supply.....85
 Hemptech.....91
 Growers Supply.....119
 GrowLights.net.....121
 North Coast Electric.....135
 Alternative Gardening.....136

Events

Seattle Hempfest.....56
 Native Nation Events.....61
 Northwest Cannabis Classic.....73

Events

Native Nation Events.....67
 Seattle Hempfest.....99
 Northwest Cannabis Classic.....114

Greenhouses

Harvest Excel.....81
 OBC Northwest.....85
 Horticulture Services.....97
 Forever Flowering Greenhouses.....113
 Growers Supply.....119

Growing equipment/services

Advancing Alternatives.....56
 KesAir.....91
 Vaportek.....97
 Current Culture H2O.....101
 AAA Aircare.....135
 Dynamic Air Quality Systems.....139

Heating/cooling

IntelliChoiceEnergy.....51

Insurance

GunningandAssociates.....130
 Premier Dispensary Insurance.....134

Legal

THC Law Firm.....7
 Garvey Schubert Barer Law Firm.....59
 KB Law.....69
 Gleam Law.....120
 Gordon Thomas Honeywell Law.....128
 Jeffrey Steinborn.....139
 DK Law.....139
 CannabisLawyersNW.....141

Lighting/electrical supplies

Powerbox.....1
 Forever Green Indoors.....11
 Urban-Gro.....15
 Bios Lighting.....29
 Nanolux Technology.....34
 Groco Supply.....55
 G8 LED.....115
 MKB Energy Solutions.....128
 GrowLights.net.....121

Machinery

VC999.....9
 Daily Extractions.....31
 GreenBroz.....43
 Tamisium Extractors.....64
 Terpp Extractors.....65
 Eden Labs.....67
 Centurion Pro.....89
 SRI Instruments.....133
 Centurion Pro.....142
 Across International.....146

Marketing

Budd Branders.....50
 Brandy.....53

Marijuana retail

Clear Choice Cannabis.....17

Misc.

ViPova.....19
 Ross Andrew Winery.....78
 3tLink.....121
 Seeds Here Now.....134
 Float Seattle.....141

Packaging

VC999.....9
 Cannaline.....12
 WS Packaging.....59

Maverick Labels.....95
 DCG One.....119

Producer/processors

CannaSol Farms.....25
 Buddy Boy Farm.....66
 Sun Goddess Farms.....72

Retail services/equipment

Jane.....67
 BudBar Displays.....71
 Green Bits.....71
 PayQwick.....128

Security

CCTV Dynamics.....27
 Rolland Safe.....55
 Statewide Security.....69
 Angler Fence.....81
 Portland Fence Co.....86
 Building Security & Solutions.....127
 Security Camera King.....144

Soil/nutrients

Flying Skull.....21
 RX Green Solutions.....23
 Miller Soils.....41
 West Coast Horticulture.....49
 Good Earth Organics.....57
 Dutch Method.....106
 Humboldt County's Own.....107

Testing labs

Confidence Analytics.....77

Tracking

TraceWeed.....3

Trade/business associations

Emerald Growers Association.....42
 WACA.....75



Back issues of Marijuana Venture are available. Send an email to Editor@MarijuanaVenture.com or check out www.marijuanaventure.com for details.



Ensuring your Security System Passes your Inspection

We have been on the frontline protecting your investment as well as ensuring your security camera inspections receive a passing grade.

Cameras are not just the law, they can potentially save your business thousands of dollars, and that is why we created a service dedicated to your industry's unique goals and needs. We at SecurityCameraKing.com make it easy.

With SecurityCameraKing.com's Certificate of Guarantee, your security system will pass inspection every time. Just ask our 502 specialists who are dedicated to your industry. Call 1-800-701-9287 for your custom consultation. It's that easy!

10% OFF

Your Next Purchase



Coupon Code: **Venture420**

Expires: July 30, 2015

Take it from our customers:

“ Well thankfully, I found SecurityCameraKing.com. Their expert staff was very aware and informed about marijuana security rules and laws and assured me that they could set up an IP compatible system that would meet or exceed LCB protocol. After I sent them my security goals and floorplans, they designed my system for about 1/3rd of the cost of any other quote out there. Not only did my system arrive complete with detailed and accurate instructions, there was also a Certificate of Guarantee inside the box. I passed my final inspection with flying colors. – **Rocky 3 RB's**

“ I went with SecurityCameraKing.com because they were the only ones who knew what they were talking about. They know i-502 and had spoken with inspectors during final inspections and could give me the complex configuration I wanted. I have and do recommended them for your I-502 and other video needs. – **Ike's Pot Shop**

**Email your Floorplans to Support@SecurityCameraKing.com
Call Toll free 1-800-701-9287 for your Free Custom Consultation**



Reserve Your System Today
1-800-701-9287
Support@SecurityCameraKing.com
New Hours: Mon-Fri 9am-8pm EST

Why Choose SecurityCameraKing.com?

- ✓ Two convenient US based distribution centers for convenient express shipping options
- ✓ Up to 12 MP Ultra HD IP network surveillance systems for large areas that capture the details
- ✓ High definition over coaxial cable, HD-CVI Technology, for quality affordable video surveillance
- ✓ Analog CCTV systems for affordable commercial-grade surveillance solutions that are reliable
- ✓ Network Video Recorders and DVRs up to 128 channels for large surveillance jobs
- ✓ 4, 8, 16, 32 and 64 channel complete pre-packaged systems available

RECEIVE 10% OFF YOUR PURCHASE
With Coupon Code: **Venture420**



SecurityCameraKing.com's Certificate of Guarantee



- ✓ Compliance with LCB Regulations
- ✓ Compliance with Amendment 64
- ✓ Free Layout Planning and Verification
- ✓ Free Planning Tools and 3D Modeling
- ✓ Preferred Client Status
- ✓ Free Lifetime & Priority Tech Support
- ✓ Priority Express Shipping for Inspections
- ✓ Free Remote monitoring software
- ✓ Full Equipment Warranties
- ✓ 30 Day money Back Guarantee

AI VACUUM OVENS - WINNERS' CHOICE -



AI's award winning vacuum ovens are the No.1 choice for cup champions*. They are your **BEST** choice for curing and converting botanical extracts. With deep vacuum level they can operate at temperatures which allow evaporation and degassing/purging to occur rapidly. This increases productivity and ensures the production of superior quality products with minimal processing time.



Check out our 3.2 and 7.5 cubic foot ovens with new **internal shelf heating technology**: each shelf in these ovens has its own heater, **in-shelf temperature sensor** and temperature controller; together with high quality thermal-conducted aluminum and our new low proportional controller technology, the result is perfect uniformity, accurate temperatures, super-fast heating rates, minimum heat loss/exterior temperature and ultra-low power consumption.

Our newly re-designed ELITE series vacuum ovens feature 5-sided jacket heating system that gives you **an industry leading 3% temperature uniformity across all shelves**, they also provide excellent temperature accuracy, exceptional build quality, and fast heating rates, covered by an industry best **2-year warranty**.

Re-designed Elite 4.4 Cu Ft 20x20x20" vacuum ovens with 5-sided jacket heating, adjustable gas back-fill and 6 aluminum shelves

* Check our Instagram posts for a list of winners



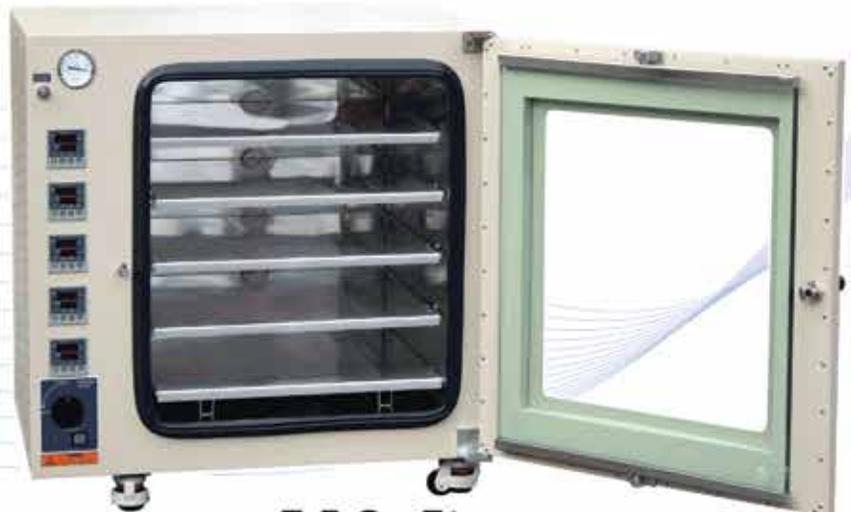
Edwards vacuum pumps and accessories



Welch diaphragm pumps and accessories



AccuTemp 1.9 Cu Ft 16x14x14" vacuum ovens with 4 sided heating, adjustable gas back-fill, 3rd gen LCD low temp controller and 5 aluminum pan shelves



7.5 Cu Ft

AccuTemp-75 22x24x25" vacuum ovens with 5 heated shelves, 5 in-shelf temperature sensors, 5 controllers and adjustable gas back-fill capability



AI NEW JERSEY: 111 Dorsa Ave, Livingston, NJ 07039
AI NEVADA: 1197 Greg St, Sparks, NV 89431
888-988-0899 info@AcrossInternational.com



ACROSS INTERNATIONAL
Material processing equipment