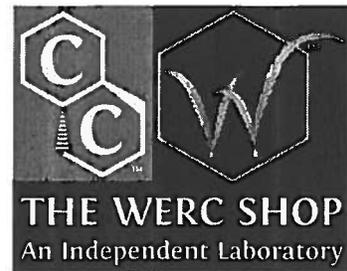


The Werc Shop, Inc.
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Jeffrey C. Raber, Ph.D., President



May 22, 2013

Rep. Kevin Cotter, Chair
House Judiciary Committee
House Office Building
Lansing, MI 48090

Re: Written testimony regarding the Distribution of Medical Marihuana in Michigan

Rep. Cotter and Members of the Judiciary Committee:

I would first like to commend you on seeking to establish a good foundation and framework upon which a robust and healthy medical cannabis distribution program can operate. However, there are some critical elements pertaining to protecting patient health and safety, particularly product quality control and assurance standards, that are necessary to be included if you are to develop a successful and safe medical program.

As a brief introduction we are an independent analytical laboratory that has offered medical cannabis analysis in California for the last 3 years. As professional scientists with formal chemistry degrees we are recognized by many as scientific leaders and are respected for our depth of knowledge and innovative analysis efforts with cannabis. Our comprehensive cannabis testing program covers over 45 different cannabinoids and terpenes, detection of 30 different pesticides and hundreds of microbiological contaminants. We have processed thousands of samples in California and benefit from vast cannabis and botanical analytical expertise retained by professional scientists, one of whom is Dutch and had previously worked within the quality control department of the Dutch national medical cannabis distribution program that places pharmaceutical grade cannabis inside of pharmacies. I can assure you we are more than capable of doing all of the independent testing your program would require to provide medicine to your patient population.

- 1.) Cannabis is a botanical product and can be analyzed and scrutinized the same as any other product of botanical origin.** The cannabis plant in the form of hemp is handled as a dietary supplement by operators in over 30 other countries, essentially performing cannabinoid quantification and the same safety screening as is required for any other dietary product consumed today. There are well established guidelines and methods for analysis at a variety of purity levels available for scientists to understand and use in guiding their analysis efforts accordingly. Essentially, well known tires can be put on this new vehicle without having to re-invent the wheel.
- 2.) Testing and safety screening of medical cannabis is successfully done today in a number of different locations around the world.** In the Netherlands they have been testing and assuring medical cannabis for their national medical program which provides registered products via prescription to patients in a pharmacy. Canada has always required laboratory testing and safety screening of their medical cannabis and will continue to do so in their new program beginning later this year. Israel ensures all of their medical marijuana is adequately tested as well. Analytical methods, operating guidelines and regulatory structures for these efforts have been clearly established in other states in American and can easily be adopted by Michigan to effectively regulate the laboratory operations and the distribution supply chain quality.

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- 3.) **Safety screening and quality control regulations need to exist for medical cannabis.** Throughout our work we've been able to confirm 25% of random samples selected in Los Angeles have unsafe levels of microbiological contamination, 15% of samples have pesticides or plant growth regulators present and edible products are gravely mislabeled with un-identified dosages. Perhaps most concerning when considering this is that we have recently confirmed almost 70% of a chemical residue present on a dried cannabis flower product can be inhaled by a patient consuming through inhalation (reference attached). What we observe is very alarming and I believe proper patient protections that address labeling and safety standards are absolutely required at the state level so that sick, immunocompromised and chemotherapy weakened patients can seek to utilize cannabis for relief without concerns of further jeopardizing their health due to contaminants in their medicine.
- 4.) **Laboratory testing needs to be performed by an independent organization.** Independent laboratory relationships assure integrity of reporting and allow for easier regulatory monitoring of the entire program. Proper scientific testing of medical cannabis is best provided by professional scientists with formal educations and strong backgrounds in the sciences to possess a thorough understanding of the analytical tools utilized in this work. Medicinal analysis requires expensive infrastructure elements, very technical skill sets and relevant know-how to perform properly. Allowing just anyone to provide this function would in no way be in the best interest of patient consumers. Better efficiencies and economies of scale can far more easily be achieved by independent third-party laboratories who would also further offer an unbiased reporting perspective. The analytical equipment required to provide all of the tests for a Dispensary could easily exceed \$500,000 and additionally would require further specialized laboratory infrastructure and advanced degreed individuals to calibrate, operate and maintain. This is a unique and specialized area of expertise that should not be expected to be mastered by just anyone. It is also one that requires incredible attention to detail and accuracy; it needs to be done at professional levels.

Independently-verified labels provided by third-party laboratories offer the best method of ensuring patient safety. Labeling offers detailed product information being made available to those who need to find the right medicine for their individual ailments and needs. It would be a great disservice to your state's patients if you do not include at least some level of independent testing and accurate labeling requirements on all of the medicinal products produced. Please consider the importance of product safety and consumer protection when creating your distribution system. I would be more than happy to clarify or further discuss any of these points if that would be helpful to you in establishing adequate safety standards for cannabis.

| Cannabaceutical™ Facts | | | |
|--|----------------|---------------------------|---|
| Δ⁹-THC Max: | 16.27 % | Sour Diesel Sativa |  |
| Δ ⁹ -THCA | 18.11 % | | |
| Δ ⁹ -THC | 0.38 % | | |
| CBD Max: | 0.30 % | Tested On: | 02/01/13 |
| CBDA | 0.27 % | Limonene | 7.3 mg/g |
| CBD | 0.07 % | Myrcene | 4.0 mg/g |
| CBG Max: | 0.47 % | β-Caryophyllene | 2.4 mg/g |
| Pesticides Screen | PASS | Germacrene B | 2.4 mg/g |
| Microbiological Screen | | GOLD | |
| <small>Keep Out of Reach of Children Do Not Operate Heavy Machinery While Medicazed For Medical Use Only CA Health & Safety Code 11302.5</small> | | | |

Sincerely,

Jeffrey C. Raber, Ph.D.
 President
 The Werc Shop, Inc.
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