Cannabis Health and Safety for Licensed and Regulated Businesses
Chloe Villano  
Clover Leaf Consulting

- CEO Clover Leaf Consulting - Cannabis Business Firm  
- Started in June 2010  
- Set up hundreds of businesses  
- Facilitated hundreds of mergers and acquisitions  
- Consulted Various State Government Agencies (MED) (DOA) (DORA)  
  - Assisted in the development of medical and retail marijuana regulations  
- Website: CannabisBusinessInfo.com
CLU Professors are certified by over 10,000 hours of Occupational work experience (tax paid)
CLU is Approved for 5 Full Program Certifications
Approved for 25 Stand Alone Course Certifications
Continued Legal Education - CLE Accredited Classes for Legal Professionals
Coming Fall 2015 - Online Certifications
www.CloverLeafUniversity.com
The Impact of Cannabis Legalization

• Colorado Voters Establish Rights in the Colorado Constitution
• Medical, Retail (Recreational), and Dual Licensed Facilities Established
• Community Impact Assessed - Health and Safety
• Regulatory Successes / Concerns
• Industry Successes / Concerns
• Journey to Creating Corporate Business Standards
• Safety Procedures Established
Colorado is Open for Business
Business Licenses Issued

• Licenses are Issued
• Dispensary - MMC, RMC
• Optional Premises Cultivation Operation - OPC
• Infused Product Manufacturer - MMIP, MIP
• Licensed Testing Lab
Retail “Recreational” Cannabis Consumption

Projections released by the Department of Revenue

- Marijuana sold last year was over 150,000 lbs
  - Retail - 38,660 lbs
  - Medical - 109,578 lbs
- 1,964,917 units of medical edible products sold
- 2,850,733 retail edible products sold

- Medical Marijuana has not been affected by Recreational Marijuana in fact the registry numbers have gone up and continue to do so

Sales in the First Year Totaled $699,198,805

$385.9 million for medical marijuana and $313.2 million for recreational cannabis.

The State of Colorado 2014 collected $76 million. That includes fees on the industry, plus pre-existing sales taxes on medical marijuana products.

$44 million dollars was collected on new taxes on recreational pot alone
According to the numbers released by the Department of Revenue, the total number of licensed cannabis businesses roughly totaled:

- Medical Marijuana Licenses - 1,416
- Retail Marijuana Licenses - 833
- Occupational Licenses - 15,992

68% Non-Renewal Rate for Occupational Licenses
Regulatory Challenges
Post Legalization
Health and Safety

• Responsible Cultivation Practices
  • Consumer Quality & Consistency
• Pesticides - Dept. of Agriculture wkgroup
  • First Cultivation Standards in History
• Waste Water - PH, Sewer Systems
• Public Education Campaigns
• Tools to make responsible informed choices
• Public Consumption
• Law Enforcement Training
• ARIDE Accuracy “Impairment Test”
• Medical Health Professional Training
• Harm Reduction
• Recognizing Symptoms of Abuse
• Much Needed Research
• Carbon Footprint Safety Levels
• Waste Systems and proper disposal
• Regulation of Edibles and Concentrates - Safety and Potency
Industry Challenges
Post Legalization
Health and Safety

- **Edibles**
  - Proper Dosing 10 mg
  - Infused Product Limited Plant counts make product consistency difficult
- **Packaging/Labeling**
  - Informing the consumer
  - Fitting information on small packaging “Oil”
- **Public Education**
  - Campaigns with Advertising Restrictions on MJ Businesses
- **“Safest Product with the Highest Quality”**
  - With Laws changing its hard to develop consistent products
  - Causing inconsistent sales
  - Causing inconsistent revenue strams
  - Causing higher expenses to comply with changing regulations
- **Competition with Black Market**
- Occupational Safety and Training hard due to inconsistencies in regulations
Regulatory Success and Progress Post Legalization

- Crime Down -
  - Crime down 10%
  - 53% Drop in Homicides
- DUI Fatalities Near Record Low
- Lower Rates of Teen Drug Use
  - Youth Risk Behavior Study claims High School pot use has gone from 22% - 20%
- Fewer State Resources Being Utilized
  - Systems are being built not drained
- Raising Revenue
  - Tourism 4 Billion - Record High
  - Tax Revenue - State Total - 24 Million in 2013
  - Projected to hit 72 Million in 2014
Cannabis Industry Success and Progress Post Legalization

• The Industry Established Itself out of prohibition
• Created a Robust Economy = Less Crime
• 10,000 = Jobs
  • Employing the same amount as law enforcement
• Created Hundreds of Ancillary Jobs and Small Business Owners
• Created a Trained and Educated Workforce
  • Middle Class Wages
  • The Industry is Creating Millionaires
• Consumer Education
  • Edibles Pamphlets - CBA
  • “First Time 5”- 5 mg First Time Max Consumption
• MED: Responsible Vendor Programs - workgroup
• CLU - First Responsible Vendor Program (4 part series)
• Building a Responsible and Compliant Industry
• Creating Unlimited Opportunity “American Dream”
Revenue Generated for Key Areas of Public Safety Education

This will cause a snowball effect for much needed research within the industry

- **Medical Research and Development**
  - Efficacy
  - Positive/Negative Health Effects
  - Positive/Negative Social Effects
    - Grant Money $10 Million
    - Missing Data in Research
- **Public Awareness and Education Campaigns**
  - Overall Youth Substance Use
  - After School Program/Tony Grampsas Grant
  - Capital School Construction

Establishing Best Practices and Corporate Business Standards

Corporate Business Standards
- Responsible Training
- Building Codes
- Verified Systems
- Product Development / Consistency
- Policies and Procedures
- Production Caps
- Safety Procedures
Extractions and Infusion Laboratories

Infused Product Manufacturers License

The Processes, Chemistry, Safety, Equipment, Setup and Regulation of the Extraction of THC From Cannabis…
Cannabis Extractions

Cannabis Concentrates are obtained via an extraction process. There are several schools of thought as to what is the best way to extract the terpenes and Cannabinoids from the Cannabis plant. However, one thing that is not up for debate, Extracts are the future of Cannabis. From simple hash to very complex chemical compounds made in state of the art laboratories, Cannabis extractions are quickly becoming the number one sought after medical and recreational products in all markets when it comes to Cannabis.
Cannabis Extractions are in the Medical Spotlight

TOP 10 BENEFITS

MARIJUANA HELPS MANY CONDITIONS, WE HAVE IDENTIFIED THE TOP 10

The days of Reefer Madness are pretty far gone, but the American public is still vastly uninformed about marijuana, particularly concerning its myriad of amazing health benefits. Here are 10 (out of countless) health benefits that marijuana possesses. With that said, it’s simply baffling that medical marijuana is not legal in most of the country, and still there retains such a negative reputation. So, if you have one of these conditions, now might be a good time to call up your cousin’s dealer.

Currently 85% of the general public approves of the medical benefits of marijuana while the federal government continues it’s prohibition

Source: ilmmj.com

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Safety First

Safety should always be your first consideration in any solvent extractions. Come up with an safety plan as well as standard operating procedures and make sure to stay on top of the ever changing regulatory system.

Personal Protective Equipment (PPE)

Local Fire Authority Approval

Product Safety and Security

Material Safety Data Sheets
Methods of Extraction

Water Extraction (Bubble Hash)

Mechanical Separation (Dry Sieve, Kief)

CO2 (Super Critical Fluid Extractions)

Solvent Based Combustable Extracts (Butane, Hexane, Alcohol)

Solvent Based Edible or Topical (Phoenix Tears style, RSO)
Characteristics and Challenges of Solvents: butane, propane, ethanol, isopropanol, hexane, carbon dioxide

• Safety Concerns; Fire Risk, Explosion Risk
  (example: butane is explosive)

• Choosing Right Solvent for Right Job
  (example: alcohol extracts THC better than terpenes)

• Fighting the Public Stigma of Solvent use
  (example: home lab explosions)

• Education of Common Practices
  (example: all Canola oil made via hexane)

• Safety: hazard communication, material safety data sheets, written programs;
Kitchen Requirements

• Ventilation

• Cleaning requirements

• Quality Equipment, properly maintained

• Infusion starting mediums

• Safe Storage for Food Grade Product Consumption
Lab Requirements

- CLS (Closed Loop System) for Hydrocarbons
- Personal Protective Equipment (PPE)
- Ventilation
- Solvent storage
- Equipment minimum safety
- Security
Sanitation of Lab and Kitchen

Recommend SERVSAFE Certification (General Commercial Kitchen Training)

Stainless Steel for easy clean surfaces

Alcohol for cleaning

Product storage (pre/post run, cure)
Lab Safety, Closed Loop System
Lab Safety, CO2 System
Safe Products

- Qualify for Human Consumption
- Pre / Post Processing
- Pesticide Standards
- Microbiological
- Shelf Life
- Transportation Procedures
- Storage
Quality Control

- Batch Testing
- Variances
- Standards for Raw Material
- Safe / Unsafe Exposure Levels
- Dangerous Residuals
- Filtration
- Labeling
Importance of Quality Starting Material

- Plants should be pesticide and mold free
- Plants should be flushed of all nutrients
- Fresher material will yield more desirable color

fresh material just harvested
Older material harvested 6 weeks prior
Clover Leaf University Goals

• Employee and Community Safety and Training

• Affordable Training and Certification

• Standardized Safety Training Measures

• Research and Development

• Outreach to other Non-profit Organizations

• Training for Professionals Outside of Cannabis

• First Responsible Vendor Certification Program (4 Divisions)
  • Responsible Vendor, Responsible Manufacturer, Responsible Cultivator, Responsible Consumer
Our Vision in Creating Clover Leaf University

Clover Leaf University is an early stage specialized education enterprise focusing on raising awareness, research and development, best practices, regulatory compliance, and product and consumer safety.

Colorado is very fortunate to have a state legislature with the vision and strength to embrace cannabis. The passing of laws spring boarded a variety of medical and business opportunities. The industry is in a huge growth stage and has paved the way for CLU to build the platform for a learning community. One that will provoke thought and innovation, social responsibility, job creation, and increment benefits for the state.

We at Clover Leaf are thankful for the opportunity to share this time with all of you. Thank you for being here today and sharing this vision with us.

Chloe Villano President, Clover Leaf University
CLU would like to Thank The American Chemical Society for allowing us to speak to such high qualified business professionals as there is a huge opportunity for Scientists with the much needed R and D in this new and ever changing industry.
CONCLUSION

- It is critical that the education and training put out there is regulated and structured with proper oversight. That is why Cloverleaf took the very important steps to ensure that our curriculum is approved by the state and treated as professionally as possible in a classroom setting. We want people to be educated by the most experienced and knowledgeable people in the industry. We don’t want people just googling marijuana on the internet. When that happens they end up grossly misinformed.
Thank you to the American Chemical Society for Having us Today
1. 130.3 metric tons
   That’s Colorado’s annual demand for marijuana — equal to 36.8 million “eighths” of cannabis flower.

   Makes you wonder how many Coloradans use cannabis regularly …

2. 485,000
   That’s the number of adults who are 21 and older using marijuana regularly (at least once a month), and it’s about 9 percent of the state’s population.

   And what about those using more often than that …

3. 23 percent
   That’s the amount of Colorado’s user population that consumes cannabis near daily.

   But what about the out-of-state tourists visiting Colorado and purchasing legal weed …

4. 90 percent
   That’s the amount of recreational pot sales out-of-state tourists are responsible for at shops in mountain resort communities.

   But how much of Colorado’s annual demand are these tourists actually buying …
5. 7 percent
That’s the amount of Colorado’s annual pot demand purchased by out-of-state tourists.

But has Colorado pot gotten more or less expensive since the sales first began on Jan. 1 …

6. -9 percent
That’s the price drop on a recreational eighth of marijuana flower at a dozen prominent Colorado pot shops from January 2014 ($53.88) to December 2014 ($48.95).

But how much did Colorado sell in recreational cannabis …

7. $246,810,599.03
That’s the state’s total recreational marijuana sales, as counted from January to October (November and December data isn’t yet available from the Colorado Department of Revenue).

And what about total medical sales …

8. $326,716,273.59
That’s Colorado’s total medical marijuana sales, also from January to October. (Yep, that’s $573,526,872.62 in 10 months for both recreational and medical pot sales in Colorado.)

And what are the majority of the state’s medical marijuana patients claiming as their need for medicinal pot …

9. 103,918
That’s the number of medical marijuana patients reporting “severe pain” as their condition for a license — or 94 percent of the state’s total patients.

So what does all of this mean for the taxes raised by the sale of legal marijuana in Colorado …
10. $60.1 million
That’s the amount Colorado has brought in via taxes, licenses and fees on recreational and medical marijuana, from January to October.

And what about the cannabis-infused edibles, the cookies and gummies and brownies that proved to be surprisingly popular in this first year of recreational sales …

11: 10 milligrams of THC
That’s the state-standard single-serving size for marijuana edibles, with 100 milligrams maximum allowed in an individually packaged product being sold recreationally.

And did these edibles end up making for a crazy Halloween, as some thought they would …

12: Zero
That’s the number of reports of THC-laced candy given to trick-or-treaters on Halloween, regardless of widespread concern that legal marijuana would lead to pot-laced candies in children’s Halloween hauls.

5. 7 percent
That’s the amount of Colorado’s annual pot demand purchased by out-of-state tourists.

But has Colorado pot gotten more or less expensive since the sales first began on Jan. 1 …
What Does This Mean for My Community?

• There will be a lot more tax money being brought into your city
• Crime is decreased
• Pharmaceutical drug use is down up to 25% in MMJ States
• The marijuana industry in Colorado has produced over 10,000 jobs
• Two months ago, Colorado hosted the first ever Cannabis Jobs fair and there were lines for hours. In today’s struggling economy, Cloverleaf is proud to educate and prepare people to work in this industry
• The marijuana industry is leading the way in job creation, especially among minorities and women like myself. Colorado has led the way for enterprising women revolutionizing this industry and Cloverleaf University hopes to cultivate many, many more.
• Cannabis has been absent from American culture for over 75 years under the failed policy of prohibition. Cloverleaf is here to re-socialize cannabis into our culture. We train people about the cultivation techniques, extraction techniques and responsible consumption techniques. We work with health professionals to educate the public on harm reduction and we work with legal professionals to educate the industry on the current regulations.
• It is critical that the education and training put out there is regulated and structured with proper oversight. That is why Cloverleaf took the very important steps to ensure that our curriculum is accredited by the state and treated as professionally as possible in a classroom setting. We want people to be educated by the most experienced and knowledgeable people in the industry. We don’t want people just googling marijuana on the internet. When that happens they end up grossly misinformed