

Therapeutic Cannabis Medical Oversight Board  
April 7, 2021, Remote Meeting (Zoom)  
Meeting Minutes

*Members Present:* Virginia Brack, Heather Brown (Alternate Chair), Corey Burchman, Jill MacGregor, Richard Morse, Molly Rossignol, Seddon Savage, Tricia Tilley (for Jonathan Ballard), Lisa Withrow

*Members Absent:* Jerry Knirk (Chair), Cornel Stanciu

*DHHS Staff:* Michael Holt, DPHS Program Administrator

Meeting commenced at 5:35 pm  
Heather Brown, Alternate Chair, presiding

### Minutes

Meeting minutes from 3/3/21 were approved

- Motion: Savage. Second: Brack. Vote: 8-0 (Morse not yet present)

### Cannabis Testing Presentation and Discussion

Presentation by Andrew Nelson from Nelson Analytical Labs.

Holt introduces Mr. Nelson, owner of the testing laboratory that has been working with the Therapeutic Cannabis Program since its inception in 2016. Nelson Analytical operates in Manchester and Keene, NH, as well as in Kennebunk, Maine (including adult use cannabis testing in Maine)

Mr. Nelson provides brief history of the origins of his lab's role with the program.

- There were no independent laboratories in NH that tested cannabis in 2016.
- The ATCs solicited interest from existing laboratories in the state to enter the cannabis testing industry.
- Nelson Analytical had been in business for 20 years, doing environmental, water, food, and pharmaceutical testing, but had not done cannabis testing at that point.
- Entered into an initial contract/agreement with the ATCs to provide cannabis testing services.
- There has been a steep learning curve, but has smoothed out and stabilized over the past couple years.

Cannabis testing includes:

- Potency
  - Cannabinoids (THC, THCA, THCV, CBC, CBD, CBDA, CBDV, CBG, CBN)
  - Terpenes (various, not required by the regulations)
- Contaminants
  - Heavy metals (arsenic, cadmium, lead, mercury)

- Microbiologicals (aerobic plate count, enterobacteriaceae, salmonella, yeast, mold, total coliform bacteria e. coli)
- Mycotoxins (aflatoxin and ochratoxin)
- Residual solvents (ethanol)
- Pesticides (various)

#### Accreditation

- Lab is accredited for environmental testing through the State Department of Environmental Services.
- There is no state accreditation for cannabis testing.
- Lab is licensed to test cannabis by the state's Department of Health and Human Services (Health Facilities Administration, RSA 151)
- Has various ISO accreditation for cannabis testing standards

#### Discussion

- Why are flower and concentrate tested for different things?
  - State regulations require every harvested flower batch to be tested for cannabinoid profile and contaminants, and every concentrate batch to be tested for cannabinoid profile (but not contaminants)
  - Some concentrates/extracts and some finished products are now being tested for contaminants
- When ATCs provide samples to the lab, do they need to identify genealogically?
  - No, identifying info varies. Lab may receive a serial number, product number, or a strain name. Regardless, the identifier is unique to that batch.
  - Lab is not involved in the selecting the sample for testing. ATCs select the sample for testing and deliver the sample to the lab. Lab does not go onsite to the cultivation facilities for sampling.
- What is "batch" and what percentage of that batch is sampled?
  - Lab has established a minimum sample size to test for the whole batch, regardless of batch size.
  - State regulations do not require a "representative sample size" based on batch size to be tested. Instead, regulations require ATCs to have a sampling methodology that creates a randomized sample from the batch.
  - There is no third party going in to the ATCs to randomly select samples for testing. The TCP has proposed legislation to allow state regulators to legally possess and transport cannabis for this purpose.
- Have there been any issues? What happens when a contaminant is identified above the maximum threshold?
  - Most common issue is mold. This is the most common problem in all states.
  - Occasionally there are other microbiological problems (yeast, coliform, others).
  - When a sample tests over a contaminant threshold, lab re-tests to confirm
  - Percent of issues has been very low, below 5%.
  - Have never seen heavy metals at toxic levels. Once there was lead at a low level, and once there was mercury from a broken mercury vapor lamp.

- The TCP receives all test results and exceedances are flagged.
- When there is an exceedance, the ATC quarantines the entire batch, and may either destroy the batch or engage the TCP in a strict remediation process.
  - The TCP has generally approved an ethanol-based remediation protocol, with each step requiring TCP approval, including additional contaminant testing.
  - No failed flower is allowed to be sold as flower.
- What is the sample size?
  - For flower, samples are usually about 5 grams. These are separated into smaller amounts for different tests.
  - Will see variability within a bud. Different portions of the bud may see 10-15% variance within a large bud.
  - Will see variability from bud to bud. Taking flower samples from the top or the bottom of a plant will result in different potency (eg, 25% THC from the top of the plant; 15% with the bottom of the plant)
  - There is some variability in the test, but more variability in the flower.
  - Less variability in testing concentrates.
  - For cannabinoids, we are essentially taking one small portion of bud as undisturbed as possible and testing it. If we were to pulverize and test, trichomes would fall off and the potency would be lower.
- Thought for possible Board action. Maybe we should add a disclaimer on the label regarding variability of cannabinoid content.
  - Holt suggested this as a general education document, rather than an addition to the label, which is already difficult to read based on the information already required.
- Why would an ATC request terpene testing?
  - The lab will tests for terpenes (12-15 different terpenes) at the ATC's request. This testing is not required.
  - There is a lot of research and talk within the industry about the synergy of terpenes and cannabinoids.
  - From a patient perspective the terpene profile is very important. It is believed that terpenes can cause reactions and/or moderate the cannabinoid actions.
  - Keenan Blum (Administrator of Prime ATC): there is a very synergistic effect between cannabinoids and terpenes. Can predict that betapcaryoffylene will improve effects of CBD. Mercene can alter the permeability of the blood brain barrier to cannabinoids. Merstene can do the same. There is lots of research on this, but what is not conclusive is what do they do when nabiximols and works better with terpenes).
- What is the ISO standard?
  - ISO is the set of standards. These are administered through different organizations. ISO 17025 is specific to testing laboratories. Could get accredited for other labs. Write the standards.
  - Hire separate accreditation company that accredits laboratories to these standards.

- Expensive. Private. ANAB is the accrediting body.
- What is the turn-around time for testing results?
  - Goal is one week
  - When things are going well can get cannabinoid results out in two days
- What are the packaging requirements for products?
  - There are no statutory requirements for “freshness,” but ATCs work hard on this based on feedback from patients.
- What about pesticide testing?
  - Pesticide testing is a requirement of the program.
  - It is instigated by the TCP.
  - Conducted quarterly, at a random time each quarter.
  - Random batch selected by TCP.
  - There have been zero issues with pesticides.
  - Pesticides are not allowed, except for EPA-exempt 25-B products. Natural products. Even organic pesticides cannot be used in NH.
  - All NH grows are indoors so pesticides are not generally needed. Maine has outdoor grows and so pesticides are needed more.
  - It would be cost prohibitive to test more frequently for pesticides
    - \$40 for a cannabinoid profile test
    - \$400 for a pesticide panel test
- On average, what is the annual cost to the ATCs
  - The full panel of tests (cannabinoid, heavy metals, microbiologicals) is \$330 per sample.
  - Quarterly pesticide testing is \$400.
  - Cannabinoid profile alone is a \$40 test.
- Are there things we should be testing for that we aren’t?
  - Not really. Maybe there should be a refocus of testing, but not necessarily adding new tests.
    - For example, salmonella is a relatively expensive microbiological test, but we’ve never seen any salmonella in a flower. Maybe edibles should be tested for this instead, which are more susceptible to microbiological problems; salmonella would be a more relevant test here, than for flower.
    - Mycotoxins come from mold, but we have never seen this, so maybe test less often? It is \$100 of the \$330 charge.
  - Thought for possible Board action. We might consider some changes based on what has been experiences.
  - Such changes would not need legislative action; DHHS has authority to make these changes in rules. Need to approach this methodically, but it’s a considerable amount of work/
- How did you decide what pesticides to test for?
  - Looked at standards within the cannabis industry, and which pesticides are commonly used throughout the country.

- It is difficult to test for because all chemicals in cannabis interfere with isolating the chemicals in pesticides.
- Why is there such a difference in costs for different tests?
  - Usually this is equipment-based. Pesticide testing run on a \$100,000 piece of equipment.
  - Cannabinoid and microbiologicals are more routine testing.
  - Cannabinoid testing costs are kept down due to volumes tested.
  - Microbiology testing is relatively inexpensive.
  - The lab has had the same pricing since they started testing in 2016.
- What is the definition of a “batch”?
  - Definition of a batch is defined in administrative rule.
  - Harvest batch, specifically identified portions uniform in strain, grown at the same time, same nutritionals, and harvested at the same time.
  - TCP does not regulate batch size.

[ATC representatives invited to speak on this]

  - Klaus from Prime ATC:
    - Batches are a specific strain grown in the same room using the same regimen from plant to plant, from veg to flower to harvest.
    - Within one room there may be several strains or batches growing
    - Harvests can vary: up to as large at 30 lb batch and harvests as small as 2-3 lb batch.
    - May vary based on plant health and vigor. If there is a fluctuation in temperature or humidity the batch tends to behave the same way.
  - Lee Cooper from a Sanctuary ATC agreed with Klaus’s comments
- ATC representatives were asked for their input on any changes in testing requirements.
  - Allow ATCs to use OMRI pesticides; perhaps require more testing of cannabis infused products.
  - They would gladly work with the TCP and the lab on any changes considered.
- Does having only one lab act as an impediment to your work? [Question asked of ATC representatives]
  - Klaus: No we have not had critical issues due to having one lab. Understand things happen and there may be slow downs due to equipment problems etc.
  - Andy: we haven’t felt overwhelmed by the volume of cannabis (10X volume in Maine than NH), but sometimes we have delays due to equipment issues. Stressful knowing that dispensaries need their product on the shelves.
  - Mike: there is no cap on number of cannabis testing facilities allowed by the state, but volume is relatively low so there may be no incentives for others to enter the market.
- Are there other labs in Maine or are you [Nelson] doing it all
  - There are other labs in Maine, but Nelson was the first to get accreditation.
  - With adult use in Maine, there will probably be a half a dozen companies.
  - Nelson would have to grow 50 fold to handle the volume in Maine.
- Is there a big difference in cost between Maine and NH given the difference in volume?

- No, we use the same price structure in both states, which is on the middle to low end of the pricing in other states.
- Brown opens the discussion to the public for any other comments or questions.
  - Klaus said it was great to listen to the conversation. Helps us to do the best we can do as a dispensary. Thank you, a good experience.
  - Holt thanked Mr. Nelson for sharing his knowledge and expertise
  - Brown, as a patient, found the conversation enlightening.
- Brown was commended on her handling of the meeting as Alternate Chair.

Meeting adjourned at 7:33.