pennsylvania
DEPARTMENT OF AGRICULTURE

Pennsylvania Hemp Program
Acceptable Hemp Potency Analysis Methods

According to the 2018 Farm Bill, the USDA interim rule and the 2020 PA Hemp Controlled Plant General Permit all hemp variety lots grown must be sampled and tested to determine THC concentration levels. Hemp variety lots shall be sampled by a PA Department of Agriculture-certified sampling agent and tested by a laboratory which "shall be an independent laboratory able to meet all requirements for testing and reporting outlined in Article IV…" [*PA Hemp Controlled Plant General Permit, Article IV.(a)(2)(iii)*] The following excerpt from the 2020 PA Hemp Controlled Plant General Permit describes the Laboratory testing and methods which are acceptable to be utilized by Hemp Growing Permittees for official clearance of hemp plants planted in Pennsylvania.

PA Hemp Controlled Plant General Permit, Article IV. (e):

(e) THC Testing Laboratory Standards and Methods. All the following shall comprise the rules and requirements for THC testing.

(1) Testing shall be done at the Department laboratory or an independent laboratory able to meet all requirements for testing and reporting outlined in Article IV sections (e) and (f). The laboratory shall be a DEA registered laboratory meeting standards of performance described in USDA regulation or guidance. The Department shall delay enforcement of the requirement for DEA registration of laboratories, in parallel with the delay of enforcement announced by USDA in an enforcement discretion memo issued February 27, 2020 (https://www.ams.usda.gov/rulesregulations/hemp/enforcement) or any subsequent related publication by USDA.

(2) Testing for THC will be conducted using post-decarboxylation or other similarly reliable method approved by the Department and by USDA where the THC concentration level measured includes the potential to convert delta-9-tetrahydrocannabinolic acid (THCA) into THC. Testing methodologies currently meeting these requirements include those using gas or liquid chromatography with detection.

(3) Testing shall be done and reported on a dry weight basis.

(4) The laboratory must report a Measurement of Uncertainty (MU) with each hemp test result. The laboratory must be able to provide documentation for derivation of the measurement of uncertainty if requested by the Department.

Summary:

The Department must receive results from laboratories which show the Total Potential THC% on a dry weight basis. This can be reported using the following methods:

- Gas Chromatography with Flame Ionization Detection resulting in a decarboxylated delta-9 THC.
- High Performance Liquid Chromatography showing delta-9 THC and THCa, which will result in a calculated Total THA.
- Testing of dried and ground samples to report dry-weight potency results.
- Testing of wet samples and using moisture content analysis to calculate dry-weight potency results.

(Other laboratory methods would need to be reviewed and approved by the Department prior to acceptance of potency analysis results.)