

NASDA Survey Training

Hemp Production and Disposition Inquiry (HEMP PDI)



**United States Department of Agriculture
National Agricultural Statistics Service**

Workforce Performance and Staff Development Section



General Survey Information

- Project Code: **947**
- Questionnaires:
 - Mail around January 20
 - All data collection methods will be used
- Release:
 - *National Hemp Report*
 - Mid April



What is Hemp?



- As defined in the 2018 Farm Bill, the term “hemp” means the plant species *Cannabis sativa* L. and any part of that plant, including the seeds thereof and all derivatives, extracts, cannabinoids, isomers, acids, salts, and salts of isomers, whether growing or not, with a delta-9 tetrahydrocannabinol (THC) concentration of not more than 0.3 percent on a dry weight basis.

A Little History of Hemp

- The use of hemp fiber for clothes dates back 10,000 years to ancient Mesopotamia
- Around 150 BC, the world's first paper was made from hemp by the Chinese
- Canvas sails and rope for ships were made of hemp as it is stronger than cotton and resistant to salt water
- Hemp seed oil is a byproduct of production and can be used to make paint and lacquer. DuPont and others using synthetics saw hemp as a threat and in 1937 successfully lobbied for the ban of hemp production across the US
- In 1942, the US lifted the ban on hemp to meet production demands of World War II
- After the war was over, the ban on hemp cultivation was reinstated
- The Controlled Substance Act of 1970 classified cannabis (including hemp) as a Schedule 1 drug preventing scientific research and production

There are
over 20,000
different
uses for
hemp!



Hemp Production

- Can be grown in the open like a field crop, or under protection like a horticulture crop
 - Broken out in this survey between hemp grown in open fields and then hemp grown under protection



Hemp in the Open



- Can be planted mechanically like other row crops, or transplanted from clones or nursery stock like tobacco
- Can be hand harvested, or mechanically harvested
- Post harvest processing differs by utilization
- Price and yield differ by utilization

Hemp Under Protection

- Special floral varieties
- Clones and transplants
- Seed stock
- Price differs by utilization



Screening

- Will screen for hemp planted for any purpose
 - If “No”, skips to conclusion
- If hemp was grown, additional screening for:
 - Hemp grown outdoors in open fields
 - If “No”, skips to page 9 to screen for hemp planted under protection



If it Appears to be a Retail Only Operation

- Do not assume the operation is retail only
- Allow the survey questionnaire to either screen them in or screen them out
- It is difficult to characterize 'types' of hemp growers because there is so much variability in their scale, technology, and production systems

Section 1 – Hemp Harvested from Open Fields

- Overall questions about open fields
 - How many acres did you plant?
 - How many acres did you harvest?

Both to the nearest tenth of an acre

If the majority of the hemp acres are not going to be harvested, then a comment about the situation would be very helpful to the Regional Field Office staff reviewing the data.

Examples: the hemp acres flooded out, had a drought, had to be destroyed because the THC level was too high, etc.

Section 1 – Hemp Harvested from Open Fields

- Overall questions about open fields (continued)
 - What hemp products did you harvest for?
 - The responses to this item route you to the appropriate products/uses within the section
 - You will mark all the products or uses that apply
 - Subsequent questions are specific to certain hemp products/uses

What was the hemp used for?

Products and/or Uses

4. In 2011, which of the following hemp products and/or uses did you harvest from **OPEN FIELDS**? Mark all that apply.

After answering this question, please complete the pages listed for the applicable hemp crop.

Each section should take between 2-5 minutes to complete.

106 Hemp flower for human consumption, such as:

Page 4

- Smokable hemp
- Hemp harvested for CBD, CBG, CBN, and other cannabinoids and/or terpenes extracted and used in products such as oils, lotions, cleansers, bath products, and other nutraceutical or topical products

DO NOT INCLUDE:

- Hemp seed oil products made from hemp grain instead of hemp flower

106 Hemp flower for human consumption, such as:

- Smokable hemp
- Hemp harvested for CBD, CBG, CBN, and other cannabinoids and/or terpenes extracted and used in products such as oils, lotions, cleansers, bath products, and other nutraceutical or topical products

DO NOT INCLUDE:

- Hemp seed oil products made from hemp grain instead of hemp flower; check the box below for hemp grain and report those products on Page 5
- Hemp flower harvested from **under protection**; report that on Pages 9 and 10

107 Hemp
hemp

DO

108 Hemp

- Clothes
- Paper
- Pressed plastics
- Biofuel
- Ropes

109 Hemp seed to sell to o

DO NOT INCLUDE seed
or other protection; re

Mark all products/uses that apply

110 Other hemp, specify (111) _____

Page 8

Products and/or Uses

- If hemp is listed in the “**Other Hemp**” in the Products and Uses:
 - We need to specify what that hemp is and give a clear comment of what it is for.
 - As an example: If it was for research.. Knowing the specific usage the plant went to (did they measure just flower or full plant, etc.) is very beneficial to the statisticians in the Regional Field Offices who review the data.

Product-specific Questions

- Then for each product/use we will ask:
 - How many acres of this use did you harvest?
 - Processing questions
 - How did you acquire your seeds/plants?
 - Total pounds of product harvested?
 - What is the amount sold and price that you received?

Hemp for Flower

- Also called floral hemp
- Hemp buds for processing into essential oils like CBD (Cannabidiol) or CBG (Cannabigerol)
 - These oils are broadly called cannabinoids
- Oil is extracted from female flower and leaf material, not seed
- Cannabinoid concentration in the flower stops after pollination
 - For efficient oil production, all plants should be female

Hemp for Flower

- After harvesting, hemp can be immediately delivered to the processor fresh, but is usually dried
 - Can be hung up to dry like tobacco
 - Can be kept in a forage box
 - Can be baled
- Once the hemp is dried, it must be bucked
 - Bucking removes the leaves and flowers from the stems
- The hemp must also be trimmed, removing the leaves from around the buds and flowers
- Once only the dried buds and flowers are left, the essential oil can be extracted.

Hemp for Grain

- Hemp seed hearts for human consumption like granola, crushed for seed oil, or ground into meal
- Hemp seed oil does not contain any cannabinoids
- Can be harvested from male or female plants
- Cannot be fed to livestock
- Typically dried for storage

Hemp for Fiber

- Hemp stalk can be processed into rope or cloth
- Cut and left to dry in the field like hay, but dries much longer
 - This process is called retting, and helps separate the bast from the woody core of the stem
- The same hemp plants can be harvested for fiber and for grain or flower
- If the crop tests higher than 0.3% THC, the crop may be eligible to be remedied, reducing the THC below the legal threshold and allowing it to be sold for fiber

Hemp for Fiber and for Grain or Seed



Can harvest as flower or for seed
and leave the stalks to dry in the field

After drying, the stalks
can be baled for fiber



Hemp for Seed

- Hemp can also be grown for seed, usually under protection
- Essential oil can only be distilled from female plants, so seeds for oil need to be feminized before being planted and tend to have a much higher price



Transplants and Clones

- Transplant – Hemp grown from seed under protection to be transplanted into the field
- Clone – Hemp grown from a cutting of a parent plant with the same genetics as the original plant.



Processing Questions

- Differ for each product/use (different processing steps depending on the product/use)
- Processing questions all consist of “Yes” or “No” answers
- Different steps of processing done by the grower will add value to the product
 - One less step that needs to be done before sale to the end user
- Hemp flower has the most processing steps listed

Example of Processing Questions

Hemp Flower for Human Consumption

Note for Questions 2-5: Answer "yes" if you did so yourself, or if someone did so on your behalf.

2. For your 2023 hemp flower crop, did you dry your hemp flower crop prior to sale? This includes drying in the field, hang drying, machine drying, or any other type of drying to remove moisture from the plant. 114 Yes No
3. For your 2023 hemp flower crop, did you use a machine to remove your hemp flower from the stem prior to sale? This may be called "bucking," "de-budding," or "de-stemming." 115 Yes No
4. For your 2023 hemp flower crop, did you, or will you, hand trim your hemp flower prior to sale? 116 Yes No
5. For your 2023 hemp flower crop, did you, or will you, extract the cannabinoids and/or terpenes from your hemp prior to sale? 117 Yes No

Acquisition of Plants/Seeds

- Measuring the same concept as production contracts on other commodities
- Asking whether the seed was provided by someone else to grow, or they bought the seeds themselves
- Given vs. owned will impact the price (growers who bought or produced the seeds themselves are likely to report higher sale prices)

Price and Amount Sold

- Total amount sold is broken out into 3 different groups:
 - How much have you sold, and what price did you receive?
 - How much do you expect to sell, and what price do you expect to receive?
 - How much did you harvest that you do not expect to sell?
- Questions developed in response to cognitive interviews; much uncertainty about ability to sell hemp

Section 2 – Hemp Under Protection

- Many of the same questions as previous section
- Main differences are:
 - Area planted/harvested reported in square feet
 - Fewer/different products and/or uses to chose from
 - Fiber and Grain are only asked in Section 1 (open fields)
 - Clones/transplants are only asked in Section 2 (under protection)
 - For Clones/Transplants we ask for number of plants harvested instead of pounds harvested

Section 2 – Hemp Under Protection

2. For the [redacted] crop year, how many square feet were **seeded or planted** under protection, including square feet that were abandoned?

Note: If you planted or seeded multiple times under the same space, count the square footage only once.

181

square feet

3. In [redacted], how many square feet were **harvested** from under protection?

Note: If you completed multiple harvests under the same space, count the square footage only once.

182

square feet

Area grown under protection should be reported in square feet

Section 2 – Hemp Under Protection

Clones/Transplants reporting unit is “plants”

4. In [redacted], how many TOTAL hemp clones and/or transplants did you produce under protection?

207

Plants

INCLUDE clones or transplants that were sold to a buyer who used them to grow their own hemp.

DO NOT INCLUDE clones or transplants that YOU then planted and harvested for other purposes; that hemp should be reported under the category that the hemp was ultimately harvested for.

5. The questions below are about hemp clones and/or transplants produced under protection in [redacted].

	Plants	Average Price per Plant (Dollars and cents)	OR	Total Dollars
5a. Of the clones/transplants produced in [redacted], how many plants have you sold as of today, and what is the price you received?	208	209 \$ _____		210 \$ _____
5b. Of the clones/transplants produced in [redacted], how many plants do you expect to sell within the next year, and what is the price you reasonably expect to receive?	211	212 \$ _____		213 \$ _____
5c. Of the clones/transplants produced in [redacted], how many plants have you harvested that you expect will remain unsold for the next year or longer?	214			

Section 3

Typical demographic questions to help determine:

- Who is growing hemp?
- How can we focus research and programs to best benefit/further this industry?

Section 3 – Operator Characteristics

Please answer the following for the person who makes decisions for this operation:

1. Sex:

926 Male

Female

2. Year of Birth:

927 _____

3. Is the operator of Hispanic, Latino, or Spanish origin?

1219 Yes

No

4. Race, select all that apply:

913 White

914 Black or African American

915 American Indian or Alaska Native, specify tribe _____

916 Asian

917 Native Hawaiian or Other Pacific Islander

5. In what year did the operator begin to operate any farm or ranch operation?

907 _____

6. At which occupation did the operator spend the majority (50 percent or more) of his/her time in 2023?

974 Farm or ranch work

Work other than farming or ranching

Things to remember

- Hemp acreage/square footage should be reported for each product/use it was harvested for (example: flower and fiber both reported for same acreage)
- Looking for sales to date, expected sales within next year, and amount expected to remain unsold



More things to remember

- Notes are VERY important
 - Statisticians *depend* on your notes as they review the data, set their estimates and communicate with HQ
 - Weather, diseases, markets, labor, THC testing, etc



Conclusion

- Practice, get familiar with the survey/questionnaire
- Please contact your supervisor or the Regional Field Office with any questions

