BADGER LABS

HEMP FIELD SAMPLING PROCEDURE

Scope

This procedure is a modified version of Wisconsin's Department of Agriculture, Trade and Consumer protections Hemp Pilot Research Programs Sample Collection Standard Operating Procedure. It is intended for pre-harvest hemp sampling for analysis.

Equipment Needed

- Pen/Marker
- Sanitizing wipes
- Sample bags
- Pruners or Shears

Optional Equipment

- Hand counter

Important Notes

- Each lot of hemp must be sampled independently. DATCP defines a lot as; a contiguous area in a field, greenhouse, facility, or growing structure containing the same variety or strain of hemp throughout the area.
- Each lot must contain a minimum of 15 female plants.
- Sample equipment must be cleaned and sanitized between lots.

Determining the amount of plants to sample

The table below gives the minimum number of samples to take from each lot. Additional samples may be included. If less random samples are taken the sample may not be representative of the lot of hemp.

Number of Female Plants in Lot	Minimum Number of Plants to Sample
15-19	15
20-22	16
23-25	17
26-28	18
29-32	19
33-38	20
39-44	21
45-53	22
54-65	23
66-82	24
83-108	25
109-157	26
158-271	27
272-885	28
886+	29

Prior to Sampling

Prior to sampling look at the lot to determine the following. This information will used to aid in taking a representative sample of the lot.

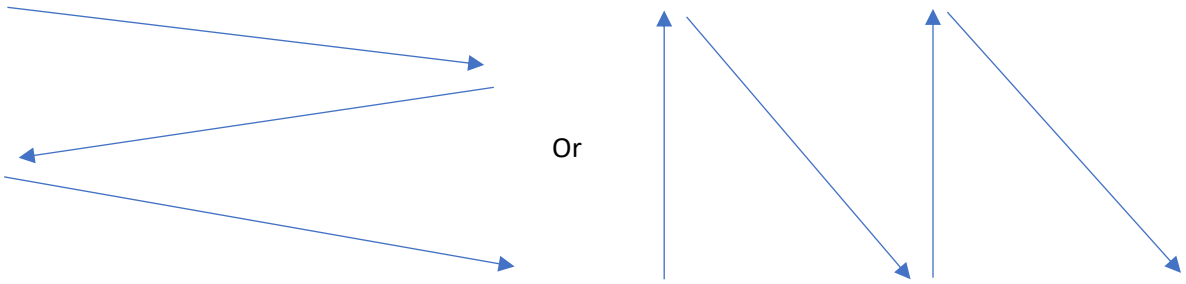
- Lot type
- Plant Maturity
- Percent flowering
- Average height and appearance
- Lot homogeneity

If the following is observed it may be necessary to divide the lot, with the divided portions sampled independently.

- Gaps or structures dividing the lot
- Large agronomic differences within the lot

Procedure for Sampling

Sample the field in a saw-tooth pattern to cover all areas of the field. The diagrams below are examples of a saw-tooth pattern. Cuttings should be evenly spaced. For larger fields, do not sample plants near the edges.



If plants are in a greenhouse or another setting where movement may be impeded a different pattern so long as the randomly selected plants are spaced throughout the lot.

To collect the samples:

1) Cut two inches off a cola and place in sample container
2) Track number of cuttings taken
3) Choose random representative plants
    a. Choose healthy plants and include plants that have different appearances. So, every type of plant is included in the sample
4) After all cuttings are taken for the lot fold the top of the bag and secure it shut
5) Clean and sanitize the cutting tool
6) If additional samples are required repeat steps 1-5 for each lot that needs to be sampled

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Homogenizing a Sample Lot

The volume of sample that is taken will be more than is required to complete most analyses (1 gram required for potency test). It is imperative that the sample be homogenized prior to any analysis, otherwise any chemical analysis results could not be representative of actual conditions. Badger Labs can homogenize the sample upon arrival at our lab for a $25 sample prep fee.

To homogenize a sample:

1) Remove any leaves or other debris that may be in the sample container
2) Remove flower from stem and place in a cleaned, sanitized blender or grinder
    a. A waring blender or coffee grinder work well. It is acceptable to grind in batches so long as the batches can be uniformly mixed
3) Grind the flower to a uniform consistency
4) Take portions of the homogenized sample and place in appropriate container for desired test
5) Clean and sanitize the blender/grinder
6) Repeat steps 1-5 for any additional sample lots