Performance Based Sampling: A Review of States' Language

Industrial Hemp Advisory Board Meeting

April 11, 2023

Performance Based Sampling

This document is an incomplete review of many states' performance based sampling language. Not all states have language and some have little variation from those states that are included.

Note: the USDA confirmed that as of 2023, Missouri, Wisconsin and Vermont no longer have state programs. Currently, the USDA does not have any performance based sampling language for farmers in jurisdictions where no state or tribal plan exists.

For Reference - USDA's Commonly Asked Questions About Performance Based Sampling

From Sampling Guidelines for Hemp U.S. Domestic Hemp Production Program Issued January 15, 2021

(Link to document: https://www.ams.usda.gov/sites/default/files/media/SamplingGuidelinesforHemp.pdf)

Performance-Based Sampling Protocols:

1. States and Tribes ***may*** develop performance-based sampling protocols.

2. Performance-based sampling protocols ***may*** consider seed certification processes, other process that identify varieties that have consistently resulted in compliant hemp plants, whether the producer is conducting research on hemp at an institution of higher learning or that is funded by a Federal, State, or Tribal government, whether a producer has consistently produced compliant hemp plants over an extended period of time, and other similar factors.

3. Performance-based sampling protocols may consider alternative requirements for operations that grow "immature" cannabis that does not reach the flowering stage. These facilities may grow seedlings, clones, microgreens, or other non-flowering cannabis, as determined by the State or Tribe.

4. A performance-based sampling protocol must have the potential to ensure, at a confidence level of 95 percent, that the cannabis plants will not test above the acceptable hemp THC level of 0.3 percent on a dry weight basis.

5. Regardless of the specific performance-based sampling requirements developed under a State or Tribal plan, all samples must be collected from the flowering tops of the plant by cutting the top five to eight inches from

the “main stem” (that includes the leaves and flowers), “terminal bud” (that occurs at the end of a stem), ”or “central cola” (cut stem that could develop into a bud) of the flowering top of the plant.

6. States and Tribes are required to include performance-based sampling protocols in the plan submitted to USDA for approval if they decide to use this methodology.

[2. The standard sampling protocol ensures, at a confidence level of 95 percent, that no more than one percent of the plants in each lot would exceed the acceptable hemp THC level and ensures that a collected sample represents a homogeneous composition of the lot.]

Arizona

Exhibit F Section 2. Policy

To comply with the requirements under ARS Sections ~~~~, the Department shall ensure the following applies for each of the crops described.

A. Hemp Microgreens:

Hemp microgreens are described as immature hemp seedlings for human consumption that are cut-off above the soil or substrate line and harvested prior to flowering and not more than 14 days after germination. Hemp microgreens are typically between two (2) and three (3) inches in height, but not taller than five (5) inches.
When the Department receives a planting notice from a grower that is intending to plant a crop of hemp microgreens, the Department will request a notice of intent to harvest so the Department does not proceed with standard sampling and testing protocols under A.A.C. R3-4-1008 and SP19-01.
The Department will verify that the producer:
Obtained and planted only authorized hemp seed pursuant to A.A.C. R3-4-1006;
Harvested the crop no more than fourteen days after planting;
Only grew hemp plants that were no more than five inches in height; and
Did not grow hemp plants to a flowering state.
A licensed grower that produces a crop that does not meet the criteria for an exception to R3-4-1008 and SP19-10 shall either:
Follow the compliance, sampling and testing requirement pursuant to A.A.C. R3-41008 and SP19-01; or
Dispose of the crop in a manner as described in A.A.C. R3-4-1013(F).

B. Hemp Greens:

Hemp greens are described as hemp leaves from immature plants germinated from seed and the plants are no more than ten (10) inches tall and are not flowering.
Producers of hemp greens must provide the Department with a planting notice and intent to harvest at the time of planting. The notice must indicate that the crop is planted to produce a hemp greens crop so the Department does not proceed with standard sampling and testing protocols under A.A.C. R3-4-1008 and SP19-01.
The Department will verify that the producer:
Obtained and planted only authorized hemp seed pursuant to A.A.C. R3-4-1006;
Harvested the crop prior to the plants being ten inches in height;

Did not produce a flowering crop.
A grower that produces a crop that does not meet the criteria for an exception to A.A.C. R3-4-1008 and SP19-10 shall either:
Follow the compliance, sampling and testing requirement pursuant to A.A.C. R3-41008 and SP19-01; or
Dispose of the crop in a manner as described in A.A.C. R3-4-1013(F).

C. Hemp Transplants:

Hemp transplants are described as hemp seedlings, rooted cuttings, immature plants produced from tissue culture, or other means of reproduction, which are not harvested but transplanted into a large container or field to mature for harvest.
The movement of transplants from their original location to the crop production location is not considered a harvest.
A licensed hemp nursery or grower must submit a planting report when producing hemp transplant material pursuant to A.A.C. R3-4-1011.
When the Department receives a planting notice from a licensed hemp nursery that is intending to plant a crop of hemp transplants, the Department will not proceed with standard sampling and testing protocols under A.A.C. R3-4-1008 and SP19-01.
The Department will verify that the hemp nursery producer:
Obtained and planted only authorized hemp seed pursuant to A.A.C. R3-4-1006;
Transported the transplants by the date indicated on the planting notice pursuant to A.A.C. R3-4-1011; and
Did not grow hemp plants to a flowering state.
A licensed hemp nursery that produces a crop that does not meet the criteria for an exception to A.A.C. R3-4-1008 and SP19-10 shall either:
Follow the compliance, sampling and testing requirement pursuant to A.A.C. R3-41008 and SP19-01; or
Dispose of the crop in a manner as described in A.A.C. R3-4-1013(F).

D. Hemp Mother Plants:

Hemp mother plants are described as immature cannabis plants with a THC concentration of 0.3% or less that are used for cloning purposes.
Hemp mother plants may be sampled any time, but may be exempt from future sampling if those results are 0.3% THC or less.
Plantings of hemp mother plants must be reported to the Department pursuant to A.A.C. R3-4-1011.
Hemp mother plants that are found compliant through sampling and testing are not required to be harvested within 30 days after sampling not withstanding A.A.C. R3-41008(D).
Hemp mother plants that are found non-compliant through sampling and testing are not eligible to be used as a mother plant; and the producer will be responsible for meeting the provisions for non-compliant crops pursuant to A.A.C. R3-4-1008(D)(2).
Mother plants that are intended to be harvested or leave the registered growing area must be sampled and tested in accordance with A.A.C. R3-4-1008 and SP 19-01 to ensure compliance with THC concentration.
A licensee that produces a hemp mother plant that does not meet the criteria for an exception to R3-4-1008 and SP19-10 shall either:
Follow the compliance, sampling and testing requirement under R3-4-1008 and SP19-01; or
Dispose of the crop in a manner as described in A.A.C. R3-4-1013(F).

Colorado

Performanced Based Hemp Sampling Protocol

CDA's Hemp Sampling Guidelines (Appendix D) adopts USDA performance sampling approach where the method of sampling ensures a confidence level of 95 percent that no more than one percent of the plants in each lot would exceed the acceptable hemp THC level and ensure that a representative sample is collected that represents a homogeneous composition of the lot. The performance-based sampling methods meet the following criteria as described in (a)(2)(iii) (A) and (B) of section §990.3. These are:

(A) The alternative sampling method is included in the State's hemp plan and will be reviewed and approved by USDA.

(B) The alternative method will ensure, at a confidence level of 95 percent, that the cannabis plants tested with the alternative method will not test above the acceptable hemp THC level. The alternative method includes the following factors:

(1) A producer who used certified seed that have demonstrated consistently acceptable THC level under Colorado conditions;

(2) A producer who has registered for R&D and is conducting research on hemp;

(3) A producer who has consistently produced compliant hemp plants at least for three consecutive growth cycles; and

(4) A producer who grows immature plants including clones and microgreens who will not have mature plants will be subjected to alternate sampling protocols.

Performance based sampling does not prevent CDA from conducting random records inspections or sampling and testing of any hemp crops from licensee/registrants of the hemp program. CDA reserves the right to conduct a records inspection, sample, and test any hemp lot at any time to ensure compliance with the acceptable hemp THC level. Based on testing data for a period of two years, CDA will reassess all performance based sampling.

Performance based sampling will include different sampling frequencies and requirements for the following categories of hemp producers:

1. Producers Using Certified Seed or Certified Clones With Consistent THC Levels

CDA has conducted certified seed trials since 2014 and included clones in 2020. Twenty two varieties of hemp seed and two varieties of clones consistently provide total THC results of less than 0.3% in test plots located in various regions of Colorado. Because CDA has used scientific methods to test hemp crops produced from certified seed and clone to ensure at a confidence level of 95 percent that no more than one percent (1%) of the plants in the lot would exceed the acceptable hemp THC level, CDA will apply an alternative sampling plan to these crops. Table 1 below.

To qualify for alternative sampling methods, producers must provide CDA the following in addition to information required in 7 CFR 990.3(a)(1). These are:

a) Producer must provide to CDA copies of all certified seed label(s) and invoices of all purchased certified seed to in order to verify size of certified lots and that certified production is not supplemented with non-certified genetics in the planting report.

b) Hemp crops produced from certified hemp seeds or clones may not be subject to testing of each lot. Instead, certified seed or clone lots will be tested every other year. If a certified hemp seed or clone variety is found to exceed the acceptable total THC concentration, that producer must have the specific variety tested at every growth cycle until the acceptable total THC concentration is achieved.
c) CDA will randomly select lots produced with certified seed or clone for sampling for a period of two years and evaluate total THC results in order to determine effectiveness of this alternative sampling method.

2. Production For Research And Development

To qualify for alternative sampling methods, producers must provide to CDA the following in addition to information required in 7 CFR 990.3(a)(1) including:
The hemp producers cultivating for these purposes apply for a research and development hemp registration with CDA per 8 CCR 1203-23, rule 2.2 (see Appendix B).
provided that the hemp is NOT entering commerce, allow universities and research institutions to self-report results of sampling and testing under the following conditions:
i) Results regarding research are shared with the public or published on the research institution website.
ii) The research producer provides CDA with the scope and standard operating procedures for production of hemp.
iii) The research producer provides CDA with a disposal plan for all hemp produced including photographic evidence for verification.
iv) The research producer allows the CDA to inspect or audit the above documentation and testing results on an annual basis.
v) Any non-compliant lots of hemp produced by a university research institution (or research institution) shall be disposed of and reported to the department.
Research institutions may not be subject to pre-harvest sampling of hemp crops when they comply with (a), (b), and (c) listed above.
Although university research institutions must be assessed a negligent violation, if tested crops exceed 1.0%, CDA may use discretion in developing corrective action plans and is not required to suspend a research license. Research institutions shall only be assessed a negligent violation if the THC content of a sample collected by CDA exceeds 1.0% total THC.

3. Producer Producing Compliant Hemp Over An Extended Period Of Time

The final rule allows for the consideration of "whether a producer has consistently produced compliant hemp plants over an extended period of time." A hemp producer who has met all three of the below compliance history requirements may not be subject to testing in the current year:
a) produced hemp for a period of three (3) consecutive growth cycles;
b) has had their hemp tested by CDA or an authorized sampling agent each of those growth cycles;
c) all results in each of the previous three (3) growth cycles were below the acceptable hemp THC level (total THC not more than 0.3%); and are growing the same variety(s) or cultivar(s) as in the previous three (3) growth cycles.

4. Production Of Microgreens, Greens, Transplants, And Immature Plants

Hemp Microgreens (definition): immature hemp seedlings for human consumption that are cut-off above the soil or substrate line and harvested prior to flowering and not more than 14 days after germination. Hemp microgreens are typically between two (2) and three (3) inches in height, but not taller than five (5) inches. If hemp producers harvest microgreens, the state shall conduct random testing of these plants to include 25% of all lots produced. Due to extremely low levels of cannabinoids in the very immature plants, the sampling and testing of every harvest of every lot is impractical and unnecessary.

Hemp microgreens may not be subject to testing of each lot. The producer shall ensure that the seeds used to produce microgreens are from cannabis varieties that meet the definition of hemp. The producer must obtain written approval from CDA before planting seeds for microgreens. Hemp microgreen operations shall be subject to random inspections and sampling.

Hemp Greens (definition): hemp leaves from immature plants germinated from seed and the plants are no more than ten (10) inches tall and are not flowering.

Since the definition of hemp greens involves the leaves of very immature plants (less than 10 inches tall) and not flowering it would be unnecessary to sample every lot of that hemp.

Hemp greens may not be subject to testing of each lot. The producer shall ensure that the seeds used to produce hemp greens are from cannabis varieties that meet the definition of hemp. The producer must obtain written approval from CDA before planting seeds for hemp greens. Lots harvested for hemp greens shall be subject to random inspections and sampling.

Hemp Transplants (definition): hemp seedlings, rooted cuttings, immature plants produced from tissue culture, or other means of reproduction, which are not harvested but transplanted into a large container or field to mature for harvest. The movement of transplants from their original location to the crop production location is not considered a harvest.

When hemp transplants move from the greenhouse/indoor facility to either larger pots or the field, this would not be considered a harvest, therefore would not require sampling because the final crop is sampled prior to harvest.

The transfer of hemp transplants to the location at which these plants will grow to maturity and from which these plants will be harvested shall not be considered a harvest. Hemp transplants will not be subject to sampling before the plants are transferred to the location at which these plants will grow to maturity and from which these plants will be harvested. However, the mature crop produced from hemp transplants is subject to sampling and testing.

Hemp Mother Plants (definition): immature cannabis plants with a THC concentration of 0.3% or less that are used for cloning purposes.

Hemp mother plants may be sampled any time, but may not be subject to testing in the future if those results are 0.3% THC or less. If the mother plants are of certified seed or clone varieties, they would not need to be sampled when they are harvested or leave the Registered Land Area. Otherwise, different strains of mother plants that are harvested or leave the Registered Land Area must be sampled.

5. Production For Grain Or Industrial Uses

If producers are harvesting for grain or fiber, there is less need to sample because these strains of cannabis plants are generally below 0.3% THC. For this reason, these producers will be sampled every other year or growth cycle. Producers growing varieties that test above the allowable total THC concentration will be tested every growth cycle will be required to have subsequent lots of that variety tested every growth cycle and will be eligible for testing every other year after receiving a test result within the allowable total THC concentration for that variety. In addition, risk-based sampling would apply to producers using strains that have historically tested higher in total THC concentration. If a producer is sampled and the lot fails the pre-harvest test, the producer would have the option to remediate the lot or destroy it. The remediated lot would be sampled.

Table 1. Certified Seed/Clone Data 2020. All are seed except as noted.
(Table not copied)

Connecticut

General Requirements for all Performance Based Sampling

1. A lot of hemp shall only be eligible for performance-based sampling consideration if the licensee maintains records documenting the subject cultivar's compliance with the acceptable hemp THC level.

2. All licensees shall ensure that the seeds, clones and starts used to produce hemp are from cannabis varieties that meet the definition of hemp.

3. A licensee's sampling program accepted under this protocol that demonstrates, at a confidence level of 95 percent, that the cannabis plant species Cannabis sativa L. that will be subject to this alternative method will not test above the acceptable hemp THC level. Sampling plans must also demonstrate a process for collecting a representative sample that is a homogeneous composition of the lot and provide a disposal plan for any cannabis plants that are found to exceed the acceptable hemp THC level. The department reserves the right to sample, and test any hemp lot at any time to ensure compliance with the acceptable hemp THC level. The licensee will provide the Department with documentation on why their crop is eligible for the performance-based sampling plan, a sampling plan for sampling their crop and a disposal and remediation plan for any cannabis plants that are found to exceed the acceptable hemp THC level. Sampling plans must demonstrate a process for collecting a representative sample that is a homogeneous composition of the lot. The sampling plan should also include frequency of sampling. All official samples will be completed by the Department's authorized sampling agents.

4. The department shall conduct random inspections, including records review of licensees, regardless of whether or not all licensees are subject to the sampling and testing requirement.
Indiana

3. Performance Based Sampling Protocol
    a. OISC will only conduct a facility and/or record inspection of all licensees of the type "University Research", whose hemp will not enter the stream of commerce.

b. All licensees are subject to official sampling if hemp has entered the marketplace as a result of the facility/records inspection.

Kentucky

Standards and Procedures for Performance Based Sampling.

(1) The department intends to sample and test every lot of hemp prior to harvest every year. In the event that it is not feasible to sample and test every lot, then the department may implement these performance-based sampling procedures.

(2) The goal is to ensure at a confidence level of 95 percent that no more than one percent (1%) of the plants in each lot will exceed the acceptable THC level and ensure that a representative sample is collected that represents a homogenous composition of the lot.

(3) A lot of hemp shall only be eligible for performance based sampling consideration if the licensee maintains records documenting the variety or cultivar's compliance with the acceptable THC concentration.

(4) The transfer of hemp transplants from one location to the location at which the plants will grow to maturity and from which the plants will be harvested shall not be considered to be a harvest. Hemp transplants will not be subject to sampling before the plants are transferred to the location at which these plants will grow to maturity. Instead, the mature crop produced from hemp transplants will be subject to sampling and testing.

(5) A hemp licensee who has met all four of the below compliance history requirements may not be subject to the sampling and testing requirement in the current year:

(a) produced hemp for the past three consecutive years;
(b) underwent THC testing by the department each of those three years;
(c) received THC testing results below the acceptable THC level (total THC not more than 0.3%) each of those three years; and
(d) currently growing the same variety(s) or cultivar(s) as in the previous three years.

(6) Hemp crops which were planted with known Certified seed varieties for grain or fiber, and which are to be harvested only for grain or fiber (with no leaf or floral material harvested) may not be subject to the sampling and testing requirement. Previous testing of those varieties in Kentucky by the department revealed that only 9 of 179 lots (5 %) tested above the acceptable hemp THC level. At least 50% of all lots produced from these varieties will be sampled each year on a random basis.

(7) Hemp varieties appearing on the department's Summary of Varieties list that have been tested below the acceptable THC level at least 90% of the time may be subject to a lower frequency of sampling and testing. At least 50% of all lots produced from these varieties will be sampled each year on a random basis.

Maine

Standards and Procedures for Performance Based Sampling.

3. Performance based sampling will apply to the following hemp-growing situations in Maine:

Research institutions, provided that any hemp grown will (a) never enter the stream of commerce and (b) be tested by the institution for THC content prior to harvest. Research institutions must ensure the proper disposal of noncompliant plants and comply with the same licensing and reporting requirements as all other license holders. Lead researchers are subject to the Criminal History check requirement.
Microgreens, as these are very young plants (under 5" tall and approximately 14 days past germination). There are no flowers to test with microgreens and THC content in the plant tissue is negligible.
Hemp seedlings, as these are young plants, under 12" tall, without floral bud development. There are no flowers to test.
Groups listed are subject to Performance-based sampling requirements may be audited or randomly inspected by the Department to ensure compliance.

4. For all other hemp production, the Department will collect samples from every grower and every lot. As the hemp industry in Maine continues to evolve, the Department will collect and analyze data pertinent to sample collection and testing. The Department intends to use this program data to develop additional performance-based sampling protocols, which will be submitted as an addendum to the Maine Hemp Program Plan and submitted to USDA for approval prior to implementation.

Michigan

Definitions

1.1 Performance-based sampling – methods for sampling and testing hemp which allows for less than 100% of all hemp lots planted in the state to be sampled and tested by the Department.

1.2 Department – Michigan Department of Agriculture and Rural Development.

1.3 Confidence level of 95% -high confidence that no more than 1% of the plants in each lot would produce non-compliant hemp plants.

1.4 College or university – defined in PA 220 as "a college or university described in section 4, 5, or 6 of article VIII of the state constitution of 1963 or a junior college or community college described in section 7 of article VIII of the state constitution of 1963."

1.5 Harvest -the act of gathering an industrial hemp lot, collecting viable seed, or moving a lot from a location disclosed on the grower registration to an undisclosed location. "Harvest" does not include gathering a lot for disposal or remediation; collecting official regulatory samples, collecting samples for compliance monitoring, and moving a lot to a location owned, operated, or leased by the same grower for purposes of planting. Examples of harvesting include gathering, retting, hulling, crushing, sorting, sifting, threshing, and baling.

1.6 Hemp Microgreens-immature hemp seedlings grown for human consumption that are harvested above the soil or substrate line, prior to flowering, and not more than 14 days after germination. Microgreens typically are harvested at the first true leaf stage and sold with the stem, cotyledons (seed leaves), and first true leaves attached. Hemp microgreens are typically between two (2) and three (3) inches in height, but not taller than five (5) inches.

1.7 Hemp Greens – hemp leaves from immature plants, grown for human consumption, and no more than ten (10) inches tall and are not flowering.

1.8 Hemp Sprouts – germinated hemp seeds for human consumption that are harvested in their entirety (seed, root, and stem), have undeveloped or underdeveloped cotyledons, and true leaves have not begun to emerge. Sprouts usually take less than one week to grow. Sprouts could also be harvested above the soil or substrate line, but in that case would be considered microgreens.

1.9 Hemp Transplants-hemp seedlings, rooted cuttings, immature plants produced from tissue culture, or other means of reproduction, which are not harvested but transplanted into a large container or field to mature for harvest. The movement of transplants from their original location to the crop production location is not considered a harvest.

1.10 Certified Seed -the progeny of Breeder, Foundation, or Registered seed handled to maintain satisfactory genetic purity and varietal identity and Certified to AOSCA (Association of Official Seed Certifying Agencies) standards and having an official AOSCA seed label. (This does not include state's THC compliance verification programs.)

1.11 PA 220 – Public Act 220 of 2020, the Industrial Hemp Growers Act, as amended. 1.12Standard sampling – every lot and every grower is sampled and tested by the Department.

2. Background

2.1 The Department's preharvest sampling procedure requires standard sampling of every lot of hemp prior to harvest in accordance with USDA's Final Rule, 7 CFR Part 990.3, and Public Act 220 of 2020, the Industrial Hemp Growers Act. However, both the Final Rule and Act allow states to develop performance-based sampling approaches that ensure A) a confidence level of 95 percent that no more than one percent of the plants in each lot exceed the acceptable THC concentration and B) a representative sample is collected that represents a homogenous composition of the lot. The performance-based methods herein meet the following criteria as described in Part 990.3(a)(2)(iii)(A) and (B):

The alternative method must be part of the State or Tribe's hemp plan and is subject to USDA approval.

The alternative method must have the potential to ensure, at a confidence level of 95 percent, that the Cannabis plant species Cannabis sativa L. that will be subject to the alternative method will not test above the acceptable hemp THC level. The alternative method may consider one or more of the following factors:

Seed certification process or process that identifies varieties that have consistently demonstrated to result in compliant hemp plants in that State or territory of the Indian Tribe;

Whether the producer is conducting research on hemp;

(3) Whether a producer has consistently produced compliant hemp plants over an extended period of time; and

(4) Factors similar to those in this paragraph (a)(2)(iii)(B).

3. Purpose

The purpose of performance-based sampling is to allow the Department to reduce preharvest sampling of every lot of hemp grown in the state (called "standard sampling") under specific conditions. This not only reduces the burden on the Department of sampling typically compliant

hemp but also lessens sampling and testing costs for registered hemp growers. The goal is to ensure at a confidence level of 95 percent that no more than one percent of the plants in each lot will exceed the acceptable hemp THC level and ensure that a representative sample is collected that represents a homogeneous composition of the lot.

4. Scope

This document pertains only to the collection of preharvest hemp samples. Standard operating procedures for conducting sampling are documented in MDARD-PPPM-PH-SOP-805.

5. Responsibilities

5.1 Designated sampling agents – trained and certified department sampling agents perform sampling at growers assigned to them in the spring of each year.

5.2 Hemp program specialist – reviews and approves applications for college/university hemp research alternative sampling and testing methods and ensures sampling agents follow this performance-based sampling SOP for cultivation scenarios identified below.

5.3 Registered hemp grower – must submit a request to the Department for performance-based sampling with respect to research, immature plants, mother plants, and hemp grown for fiber/grain production from certified seed.

6. Standard Sampling

6.1 Performance-based sampling does not exclude the Department from conducting sampling inspections at any hemp grower lot or lots. The Department maintains authorities as described in PA 220 of 2020, as amended, to inspect facilities, collect records and samples, and test samples to ensure compliance with the acceptable THC level.

6.2 Any lot of hemp that is produced from seeds saved from a previous year's crop (not specifically bred for reproduction) shall be sampled and tested.

6.3 Any lot shall only be eligible for performance-based sampling consideration if the registered grower maintains records documenting the variety's compliance with the acceptable THC concentration.

7. Research and Development at Colleges and Universities

7.1 The principal investigator (PI) must be registered as a hemp grower with the Department. Multiple PIs may be registered at an institution.

7.2 The Department will not collect fees for Hemp Grower Registrations issued to a college or university hemp researcher if the project is for research only and the hemp does not enter commerce.

7.3 Colleges and universities performing industrial hemp research must allow for the collection of official hemp samples and total delta-9-THC testing by the Department as required under chapter IV of PA 220 for any hemp that will be harvested and/or entering the stream of commerce. If harvesting activities are not performed, then preharvest sampling is not required. However, the hemp lot must be disposed of within 15 days of the conclusion of its use as research plants.

7.4 If the hemp will be harvested and the college or university would like approval for an alternative sampling method where the Department does not collect preharvest samples, the following requirements apply:

7.4.1 The researcher must apply to the Department by providing a plan that includes the scope of the research and proposed standard operating procedures for cultivation, harvesting, sampling, testing, and disposal. Timeframe for the research must be stated.

7.4.2 The plan must confirm that all research locations where hemp will be grown or handled, including greenhouses, fields, processing/storage areas, and labs, were identified on the registration application or if not, included with the plan.

7.4.3 The plan must identify name, address, phone number, and Hemp Registration Number of each grower not employed by the college or university that will be utilized for growing hemp for the research. Note that these registered growers are also responsible for following all PA 220 requirements including but not limited to recordkeeping and disposal of research lots.

7.4.4 The plan must include a statement acknowledging that the hemp cannot enter the stream of commerce.

7.4.5 The plan must include a statement acknowledging that the Department may conduct inspections, investigations, and sampling to ensure compliance with PA 220 and the researcher's plan.

7.4.6 The plan must include procedures to ensure the researcher disposes of all noncompliant hemp in accordance with Section 407 of PA 220 by completing disposal via routes described in the Act; providing a Notice of Intent to Dispose to the Department; and if not witnessed by the Department, providing a Notice of Disposal for all hemp disposed of, which includes photographic evidence for verification. Disposal steps are outlined here.

7.4.7 The plan must confirm that compliant hemp must be disposed of within 15 days of the conclusion of its use as research plants. The notification process noted above does not need to be completed for compliant hemp. However, a disposal record must be maintained.

7.4.8 The plan must state the researcher will follow PA 220 requirements for recordkeeping, record retention, and field/greenhouse posting.

7.4.9 The plan must state that the researcher will follow USDA Farm Service Agency reporting requirements for crop acreage reporting. Per the FSA, crops not entering the stream of commerce are not required to be broken down by lot (variety) on the acreage report (a campus could be considered one lot), and the planting date can be reported as the average planting date if lots were planted over multiple dates. Find more information here.

7.4.10 The plan must state that the researcher will allow THC test results to be reviewed by the Department upon request, consistent with PA 220 authority.

7.5 Although the Department must assess a negligent violation should research lots exceed 1% delta-9THC, the Department may use discretion in developing a Corrective Action Plan for the college or university.

7.6 Alternative sampling plans will not be accepted from private research institutions.

8.Sprouts and Microgreens Sampling

8.1 Due to low levels of cannabinoids in very immature plants such as sprouts and microgreens, sampling and testing of every harvest of every lot is not practical or necessary.

8.2 The Department collects information of grower registration applications as to whether a grower intends to grow hemp for microgreen production. The Department will sample and test at least one lot of each variety grown in a season per hemp grower. For example, if a microgreens grower produces flats of Variety X ready for sale at intervals of every 14 days, the Department will sample at least one lot of Variety X each year.

8.3 Growers will ensure seeds used to cultivate hemp microgreens are from Cannabis varieties that meet the definition of industrial hemp and maintain records of sources as required in PA 220.

8.4 Microgreen growers will be subject to random inspections and sampling.

9. Hemp Greens Sampling

9.1 While the definition of industrial hemp includes all parts of the plant, leaves from plants less than 10 inches tall typically have low levels of cannabinoids, making it unnecessary to sample and test every lot grown for hemp greens.

9.2 The Department will sample and test at least one lot of each variety grown in a season per hemp grower. For example, if a greens grower produces flats of Variety Y ready for sale at intervals of every 25 days, the Department will sample at least one lot of Variety Y each year.

9.3 Growers will ensure seeds or plants used to cultivate hemp greens are from Cannabis varieties that meet the definition of industrial hemp and maintain records of sources as required in PA 220.

9.4 Hemp greens growers are subject to random inspections and sampling.

10. Immature Clones/Transplants Sampling

10.1Sampling is not required for immature plants when they are not harvested but transplanted into a larger container or field to mature prior to harvesting. The movement of transplants from their original location to another location owned or leased by the same registered grower and identified on their grower Registration Application is not considered a harvest.

10.2If clones/transplants/immature plants are moved to another individual or business, the action is considered a harvest and preharvest sampling is required by the Department. The grower can only move the plants to another registered grower or licensed hemp processor-handler (for example, for potting and tagging prior to sale to other registered growers) r in accordance with PA 220 (note that the licensed processor cannot grow the hemp without being a registered hemp grower)

10.3The Department will sample and test at least one lot of each variety grown in a season per hemp grower. For example, if a clone grower produces flats of Variety Z ready for sale at intervals of every 25 days, the Department will sample at least one lot of Variety Z each year. This is reduced because the mature plant will be subject to sampling and testing prior to harvest.

10.4Hemp clone/transplant/immature plant growers are subject to random inspections and sampling.

11. Mother Plants at Clone/Transplant Grower Locations

11.1Hemp Mother Plants have an acceptable THC level that can be demonstrated via a Certificate of Analysis from floral material sampled at plant maturity. Hemp Mother Plants are used for cloning purposes.

11.2Hemp Mother Plans may be sampled by the Department at any time and may not be subject to future testing if results show THC compliance.

11.3Mother plants with compliant THC lab results are not expected to yield noncompliant clones. However, should the grower discover clones are noncompliant through seasonal monitoring, the grower must contact the Department to provide a Notice of Intent to Dispose of the lot or request remediation sampling once a remediation option has been selected, in accordance with PA 220. At the Department's request, the grower must supply a list of clone purchaser names, addresses, and purchase dates within one year of the noncompliant test results and notify purchasers of those results. The Department will sample the mother plants at the grower's expense and proceed with the same disposal or remediation options should the mother plants test noncompliant. The grower will be placed on a yearly inspection schedule for the noncompliant mother plant variety for 2 subsequent growth cycles. The variety will be moved back to every other year if testing of the variety is compliant for 2 growth cycles.

11.4The grower must maintain lab testing results that provide THC results of the mother plant and documentation that positively links the clone lot to the mother plant.

11.5Growers must maintain a copy of the record of sale to the processor; a record of the person from whom the grower purchased the viable industrial hemp; and the variety purchased, in accordance with PA 220.

12. Certified Seed-Fiber and Grain Hemp Varieties Sampling

12.1To qualify for performance-based sampling for certified seed, the hemp grower must be growing hemp varieties for fiber or grain production using certified seed. Hemp varieties grown for fiber or grain typically test below the acceptable THC maximum. For this reason, hemp growers cultivating only fiber or grain varieties will be sampled every other year as opposed to yearly. As such, 100% of the grain/fiber growers would be sampled over a 2-year period.

12.2If testing shows a noncompliant THC level, the grower will be placed on a yearly inspection schedule for that variety for 2 subsequent growth cycles. The variety will be moved back to every other year if testing of the variety is compliant for 2 growth cycles.

12.3The grower must provide the Department with the following:

12.3.1 Copies of certified seed labels for each fiber/grain lot planted.

12.3.2 Copies of all invoices of purchased seed to verify size of certified lots and that the lot has not been supplemented with non-certified seed.

12.4A list of approved fiber and grain varieties for sampling every 2 years will be updated yearly and published at www.Michigan.gov/IndustrialHemp. Sources for determining approved varieties will include but not be limited to MDARD Geagley Laboratory testing data, Michigan State University, other in-state variety trials, and neighboring state research.

13. Cannabinoid Varieties

At this time, the Department will continue to sample all hemp lots grown for cannabinoid production except in relation to the categories above (college/university research, immature plants, mother plants, certified seed for fiber/grain crops).

14. Grower History of Compliance

14.1Excluding the scenarios above, it is the Department's intention to sample and test every lot of hemp prior to harvest every year. If it is not feasible to sample and test every lot, the Department may begin performance-based sampling based on grower history of compliance.

14.2Growers operating under a Corrective Action Plan will always be inspected and sampled. 14.3New growers will always be inspected and sampled. 14.4Hemp growers that are also licensed to grow medical or recreational marijuana or are licensed caregivers will always be inspected and sampled.

14.4.1 A registered grower who has met all three of the requirements below may not be subject to standard sampling:

a. Cultivated hemp for the past 3 consecutive years.
b. Underwent THC testing by the Department each of the past 3 years and received THC testing results below the acceptable THC level each of those years.
c. Is currently growing the same variety(ies) as in the past 3 years and can demonstrate this via records showing seed/transplant source and compliance with acceptable THC levels.

14.5Should performance-based sampling be utilized regarding grower history of compliance, the Department will still sample approximately 50% of these growers yearly.

Minnesota

Inspection

All hemp licensees in Minnesota are subject to routine inspection of the facility, grow location, and records required by the Department, FSA, and USDA. All hemp Lots grown in Minnesota are also subject to sampling to verify that the THC concentration of the hemp planted within a registered site does not exceed the acceptable hemp THC level. The licensee must obtain confirmation from the Department that official sampling has been completed or is not required for a Lot before it is harvested.

The Department shall utilize both risk-based and random approaches to select licensees to be inspected and Lots to be sampled to meet the performance-based sampling goals. The Department shall sample the appropriate number of plants to ensure, at a confidence level of 95%, that no more than 1% of the plants in the Lot would exceed the acceptable hemp THC level. Risk-based determinations will be based on the grower's history including those operating under a corrective action plan as well as variety testing data to prioritize sampling higher-risk varieties.The Department will update this inspection selection and sampling model as needed to ensure that we have 95% confidence in detecting non-compliant hemp in the state. Updated inspection and sampling protocols will be submitted to the USDA for approval.

The Department will use the following procedures to identify growers that will be inspected and to select hemp Lots for sampling each year:
A. GROWERS

1. MDA will compile list of all licensees. MDA will use the licensees' performance history to determine if inspection and/or sampling are necessary.

a. Growers in the program for at least two years with no history for growing non-compliant hemp may not be selected for inspection or sampling. Growers that maintain a program to evaluate compliance prior to harvest through routine testing may only be subject to a records inspection.
b. New growers will always be inspected and sampled.
c. Growers operating under a Corrective Action Plan will be inspected and sampled.
d. Growers also licensed to grow for the Medical Cannabis Program will always be inspected and sampled.

2. MDA will compile a list of all registered grow locations for growers that merit inspection and sampling based on the criteria above. MDA will first inspect and sample any Lot that falls into one of the following risk factors:

- New Variety in Minnesota
- Variety that has had a ≥10% failure rate previously in Minnesota, based on historical data (see Appendix 2)
- If a variety is not approved by Health Canada, AOSCA or OECD or other organization that approves hemp varieties for seed certification, then it will be deemed high risk if it meets one of the following two criteria: The historical testing data in Minnesota (Appendix 2) shows that there have been fewer than 5 samples taken of this variety, or it has a ≥5% failure rate
- Lots that are from Open-Pollinated Seed Saved for Replanting
- Lots grown next to Recreational Marijuana grows if it becomes legal in Minnesota

3. After the risk-based analysis is completed and licensees are selected for inspection and/or sampling, each remaining unassigned grow location will be assigned a random number by using a random number generator.

4. Additional grow locations will be selected for sampling in random numerical order, until 80% of the total registered grow locations are selected. *

*Exact percentage of grow locations to be selected will fluctuate depending on the number of hemp Lots that have risk factors. The MDA is using all historical THC testing results data from the 5 years of the Minnesota Hemp Pilot Program to determine low- and high-risk varieties (data published on the MDA website).

Montana

5.1 Performance Based Sampling Plan

All hemp Lots are subject to sampling to verify the Acceptable Hemp THC Level is not exceeded. The department shall utilize both risk-based and random approaches to select licensees to be inspected and Lots to be sampled to meet the performance-based sampling goals. The department shall sample the appropriate number of plants to ensure, at a confidence level of 95%, that no more than 1% of the plants in the Lot would exceed the Acceptable Hemp THC Level. Risk determinations are based on seed certification standards and compliancy of varieties previously grown in Montana.

Montana has established in Administrative Rules of Montana four separate categories (i.e., A, B, C and D) of hemp varieties and strains based on their status of seed certification and being previously grown in Montana. See the Category definitions in Section 2 of this Plan and the approved 2022 Seed/Clone Variety List in

Appendix B. For a variety or strain to be upgraded, the department must receive a request from an interested party, and it must have a compliancy rating of 80% with a minimum of 5 official samples testing not greater than the Acceptable Hemp THC Level. A variety or strain may be removed or downgraded from the Category list if found to consistently produce hemp greater than 0.3% Total THC. Before any variety or strain is permitted to be grown in Montana, a review of its seed labeling (certification) and COA is completed to determine its Category.

The department will prioritize sampling based on the Category, sampling 100% of all Category C strains planted, 20% of Category B varieties planted, and 10% of Category A varieties planted on an annual basis. Additionally, each variety that tests above the Acceptable Hemp THC Level with a compliancy rating less than 80% in the previous year and any new variety not previously grown in Montana will be sampled.

Based on the previous three years of sampling data, Total THC test results (on a dry-weight basis) show a total non-compliance percentage of 22.1%. Non-compliance percentages by individual categories include Category A -3.5%; Category B -6.2% and Category C -27.1%. Noncompliance and 2021 Lot size data by end-use is as follows:

Crops grown solely for the production of hemp fiber shall be verified as such within 30 days prior to harvest (i.e., cutting of the crop). If verified, a solely fiber crop will be sampled within three weeks prior to baling per its Category as outlined above. Hemp fiber crops that fail verification, whether due to ineligibility of the crop or delayed verification request from the producer, must be sampled prior to harvest.

For an illustration of the decision process for determining varieties and strains to sample, see the Sampling Decision Flowchart in Appendix C.

See the full list of varieties and strains sampled in Montana beginning in 2019, including its current Category and test result data that supports the Performance Based Sampling Plan in Appendix D.

Complaints of non-compliance will be investigated regardless of Category or past compliance and be inspected and sampled as necessary to determine compliance.

Nevada

"Lots" >10 acres

The NDA will conduct performance-based sampling if 1) the "lot" is >10 acres and 2) the producer has only produced compliant crops during the previous two certification years and has complied. If this criteria is met the same sampling procedure for >50 plants and <10 acres will be applied to each "lot" per the NDA Hemp Sampling SOP.

For growers who have produced non-compliant hemp varieties within the previous two certification years, the NDA will reference USDA hemp sampling guidance to ensure the collected sample size provides a confidence level of 95%.

In addition to annual compliance sampling for all producers, the NDA will conduct annual post planting site inspections for new growers to verify production compliance. During a post planting site inspection, NDA staff will map the planted growing area to verify compliance with the certified production area.

New Mexico

Lots >10 acres: NMDA will conduct performance-based sampling built on following qualifications:

1) lot is >10 acres.
2) producer has only produced compliant crops during the previous two certification years.

If aforementioned criteria are met, the sampling procedure for >50 plants and <10 acres will be applied to each lot. For new growers or growers who have produced noncompliant hemp varieties within the previous two certification years, one plant per acre up to thirty plants may be sampled with a minimum of ten cuttings collected.

- Although the guidelines above represent the minimum number of plants to remove samples from a single cultivar planted in a contiguous field, circumstances may require additional plants to be sampled. In the event that a single hemp cultivar exhibits an unusual amount of genetic diversity between plants (i.e., leaf shape, plant height, plant color) that cannot be accounted for by environmental conditions (i.e., soil type, irrigation), additional samples will need to be taken. NMDA authorizes the number of additional plants to be sampled up to the discretion of the inspector.
- In certain situations, guidelines contained in USDA's "Sampling Guidelines for Hemp Facilities" may be used to determine plant number (Appendix J).

4. Performance-based Sampling:

- In the event a crop will be harvested prior to the presence of maturing bud/flower structures (fiber), mature leaves from the apical stem of the plant will be collected for analysis.
- In the event a crop will be harvested for grain or fiber and no floral material is harvested, the crop may not be subject to the sampling and testing requirements described above. NMDA will verify only grain or fiber are harvested and all other portions of the plant will be disposed of following approved destruction methods.
- In the event a crop will be harvested for hemp greens or microgreens, the crop may not be subject to the sampling and testing requirements described above. Due to extremely low levels of cannabinoids in the immature plants, sampling and testing of every lot is unnecessary. Licensee shall ensure seeds used for hemp green or microgreen production are from cannabis varieties meeting the definition of hemp.

North Dakota

Performance-based Sampling

NDDA uses a performance-based sampling protocol on certain varieties and producers of hemp. NDDA uses a list of hemp varieties that are classified as low risk. This list is maintained on the NDDA webpage. Low risk hemp varieties must meet the following criteria:

- The variety of hemp has a history of THC compliance with NDDA; and,

• The hemp lot was planted from Certified Seed that was certified by the authorized seed certifying agency of the state or province where the seed was produced

Lots of low-risk variety hemp may not be subject to testing if the producer growing the lots has:

• Had a minimum of two consecutive years of compliant fields with NDDA; and,
• The Agricultural Commissioner has deemed the producer to be eligible for performance based sampling.

Producers are notified of lots that will not require sampling after the lot has been planted. NDDA may pull samples on any hemp lots. NDDA will perform random tests on low-risk varieties to monitor compliance with NDDA policies. NDDA will inspect 10% of lots subject to Performance-based Sampling annually. Any variety that is not on the low-risk list is sampled.

All hemp grown for research purposes by a North Dakota institution under the control of the state board of higher education will utilize a performance-based sampling protocol:

• Researchers or research institutions are required to notify NDDA of the researcher's intent to plant hemp. Researchers must provide NDDA with contact information of the lead researcher and location where hemp will be planted.
• The research institution must certify to NDDA that a Criminal History record check has been completed and the researcher has not had a controlled substance felony in the previous 10-year period.
• Hemp for research must be disposed of at the end of the research utilizing one of the methods listed in this plan. Hemp that longer qualifies as research must be tested for compliance before it can enter commerce.
• NDDA reserves the right to inspect or audit researchers subject to Performance-based Sampling.
• Researchers must report lots to FSA.
• Researchers not affiliated with a North Dakota institution under the control of the state board of higher education will be subject to standard licensing and sampling requirements.

Pennsylvania

Performance-based Sampling

(A) Detailed description of the performance-based sampling procedure will be published on the Department's Hemp Program webpage: https://www.agriculture.pa.gov/Plants_Land_Water/industrial_hemp/Pages/default.aspx and will be subject to USDA approval.

(B) The performance-based sampling method will have the potential to ensure, at a confidence level of 95 percent, that the lots subject to this alternative sampling will not test above the acceptable hemp THC level.

(C) Performance based sampling will be considered for situations in which material obtained from a single source has been planted in non-contiguous areas that may be identified and tracked independently from other source materials. In this case, a composite sample across multiple lots may be allowable.

(D) Performance based sampling will be considered for lots for which a seed certification process has consistently demonstrated the variety represented in that lot to be compliant, or when the Department can demonstrate the variety to have tested compliant on a consistent basis in previous years.

(E) Alternative sampling will be considered when a permittee is conducting research on hemp.

Tennessee

Performance Based Sampling

Background
From 2015 through 2020 the department tested 1600 samples. There were 10 violations during this period. That is a violation rate of .6 percent. (See Table 1.) There are many growers that are not likely to have a violation. Over this period no grain, greens, microgreens, transplants, or research growers had a violation. There are many growers who have proven a track record of no violations as well.

Goal
While focusing on results, flexibility, and efficiency, the department will use the USDA performance based sampling approach where the method of sampling ensures a confidence level of 95 percent that no more than one percent of the plants in each lot would exceed the acceptable hemp THC level and ensure that a representative sample is collected that is a homogeneous composition of the lot.

Definitions
When used in this plan, unless the context requires otherwise:
• Research institution means an accredited institution of higher learning, a research facility that conducts scientific research on hemp, or any licensed person growing hemp for research purposes, and none of the hemp is intended for commerce.

- Microgreens and greens mean immature hemp seedlings for human consumption that are cut-off above the soil or substrate line and harvested prior to flowering and not more than 14 days after germination. Hemp microgreens are typically between two (2) and (3) inches in height, but not taller than five (5) inches. Greens are no more than ten (10) inches tall and not flowering.
- Transplants mean nonflowering hemp seedlings, rooted cuttings, immature plants produced from tissue culture, or other means of reproduction, which are not harvested but transplanted into a large container or field to mature for harvest. The movement of transplants from their original location to the crop production location is not considered a harvest.
- Fiber, grain, and seed hemp mean hemp grown for the sole purpose of being harvested for fiber, seed, or grain.
- Legacy growers mean producers who have a proven record with TDA that have grown hemp for at least 3 consecutive years, been sampled in each of those years, and those tests were below the acceptable limit.
- Hemp not intended for commerce means hemp that is not sold or transferred to another entity after harvest.

(1) The performance-based sampling methods meet the following criteria as described in (a)(2)(iii)(A) and (B) of 7 CFR §990.3:

a. The performance-based sampling method is included in the State's hemp plan and will be reviewed and approved by USDA.

b. The performance-based method will ensure, at a confidence level of 95 percent and that the cannabis plants tested will not test above the acceptable hemp THC level.

(2) Performance-based sampling does not prevent the department from conducting random records inspections or sampling and testing of any hemp crops from a licensee. The department reserves the right to conduct a records inspection, sample, and test any hemp lot at any time to ensure compliance with the acceptable hemp THC level.

(3) Performance based sampling will include different sampling frequencies and requirements for the following categories of hemp producers:

(a) Hemp Not Intended for Commerce and Hemp Grown for Research.

1. To qualify for alternative sampling methods, producers must provide an application for a research license under Rule 0080-06-28-.03(10).

2. Hemp grown for research shall not enter commerce.

3. Universities and research institutions may self-report results of sampling and testing under the following conditions:

(i) Results regarding research are shared with the public or published on the research institution website.

(ii) The research producer provides the scope and standard operating procedures for production of hemp.

(iii) The research producer provides a disposal plan for all hemp produced including photographic evidence for verification.

(iv) The research producer allows the department to inspect or audit the above documentation and testing results on an annual basis.

(v) The research producer reports to FSA as required in the guidelines for reporting license numbers and acreage. The acreage report does not have to be broken down by lots. If the field was planted over several days, the report will include only the average day of planting.

(vi) The faculty member in charge of the research has submitted a criminal background check in the application process.

4. Any non-compliant lots of hemp produced by a university research institution (or research institution)shall be disposed of and reported to the department.

(b) Fiber, Grain, and Seed Hemp and Hemp Grown by Legacy Growers.

1. If producers are harvesting for grain or fiber, there is less need to sample because these strains of cannabis plants are generally below 0.3% THC. For this reason, 50% of these producers will be sampled every year.. Producers growing varieties that test above the allowable total THC concentration will be tested every growth cycle will, be required to have subsequent lots of that variety tested every growth cycle, and will be eligible for testing every other year after receiving a test result within the allowable total THC concentration for that variety.

2. If a producer is sampled and the lot fails the pre-harvest test, the producer will have the option to remediate the lot or destroy it.

3. A hemp producer who has met all five of the following compliance history requirements may not be subject to testing in the current year:

(i) produced hemp for a period of three (3) consecutive years.

(ii) has had their hemp tested by the department or an authorized testing agent each of those years.

(iii) all results in each of the previous three (3) years were below the acceptable hemp THC level.

(iv) are growing the same varieties or cultivars as in the previous three (3) years. (See Table 2.) and

(v) are growing varieties or cultivars that have not been found in violation. (See Table 3.)

(c) Microgreens, Greens, Transplants, and hemp transplants

1. If hemp producers harvest microgreens, the department shall conduct random testing of these plants to include 25% ofall lots produced. Due to extremely low levels of cannabinoids in the very immature plants, the sampling and testing of every harvest of every lot is impractical and unnecessary.

2. The producer shall ensure that the seeds used to produce microgreens are from cannabis varieties that meet the definition of hemp. Hemp microgreen operations shall be subject to random inspections and sampling.

3. Since the definition of hemp greens involves the leaves of very immature plants (less than 10 inches tall) and not flowering, it would be unnecessary to sample every lot of that hemp.

4. The producer shall ensure that the seeds used to produce hemp greens are from cannabis varieties that meet the definition of hemp. Lots harvested for hemp greens shall be subject to random inspections and sampling.

5. The transfer of hemp transplants to the location at which these plants will grow to maturity and from which these plants will be harvested shall not be considered a harvest. Hemp transplants will not be subject to sampling before the plants are transferred to the location at which these plants will grow to maturity and from which these plants will be harvested. However, the mature crop produced from hemp transplants is subject to sampling and testing.

Table 1.

Year	non-compliant	Samples Taken
2015	0	56
2016	1	39
2017	1	38
2018	2	317
2019	1	950
2020	5	207

Table 2.
Varieties Tested for 3 Consecutive Years
(See State Plan; not copied)
Table 3.
The highlighted varieties will require annual testing
(See State Plan; not copied)

VERMONT - note that Vermont no longer has a hemp program. Regulation has reverted back to the USDA.

1. General sampling and testing requirements:

a. The following policies describing performance-based sampling, required sampling, and/or testing by certified third-party samplers and laboratories are separate and distinct from the Vermont Hemp Program's additional planned or random records inspections, sampling, and/or testing of grower registrants' hemp crops.

b. Each year, the Vermont Hemp Program will conduct planned or random inspections of approximately 20% of its grower registrants.

c. All registered growers not covered by a performance-based sampling protocol must test their crops annually. d. In addition to the performance-based sampling protocols and the Agency's planned or random inspections, the Agency will require that all registrants maintain records of their seeds, clones, and/or starts purchases, including records that provide the cultivar name, name and address of seller or distributor, and a certificate of analysis demonstrating the cultivar's compliance with total delta-9-THC concentrations.

2. The Agency establishes the following limited performance-based sampling protocols to ensure, at a confidence level of 95 percent, that no more than one percent of the cannabis plants grown under Vermont's Hemp Program test above the acceptable THC level for hemp.

a. A research institution is an accredited institution of higher learning conducting hemp research in Vermont or a hemp grower registrant affiliated with an accredited institution of higher learning that is conducting research on crops grown pursuant to the registration. Hemp cultivation conducted by research institutions may not be subject to mandatory annual pre-harvest sampling and testing of hemp crops when:

i. Hemp crops do not enter commerce, and ii. iii. The research institution uses permitted disposal methods and the disposal of all non-compliant crops is documented and reported to the Vermont Hemp Program as described in Section IV of this Plan. The research institution and/or affiliated grower cannot introduce any hemp grown pursuant to this performance-based protocol into commerce. Any hemp grown for commerce is subject to the standard sampling and testing procedures enumerated below in paragraph 3 of this section.

b. Nursery stock is an immature Cannabis sativa L. plant that is not in the flowering growth stage and is intended for planting, including but not limited to clones, starts, and all viable plant parts that may be sold for propagation. Nursery stock may not be subject to pre-harvest sampling and testing when: A producer registrant uses permitted disposal methods and disposal is documented as required by the State plan in Section IV for unsold nursery stock before July 15 of each calendar year, or ii. iii. It is maintained in a vegetative state, and not brought to flower. If brought to flowering stage, this nursery stock protocol no longer applies and plants are subject to the pre-harvest sampling requirements described in ¶ 3 of this section below.

c. Hemp greens are hemp leaves harvested from immature plants not in the flowering growth stage, grown for human consumption. Hemp greens are germinated from seed, are no more than 10" tall before harvest, and may not be subject to mandatory preharvest sampling when a Hemp Program official annually inspects the facility where the hemp greens are grown. Additionally, producer registrants shall maintain the following records: i. documentation of planting and harvest dates.

d. Hemp crops produced exclusively for grain and fiber that Hemp Program officials comprehensively inspect to confirm their use during the season may not be subject to mandatory preharvest sampling.

Fiber and grain crops in 2021 were estimated to represent less than 10 total acres of cultivation. Crops grown for these purposes must be registered for the applicable use and producer registrants shall maintain the following records: i. ii. iii. documentation of planting date, and photographic documentation of crops four-six weeks after seeding the registered field. The producer registrant is also responsible for scheduling Hemp Program staff's seasonal inspection.