

Teri Ambs

From: Jeffrey C. Raber <jeff@thewercshop.com>
Sent: Tuesday, March 11, 2014 5:30 AM
To: Teri Ambs
Cc: Colleen S. Curtis; Cate McClure
Subject: Useful Information for discussion of Michigan HB 4271 and HB 5104
Attachments: JRaber-TheWercShop-Testimony-Cannabis-Testing-in-Michigan-140311.pdf

Dear Teri,

I would like to provide my attached testimony to the Committee on Government Operations hearing concerning medical cannabis bills HB 4271 and HB 5104.

Thank you,
Jeff

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Jeffrey C. Raber, Ph.D., President

Via email on March 11, 2014

Committee on Government Operations
Senate Office Building
Lansing, MI 48090

Re: Written testimony regarding bills pertaining to the distribution of medical cannabis in Michigan

Members of the Committee:

We are currently witnessing a vast array of medical cannabis laws and regulations unfolding in different state level experiments. Washington, Colorado, Massachusetts, and Connecticut have existing requirements for mandatory laboratory testing of cannabis products with Nevada, Illinois and Oregon soon to be added to those states with mandatory testing requirements. Most certainly, not all of the approaches are identical but there is already developing a currently accepted minimum for consumer protection. That minimum is adequate label content being accurately represented according to the tolerance of label dosage claims allowed which are to be performed by a third party independent testing laboratory.

We have offered medical cannabis analysis services in California for the last 4 years and as professional scientists with formal chemistry degrees we are recognized by many as scientific leaders in the field and we 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. We believe there are some critical gaps within the testing and labeling requirements currently being reviewed such that patients could be at great risk.

- 1.) **Expand the chemical scope of "pesticides"**. It is important to clarify your position on "pesticides" to be more inclusive of other chemicals also used during cultivation efforts. The more appropriate "chemical residues" term would allow for coverage of the herbicides, rodenticides, fungicides, and plant growth regulators that may also be used.
- 2.) **Residual solvent testing of extracts needs to be included**. Currently there are no provisions for the inclusion of residual solvent testing being required on extracts made from cannabis flower and trim.
- 3.) **Safety screening and quality control regulations need to exist for all medical cannabis products**. Throughout our work we've been able to confirm 25% of random dried flower 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 unidentified 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 (J. Toxicology, 2013, Article ID 378168, Determination of Pesticides in Cannabis Smoke). 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

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utilize cannabis for relief without concerns of further jeopardizing their health due to contaminants in their medicine. Don't let what is happening in California happen in your state, be sure to require all product forms be tested appropriately.

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.

Sincerely,

Jeffrey C. Raber, Ph.D.
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