



Bryan P. Hurlburt  
Commissioner

# STATE OF CONNECTICUT DEPARTMENT OF AGRICULTURE

Bureau of Regulatory Services  
450 Columbus Blvd, Suite 702 Hartford, CT 06103  
Phone: 860-713-2502 Email: [AGR.Hemp@ct.gov](mailto:AGR.Hemp@ct.gov)



## Sampling Procedures for Hemp (rev. 12.2.2021)

### **Purpose:**

1. Establish hemp sampling procedures in accordance with 7 CFR 990.3
2. Samples are taken to obtain specimens for the measurement of total tetrahydrocannabinol (THC) content, which determine whether the specimens are hemp or marijuana. The measurements are intended to be representative of the total THC content in a “lot” of hemp crop acreage as identified by the producer. Hemp producers may not harvest hemp prior to the hemp being sampled for THC concentration. Testing procedures are provided in a separate guidance document.

### **Scope:**

1. Samples collected under this procedure are acceptable for submission to a qualified testing laboratory for determination of total THC concentration in hemp. After December 31, 2022, all laboratories testing hemp under the U.S. Domestic Hemp Production Program must be registered with the DEA in accordance with §990.3(a)(3)(iii)(H) and §990.25(g)(iii).
2. Harvest shall be completed within 30 days from sample collection.
3. Samples shall be collected only by an authorized trained sampling agent, currently only Department of Agriculture employees. Authorized sampling agents must be trained under Connecticut Hemp sampling training procedures. Connecticut Department of Agriculture must maintain information, available to producers, about authorized trained sampling agents. Hemp producers may not act as sampling agents. Representatives of the sampling agency shall have complete and unrestricted access during business hours to all hemp and other cannabis plants and all land, and building, used for cultivation and/or handling, except private residences.
4. It is the responsibility of the licensed producer to pay any fees associated with sampling.

### **Summary of Practice:**

A “lot” is a contiguous area in a field, greenhouse, or indoor growing structure containing the same variety or strain of cannabis throughout. In addition, “lot” refers to the batch of contiguous, homogeneous whole of a product being sold to a single buyer at a single time. The size of the “Lot” is determined by the producer in terms of farm location and field acreage and is to be reported as such to the FSA. The terminology used by FSA to denote land areas include terms like “farm,” “tract,” “field,” and “subfield,” which are equivalent to AMS’s term “lot.”

1. This practice provides procedures for entering a growing area and collecting the minimum number of plant specimens necessary to represent a homogeneous composition of the “lot” that is to be sampled. A trained sampling agent enters a growing area, strategically examines the growing area, establishes an approach for navigating the growing area, and collects individual specimens of plants in order to obtain a representative sample of hemp in the designated lot.

2. Cuttings from each “lot” of hemp crop acreage, as identified by the producer, and submitted to and uniquely identified by the Farm Service Agency (FSA) per the requirements of the USDA hemp production program, shall be organized as composite samples.

**Standard Sampling Protocols:**

1. The Connecticut Department of Agriculture standard sampling method must be used by all sampling agents.
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.
3. Every lot of every producer must be sampled and tested.
4. 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.

**Equipment and Supplies:**

1. Garden pruners/shears (Cleaned prior to and following each composite sample. Some examples of appropriate cleaning agents and supplies to use on garden pruners/shears are bleach, rubbing alcohol, steel wool, and/or sandpaper.)
2. Sample bags.
  - 2.1. The size of the bags will depend upon the number of clippings collected per lot.
  - 2.2 The bags should be made from material known to be free from THC.
3. Security tape
4. Permanent markers
5. Sample collection forms
6. GPS Unit of lot being sampled
7. Disposable gloves – Nitrile
8. Ladder (if necessary)

**Sampling Guidelines:**

1. The licensee or designated employee should be present throughout the sampling process, if possible.
2. Surveillance of the growing area.
  - 2.1. The sampling agent should estimate the average height, appearance, approximate density, condition of the plants, and degree of maturity of the inflorescences (flowers/buds).
  - 2.2. The sampling agent should visually establish the homogeneity of the stand to establish that the growing area is of like variety.
  - 2.3. The sampling agent should verify the GPS coordinates of the growing area as compared with the GPS coordinates submitted by the licensee to the Connecticut Department of Agriculture.
3. Time of Sampling:
  - 3.1. Within 30 days prior to the anticipated harvest of a designated hemp lot, an authorized sampling

agent shall collect representative samples from such cannabis plants for THC concentration level testing.

4. Lot Sampling:

4.1 For purposes of determining the number of individual plants to select for sampling, the size of the growing area should be considered. For sampling purposes, samples from separate lots must be kept separate and not be comingled.

4.2 When sampling use the tables (below) to determine the sample size.

Number of acres	Sample Size	Number of acres	Sample Size
11	11	40	36
12	12	41-42	37
13	13	43	38
14	14	44	39
15	15	45-46	40
16	16	47	41
17	17	48	42
18-19	18	49-50	43
20	19	51	44
21	20	52	45
22	21	53-54	46
23	22	55	47
24	23	56	48
25-26	24	57-58	49
27	25	59	50
28	26	60-61	51
29	27	62	52
30	28	63-64	53
31-32	29	65	54
33	30	66-67	55
34	31	68	56
35	32	69-70	57
36	33	71	58
37-38	34	72-73	59
39	35	74	60

  

Number of acres	Sample Size
Less than 1	1
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10

4.3 Sampling agents should always walk at right angles to the rows of plants if possible, beginning at one point of the lot and walking towards another point on the opposite side of the lot. If the lot is too dense for this to be possible, the sampling agent should take all reasonable steps to ensure that a sample is collected that represents a homogeneous composition of the lot by avoiding edges and thoroughfares. The sampling agent may also follow the sawtooth survey pattern (below).

4.4 While walking through the growing area, the sampling agent should cut at least “n” (n is the number of samples from the charts in 4.2) inflorescences (the flower or bud of a plant), at random but convenient distances. Avoid collecting sample specimens from the borders of the field/greenhouse.

4.5 The cut should be obtained from the flowering tops of plants when flowering tops are present, and shall be approximately five to eight inches in length from the “main stem” (that includes the leaves and flowers), or “terminal bud” (that occurs at the end of a stem), or “central cola” (cut stem that develops into a bud) of the flowering top of the plant.



4.6. Utilize bag(s) for collecting sample cuttings. Ensure that each bag has the minimum number of cuttings,  $n$ , as calculated by 4.2. If one bag cannot accommodate the minimum number of cuttings due to lot size, the sample may be divided into multiple bags, but must be clearly labeled in such a way that each bag is appropriately matched with the corresponding lot. (i.e. For lot 101 with three corresponding sample bags: 101 1 of 3, 101 2 of 3, 101 3 of 3.)

4.7. Seal each bag and label as described in Section 5.1 of this document.

#### 5. Sample identification:

5.1 The sampling agent should seal each bag and record the sample identification number. The sample should also be identified with the following information: Sampling collector contact information; name and contact information of the producer; producer hemp license; date of sample; time of sampling; address where sample was collected and lot identification.