

UNITED STATES DEPARTMENT OF AGRICULTURE  
HEMP PRODUCTION PRACTICES AND COSTS STUDY

**Description.** USDA-AMS is partnering with a multi-state team of university scientists to collect information on hemp production practices and costs. You are receiving this questionnaire because you represent a household, business, farm/ranch, or other organization that registered with a state, tribal, or USDA hemp program during the period 2014 to 2020.

**Goal.** This study aims to develop a representative understanding of hemp production practices and costs at the state, regional, and national levels. You will receive no direct monetary benefit for completing this questionnaire, but results of the study will be publicly disseminated. Our findings can help aid your hemp operation in making informed production and business management decisions. We also anticipate that the results will inform the U.S. hemp sector more generally, including in the development of public hemp rules and regulations.

**Eligibility.** You are eligible to complete this questionnaire if you represent a household, business, farm/ranch, or organization that registered to grow hemp with a state, tribal, or USDA hemp program during the period 2014 to 2020. We ask that you complete this questionnaire whether or not you grew successfully.

**Estimated Time to Complete.** The time required to complete this questionnaire is estimated to average 30 minutes per response. Reviewing the instructions and gathering your existing hemp records and data before beginning will shorten the time that it takes you to complete the study.

**Your Rights as a Study Participant.** Your individual responses will be kept confidential and the information that you provide will be used for statistical purposes only. All information reported to the public will be in aggregate form. Your response is voluntary and you may skip any question(s) that you prefer not to answer. Additionally, if you hold multiple licenses for the production of multiple products (i.e. grain, fiber, and/or floral) please complete for each product area. If you have multiple licenses for a single product (i.e. grain, fiber, and/or floral) please completed the survey using an average of all licenses.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is OMB 0581-NEW. The time required to complete this information collection is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

In accordance with Federal civil rights law and U.S. Department of Agriculture (USDA) civil rights regulations and policies, the USDA, its Agencies, offices, and employees, and institutions participating in or administering USDA programs are prohibited from discriminating based on race, color, national origin, religion, sex, gender identity (including gender expression), sexual orientation, disability, age, marital status, family/parental status, income derived from a public assistance program, political beliefs, or reprisal or retaliation for prior civil rights activity, in any program or activity conducted or funded by USDA (not all bases apply to all programs). Remedies and complaint filing deadlines vary by program or incident.

Persons with disabilities who require alternative means of communication for program information (e.g., Braille, large print, audiotape, American Sign Language, etc.) should contact the responsible Agency or USDA's TARGET Center at (202) 720-2600 (voice and TTY) or contact USDA through the Federal Relay Service at (800) 877-8339. Additionally, program information may be made available in languages other than English. To file a program discrimination complaint, complete the USDA Program Discrimination Complaint Form, AD-3027, found online at [http://www.ascr.usda.gov/complaint\\_filing\\_cust.html](http://www.ascr.usda.gov/complaint_filing_cust.html) and at any USDA office or write a letter addressed to USDA and provide in the letter all of the information requested in the form. To request a copy of the complaint form, call (866) 632-9992. Submit your completed form or letter to USDA by: (1) mail: U.S. Department of Agriculture Office of the Assistant Secretary for Civil Rights 1400 Independence Avenue, SW Washington, D.C. 20250-9410; (2) fax: (202) 690-7442; or (3) email: [program.intake@usda.gov](mailto:program.intake@usda.gov). USDA is an equal opportunity provider, employer, and lender

### A. HEMP LICENSING AND REGISTRATION

**The term “you” refers to you or the family member, partnership, corporation, or organization for which you are responding. The term “your hemp operation” refers to all hemp-related activities (production, processing, or marketing) conducted by the entity identified on the mailing label.**

A1. In 2020, did you hold one or more hemp licenses or registrations through a state, tribal, or USDA hemp program?

- Yes **Continue below**
- No **Skip to J1**
- Don't know **Skip to J1**

a. In what state, tribe, or territory did you hold a hemp cultivation license or registration in 2020? If multiple, provide response that represents the most land area cultivated. Leave blank if unknown.

b. In what county did you cultivate or intend to cultivate most of your hemp crop in 2020? If multiple, provide response that represents the most land area cultivated. Leave blank if unknown.

c. How many hemp licenses/registrations did you hold in 2020? Leave blank if unknown.

A2. Do you know how much you and/or others spent in dollars on licensing and registration fees for your hemp operation in 2020?

- Yes **Continue below**
- No **Skip to B1**
- Don't know **Skip to B1**

a. How much did you and/or others spend in total on licensing and registration fees in dollars for your hemp operation in 2020? If none, enter “0”. Leave blank if unknown.

b. What percent of licensing and registration fees, if any, were paid by an outside partner, contractor, investor, or landlord in 2020? If none, enter “0”. Leave blank if unknown.

### B. HEMP STRAINS AND TESTING

**The term hemp “strains” also refers to hemp “varieties” or “cultivars”.**

B1. How many unique hemp strains did you cultivate in 2020, whether sourced as seed or starters (clones, transplants, etc.)? If none, enter “0”. Leave blank if unknown.

 **If “0” skip to C1**

a. Where did you obtain the hemp strains that you cultivated in 2020, whether sourced as seed or starters (clones, transplants, etc.)? Mark all that apply.

- |  |  |  |
|--|--|--|
| <input type="checkbox"/> Trade show      | <input type="checkbox"/> Contractor/investor               | <input type="checkbox"/> Seed catalog          |
| <input type="checkbox"/> Online supplier | <input type="checkbox"/> Your operation/home grown         | <input type="checkbox"/> Don't know            |
| <input type="checkbox"/> Local supplier  | <input type="checkbox"/> Friend, neighbor, other operation | <input type="checkbox"/> Other, explain: _____ |

b. Were any of the hemp strains that you cultivated in 2020 designated as “certified” or “approved” by your state, tribe, or territory hemp program?

- Yes
- No
- Don't know
- Other, explain: \_\_\_\_\_

c. Were any of the hemp strains that you cultivated in 2020 provided by an outside contractor, investor, or landlord at a reduced cost or no cost to you?

- Yes
- No
- Don't know
- Other, explain: \_\_\_\_\_

B2. Do you know how much you or others spent in dollars on hemp strains in 2020, whether sourced as seed or starters (clones, transplants, etc.)?

- Yes **Continue below**
- No **Skip to B3**
- Don't know **Skip to B3**

- a. How much did you or others spend in total on hemp strains in dollars in 2020, whether as seed or starters? Include all costs even if not planted. If none, enter "0". Leave blank if unknown.

- b. What percent of hemp strain costs in 2020, if any, were paid by an outside partner, contractor, investor, or landlord? Include all costs even if not planted. If none, enter "0". Leave blank if unknown.

B3. Was any of the hemp that you grew in 2020 tested for its THC level prior to harvest? Include mandatory tests ordered by a state, tribal, or USDA hemp program and voluntary tests ordered by your hemp operation.

- Yes **Continue below**  No **Skip to B4**  Don't know **Skip to B4**

- a. How many tests for THC levels were conducted on the hemp that you grew in 2020? How much did you or others spend in total on this testing in dollars in 2020? If none, enter "0". Leave blank if unknown.

Description	Number of tests	Total amount spent in dollars
i. Mandatory THC tests		
ii. Voluntary THC tests		

B4. Was any of the hemp that you grew in 2020 tested for its cannabinoid profile or potency of specific cannabinoids such as CBD? Include tests on raw hemp material (flower, biomass, etc.). Exclude tests on processed products (oils, distillates, concentrates, etc.). Exclude tests if included in Question B3 above.

- Yes **Continue below**  No **Skip to B5**  Don't know **Skip to B5**

- a. How many tests for potency were conducted on the hemp that you grew in 2020? How much did you or others spend in total on this testing in dollars in 2020? If none, enter "0". Leave blank if unknown.

Description	Number of tests	Total amount spent in dollars
i. Potency tests on hemp plant material		
ii. Potency tests on processed hemp products		

B5. Was any of the hemp that you grew in 2020 tested for potential contaminants such as pesticides, mycotoxins, microbials, heavy metals, or residual solvents? Include tests on raw hemp material (flower, biomass, etc.). Exclude tests on processed products (oils, distillates, isolates, etc.).

- Yes **Continue below**  No **Skip to B6**  Don't know **Skip to B6**

- a. How many tests for contaminants were conducted on the hemp that you grew in 2020? How much did you or others spend in total on this testing in 2020? If none, enter "0". Leave blank if unknown.

Description	Number of tests	Total amount spent in dollars
a. Contaminant tests for pesticides		
b. Contaminant tests for mycotoxins or microbials		
c. Contaminant tests for heavy metals		
d. Contaminant tests for residual solvents		
e. Contaminant tests, other		

B6. Which information sources did you consult before selecting hemp strains in 2020? Which information sources influenced your actual hemp strain selection decisions? Complete both columns.

Information source	Which information sources did you <u>consult</u> before selecting hemp strains? Mark all that apply	Which information sources <u>influenced</u> your actual hemp strain decisions? Mark all that apply

a. Own previous hemp production experience	<input type="checkbox"/>	<input type="checkbox"/>
b. Outside hemp partners, contractors, or investors	<input type="checkbox"/>	<input type="checkbox"/>
c. Hemp strain supplier or other input dealer	<input type="checkbox"/>	<input type="checkbox"/>
d. Other hemp growers	<input type="checkbox"/>	<input type="checkbox"/>
e. Paid consultants	<input type="checkbox"/>	<input type="checkbox"/>
f. News reports in the media	<input type="checkbox"/>	<input type="checkbox"/>
g. Social media	<input type="checkbox"/>	<input type="checkbox"/>
h. Hemp industry organizations	<input type="checkbox"/>	<input type="checkbox"/>
i. Farm and ranch organizations	<input type="checkbox"/>	<input type="checkbox"/>
j. University extension and research organizations	<input type="checkbox"/>	<input type="checkbox"/>
k. State Departments of Agriculture	<input type="checkbox"/>	<input type="checkbox"/>
l. U.S. Department of Agriculture (FSA, AMS, etc.)	<input type="checkbox"/>	<input type="checkbox"/>
m. Other federal government agencies	<input type="checkbox"/>	<input type="checkbox"/>
n. Other, explain: _____	<input type="checkbox"/>	<input type="checkbox"/>

B7. How likely are you to trust information about hemp strains from the following information sources, regardless of whether you actually obtained information from that source? Mark one response for each row.

Information source	Very unlikely	Unlikely	Neutral	Likely	Very likely	Not applicable
Mark one for each row						
a. Own previous hemp production experience	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Outside hemp partners, contractors, or investors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Hemp strain supplier or other input dealer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Other hemp growers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Paid consultants	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. News reports in the media	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Social media	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Hemp industry organizations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i. Farm and ranch organizations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
j. University extension and research organizations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
k. State Departments of Agriculture	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
l. U.S. Department of Agriculture (FSA, AMS, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
m. Other federal government agencies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
n. Other, explain: _____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

B8. What characteristics are most important to you when selecting hemp strains? Rank the options below from #1 (most important) to #5 (least important) by writing numbers into the boxes.

Rank from #1 (most important) to #5 (least important) (use each number once, without repetition):

- End-product yield (Examples: quantity of fiber, grain, floral material harvested)
- End-product quality (Examples: percent cannabinoid content, length of fiber, grain weight)
- Seed or transplant costs (Examples: price per seed, transplant, seed starter, or clone)
- Plant characteristics (Examples: plant size, structure, harvestability, maturity)
- THC content (Examples: strain known for or certified as having low THC content)

### C. HEMP FIELD PRODUCTION

**Hemp field production includes all hemp grown outdoors, including cropland, garden areas, or other uncovered locations. This includes even very small hemp plots less than one acre. Please round to nearest quarter acre. It excludes hemp grown indoors or under covered structures like greenhouses.**

C1. Did you license or register any outdoor land area for hemp field production in 2020?

- Yes **Continue below**
- No **Skip to E1**
- Don't know **Skip to E1**

a. How many acres of land did you license/register and plant for hemp field production in 2020? If none, enter "0". Leave blank if unknown.

Acres licensed or registered

Actual acres planted **If "0", skip to E1**

b. How many different fields did you plant to hemp in 2020? Count each unique or non-contiguous location as a separate hemp field. A single field may include multiple strains. Leave blank if unknown.

c. What date did you begin planting hemp in 2020? Leave blank if unknown.

Date format MM/DD/2020

d. Did you need to replant any hemp acres in 2020? If yes, what percent of hemp acres did you replant?

- Yes **If YES: % replanted: \_\_\_\_\_**
- No
- Don't know

C2. Did you plant/transplant all of your hemp field production acres in a single workday in 2020?

- Yes **Skip to C3**
- No **Continue below**
- Don't know **Skip to C3**

a. About how many acres of hemp could you plant in a single day under good weather conditions? Leave blank if unknown.

C3. How many acres of hemp field production did you harvest? If none, enter "0". Leave blank if unknown.

**If "0", skip to C4**

a. What date did you begin harvesting your hemp field production acres in 2020? Leave blank if unknown.

Date format MM/DD/2020

b. Did you harvest all of your hemp field production acres in a single workday or less?

- Yes **Skip to C4**
- No **Continue**
- Don't know **Skip to C4**

c. About how many acres of hemp could you harvest in a single day under good weather conditions? Leave blank if unknown.

### HEMP FOR FIBER PRODUCTION

C4. Did you plant hemp for fiber as the intended primary end product in 2020? Exclude dual-purpose hemp produced for both fiber and grain as intended end products. Exclude hemp produced primarily for grain or floral material as the intended end products.

- Yes **Continue below**
- No **Skip to C7**
- Don't know **Skip to C7**

a. What planting method was used for the hemp that you grew for fiber in 2020? Mark one. If multiple, choose option representing the most planted area.

- Direct seeded, drill
- Broadcaster/spreader
- Don't know
- Direct seeded, planter
- Hand planted
- Other, explain: \_\_\_\_\_

b. What seeding rate was used for the hemp that you grew for fiber in 2020? Enter a response for one box only. Leave blank if unknown.

Pounds of hemp seed planted per acre

OR

Total pounds of hemp seed planted on all acres

C5. How many acres of hemp did you harvest for fiber in 2020? If none, enter "0". Leave blank if unknown.

If "0" skip to C7

a. What harvest method was used for the hemp that you grew for fiber in 2020? Mark one. If multiple, choose option representing the most land area.

- Farm machinery & equipment
- Don't know
- By hand
- Other, explain: \_\_\_\_\_

b. What retting method (drying) was used for the hemp fiber biomass in 2020? Mark all that apply.

- None / No retting
- Field retting, standing crop
- Don't know
- Chemical retting
- Field retting, cut and laid down
- Other, explain: \_\_\_\_\_

c. What yield did you obtain for the hemp that you grew for fiber in 2020? Enter a response for one box only. Leave blank if unknown.

Tons of hemp biomass harvested per acre

OR

Total tons of hemp biomass harvested

OR

Other (Enter units harvested, unit name, and unit measurement. Ex: 10 bales at 1500 lbs/bale)

d. After harvesting the hemp that you grew for fiber in 2020, did you further handle it by decortivating or scutching before it was sold or delivered?

- Yes
- No
- Don't know
- Other, explain: \_\_\_\_\_

C6. What percentage of the hemp crop you harvested for fiber in 2020 had moved through each of the following marketing channels by Dec. 31, 2020? Enter percentages into boxes below. The total of all numbers entered should sum to 100. If none, enter "0". Leave blank if unknown.

- % delivered via share contracts (Example: land rental share agreement)
- % delivered via production contracts (Example: contractor pays operator a fixed fee to grow hemp)
- % delivered via marketing contracts (Example: sales agreement with price set before harvest)
- % sold via cash sales (Example: hemp sold on spot market without a prearranged buyer)
- % retained for further processing/extraction (Example: by your operation or a custom processor)
- % retained for seed or clone stock (Example: Kept for your operation or to sell to other growers)
- % unsold (Example: Hemp that was harvested in 2020 and remained in storage as of Dec. 31, 2020)
- % other, explain: \_\_\_\_\_

### HEMP FOR GRAIN PRODUCTION

C7. Did you plant hemp for grain as the intended primary end product in 2020? Include dual-purpose hemp produced for both grain and fiber as intended end products. Exclude hemp produced primarily for fiber or floral material as the intended end products.

- Yes **Continue below**
- No **Skip to C11**
- Don't know **Skip to C11**

a. What planting method was used for the hemp that you grew for grain in 2020? Mark one. If multiple, choose option representing the most planted area.

- Direct seeded, drill
- Broadcaster/spreader
- Don't know
- Direct seeded, planter
- Hand planted
- Other, explain: \_\_\_\_\_

b. What seeding rate was used for the hemp that you grew for grain 2020? Enter a response for one box only. Leave blank if unknown.

Pounds of hemp seed planted per acre

OR

Total pounds of hemp seed planted on all acres

C8. How many acres of hemp did you harvest for grain in 2020? If none, enter "0". Leave blank if unknown.

If "0" skip to C11

a. What harvest method was used for the hemp that you grew for grain in 2020? Mark one. If multiple, choose option representing the most harvested area.

- Combine, traditional header
- Swather & combine
- Don't know
- Combine, draper header
- By hand
- Other, explain: \_\_\_\_\_

b. What yield did you obtain for the hemp that you grew for grain in 2020? Enter a response for one box only. Leave blank if unknown.

Pounds of hemp grain harvested per acre

OR

Total pounds of hemp grain harvested on all acres

OR

Other (Enter units harvested, unit name, and unit measurement. Ex: 2 tons of hemp grain)

c. After harvesting the hemp you grew for grain in 2020, did you dry it before it was sold or delivered?

- Yes, grain bin with fan
- Yes, grain dryer
- Don't know
- Yes, grain bin with supplemental heat
- No
- Other, explain: \_\_\_\_\_

d. After harvesting the hemp you grew for grain in 2020, did you clean or dehull it before it was sold or delivered?

- Yes
- No
- Don't know
- Other, explain: \_\_\_\_\_

C9. What percentage of the hemp that you harvested for grain in 2020 had moved through each of the following marketing channels by Dec. 31, 2020? Enter percentages into boxes below. Total of all numbers entered should sum to 100. If none, enter "0". Leave blank if unknown.

% delivered via share contracts (Example: land rental share agreement)

% delivered via production contracts (Example: contractor pays operator a fixed fee to grow hemp)

% delivered via marketing contracts (Example: sales agreement with price set before harvest)

% sold via cash sales (Example: hemp sold on spot market without a prearranged buyer)

% retained for further processing/extraction (Example: by your operation or a custom processor)

% retained for seed or clone stock (Example: Kept for your operation or to sell to other growers)

% unsold (Example: Hemp that was harvested in 2020 and remained in storage as of Dec. 31, 2020)

% other, explain: \_\_\_\_\_

C10. In addition to the hemp grain that you harvested in 2020, did you also harvest hemp biomass from the same field for fiber material as part of a dual-purpose hemp production system?

- Yes **Continue below**
- No **Skip to C11**
- Don't know **Skip to C11**

a. What biomass yield did you obtain for the dual-purpose hemp biomass in 2020? Enter a response for one box only. Include hemp biomass harvested under a dual-purpose system. Exclude hemp grain yields. Leave blank if unknown.

Tons of hemp biomass per acre

OR

Total tons of hemp biomass

OR

Other (Enter units harvested, unit name, and unit measurement. Ex: 10 bales at 1500 lbs/bale)

### HEMP FOR FLORAL MATERIAL PRODUCTION

C11. Did you plant hemp for floral material as the intended end product in 2020? Include hemp flowers or other hemp biomass that you grew for the purpose of extracting cannabinoids, terpenes, essential oils, or other hemp compounds/derivatives.

- Yes **Continue below**
- No **Skip to D1**
- Don't know **Skip to D1**

a. What planting method was used for the hemp that you grew for floral material in 2020? Mark one. If multiple, choose option representing the most planted area.

- Clones, hand transplanted
- Clones, mechanically transplanted
- Seed starts, hand transplanted
- Seed starts, mechanically transplanted
- Direct seeded, feminized seed
- Direct seeded, non-feminized seed
- Don't know
- Other, explain: \_\_\_\_\_

b. Did you use plastic mulching on any of the hemp that you grew for floral material in 2020? Plastic mulching is also called "plasticulture" or "poly mulch".

- Yes
- No
- Don't know
- Other, explain: \_\_\_\_\_

c. What planting density did you use for the hemp that you grew for floral material in 2020? Enter a response for one box only. Leave blank if unknown.

Hemp plants per acre  
OR  
 Total hemp plants on all acres

C12. How many acres of hemp did you harvest for floral material in 2020? If none, enter "0". Leave blank if unknown.

**¶ If "0" skip to D1**

a. How did you harvest the hemp that you grew for floral material in 2020? Mark one. If multiple, choose option representing the most harvested area.

- Combining equipment
- Custom hemp-harvesting equipment
- By hand
- Baling equipment
- Don't know
- Other, explain: \_\_\_\_\_

b. What yield did you obtain for the hemp that you grew for floral material in 2020? Enter a response for one box only. Leave blank if unknown.

Pounds of hemp floral material per acre  
OR  
 Total pounds of hemp floral material on all acres  
OR  
 Other (Enter units harvested, unit name, and unit measurement. Ex: 10 bales at 1500 lbs/bale)

C13. What percentage of the hemp that you harvested for floral material in 2020 had moved through each of the following marketing channels by Dec. 31, 2020? Enter percentages into boxes below. Total of all numbers entered should sum to 100. If none, enter "0". Leave blank if unknown.

% delivered via share contracts (Example: land rental share agreement)  
 % delivered via production contracts (Example: contractor pays operator a fixed fee to grow hemp)  
 % delivered via marketing contracts (Example: sales agreement with price set before harvest)  
 % sold via cash sales (Example: hemp sold on spot market without a prearranged buyer)  
 % retained for further processing/Extraction (Example: by your operation or a custom processor)  
 % retained for seed or clone stock (Example: Kept for your operation or to sell to other growers)  
 % unsold (Example: Hemp that was harvested in 2020 and remained in storage as of Dec. 31, 2020)  
 % other, explain: \_\_\_\_\_

C14. After harvesting the hemp that you grew for floral material in 2020, did you dry or cure the material before it was sold or delivered?

- Yes
- No
- Don't know
- Other, explain: \_\_\_\_\_

C15. After harvesting the hemp that you grew for floral material in 2020, did you buck and/or grind the material before it was sold or delivered?

- Yes
- No
- Don't know
- Other, explain: \_\_\_\_\_

### D. HEMP PRODUCTION MANAGEMENT

D1. Prior to planting hemp in 2020, did you encounter any of the following challenges? Mark all that apply.



- Inability to find or purchase hemp seed or starters (clones, transplants, etc.)
- Inability to find or purchase other hemp production inputs (labor, equipment, water, machinery, etc.)
- Inability to find or access loans or financing (operating loans, lines of credit, outside investment, etc.)
- Delays related to outside contractors, investors, or partners
- Delays related to licensing, regulation, or enforcement
- Delays related to weather
- Other, explain: \_\_\_\_\_

D2. After planting hemp in 2020, did you experience crop loss or a major decrease in quality due to the following factors? If so, what percent of your hemp acres were affected? Mark all that apply.

- Forced destruction (failed test, property dispute, other enforcement) ☐ If YES: % acres affected: \_\_\_\_\_
- Poor weather (drought, insufficient irrigation, flood, hail) ☐ If YES: % acres affected: \_\_\_\_\_
- Pest infestation (insects, diseases, weeds) ☐ If YES: % acres affected: \_\_\_\_\_
- Poor seed germination ☐ If YES: % acres affected: \_\_\_\_\_
- Other, explain: \_\_\_\_\_ ☐ If YES: % acres affected: \_\_\_\_\_

D3. How was the land that you planted to hemp in 2020 used the previous year (2019)? Mark all that apply.

- Cropland     Pasture/range     Don't know
- Sod/lawn     Fallow/unused     Other, explain: \_\_\_\_\_

a. What crops were grown on this land in 2019? Leave blank if none. If more than two, enter the response representing the most land area. Enter "DK" if unknown.

Name of previous crop #1

Name of previous crop #2

D4. What was the status of the land used for hemp production in 2020? Mark all that apply.

- Privately owned land     Tribal trust land     Don't know
- Privately rented land     Tribal fee land     Other, explain: \_\_\_\_\_

a. What percent of your hemp acres were rented from others in 2020? If none, enter "0". Leave blank if unknown.

☐ If "0" skip to D5

b. What type(s) of rental agreement did you have with your landlord(s) in 2020? Mark all that apply.

- Cash rent ☐ If YES: Rental rate: \_\_\_\_\_ \$/acre
- Share rent ☐ If YES: Share amount: \_\_\_\_\_ %
- Don't know
- Other, explain: \_\_\_\_\_

D5. Did you use any of the following soil, crop, or management practices on your hemp acres in 2020? Mark all that apply.

- No-till/strip-till     Contour farming     Field border     Other, explain: \_\_\_\_\_
- Other conservation tillage     Terraces     Filter strip
- Cover crops     Grassed waterway     Don't know

D6. Was some of your hemp production certified organic, or transitioning to become certified organic, in 2020? Mark all that apply.

- No     Yes, certified organic ☐ If YES: % of hemp acres that were certified: \_\_\_\_\_
- Don't know     Yes, transitioning to organic ☐ If YES: % of hemp acres that were transitioning: \_\_\_\_\_

D7. What commercial nutrients or fertilizers did you apply on your planted hemp acres in 2020, and how many pounds were applied per acre on average? Mark all that apply. Leave blank if unknown.

- Nitrogen ☐ If YES: \_\_\_\_\_ lbs/acre
- Phosphate (P<sub>2</sub>O<sub>5</sub>) ☐ If YES: \_\_\_\_\_ lbs/acre
- Potash (K<sub>2</sub>O) ☐ If YES: \_\_\_\_\_ lbs/acre

- Sulfur (S) If YES: \_\_\_\_\_ lbs/acre
- Other, explain: \_\_\_\_\_ If YES: \_\_\_\_\_ lbs/acre

D8. Did you apply any of the following other inputs to your hemp acres in 2020? Mark all that apply.

- Manure       Micronutrients       Seed treatment       Lime       Don't know
- Compost       Biocontrols/biopesticides       Soil inoculant       Other, explain: \_\_\_\_\_

D9. Did you irrigate some or all of your hemp field production acres in 2020?

- Yes **Continue below**     No **Skip to D10**     Don't know **Skip to D10**

a. What percent of your hemp acres were irrigated in 2020? Leave blank if unknown.

b. What were the primary sources of irrigation water? Mark all that apply.

- Surface water       Treated/municipal water       Don't know
- Groundwater       Other, explain: \_\_\_\_\_

D10. Did you custom hire any field operations for hemp production in 2020? If yes, what rate did you pay? Leave blank if none. Custom hire is where you paid another self-employed person or business for work or services that were done on your hemp operation.

- Land preparation  If YES: \_\_\_\_\_ \$/acre
- Planting/transplanting  If YES: \_\_\_\_\_ \$/acre
- Weed control  If YES: \_\_\_\_\_ \$/acre
- Fertilizer/pesticide application  If YES: \_\_\_\_\_ \$/acre
- Harvest  If YES: \_\_\_\_\_ \$/acre
- Other, explain: \_\_\_\_\_  If YES: \_\_\_\_\_ \$/acre

D11. Did you own any of the farm equipment, machinery, or implements used to produce hemp in 2020?

- Yes  Continue       No  Skip to D12       Don't know  Skip to D12

a. Over the past five years, how much did you or others spend in dollars on farm equipment, machinery, or implements specifically for hemp? If none, enter "0". Leave blank if unknown.

b. What percent of these equipment, machinery, or implement costs, if any, were paid for by an outside partner, contractor, investor, or landlord? If none, enter "0". Leave blank if unknown.

c. Consider the farm equipment, machinery, and implements that you owned. How many of each type were used for hemp production in 2020? Were they also used to grow other crops in 2020?

Type of equipment, machinery, or implement	Number of each type used for hemp production in 2020	If used for hemp in 2020:
		Also used to grow other crops in 2020?
<b>Planting &amp; land prep:</b>	Leave blank if none	Mark all that apply
Mechanical seed planter		<input type="checkbox"/>
Mechanical transplanter		<input type="checkbox"/>
Tillage implements		<input type="checkbox"/>
Other planting/tillage implements		<input type="checkbox"/>
<b>Harvest implements:</b>		
Combine header for hemp		<input type="checkbox"/>
Specialized hemp harvester		<input type="checkbox"/>
Mower		<input type="checkbox"/>
Rake		<input type="checkbox"/>
Baler		<input type="checkbox"/>
Other harvest implements		<input type="checkbox"/>
<b>Power sources:</b>		
Tractor		<input type="checkbox"/>
Combine		<input type="checkbox"/>
Other power source		<input type="checkbox"/>
<b>Other:</b>		
Pickup truck		<input type="checkbox"/>
Flatbed trailer		<input type="checkbox"/>
Other #1, explain: _____		<input type="checkbox"/>
Other #2, explain: _____		<input type="checkbox"/>

D12. What information gathering technologies or sources did you use for hemp production activities in 2020, if any? Mark all that apply. Leave blank if none.

- Soil sensors
- Online remote sensing data or maps
- Drones or airplanes
- Crop condition sensors
- Weather station data
- Don't know
- Soil tests
- Paid crop consultants
- Other, explain: \_\_\_\_\_

D13. How many people performed fieldwork related to the following production activities? Enter the number of workers and managers in the table below. Include the primary decision maker and family members if they did field work. Include all volunteer, hired, and contract labor. Leave blank if none. Enter “DK” if unknown.

Field Work Activity	Number of unpaid managers	Number of paid managers	Number of unpaid workers	Number of paid workers
a. Planting (planting, transplanting, land preparation, etc.)				
b. Crop management (scouting, weed control, culling of male plants, fertilizing, etc.)				
c. Harvest (exclude post-harvest handling or further processing)				

D14. How many labor hours were spent on each of the following production activities? Enter the total labor hours spent doing field work by the workers and managers listed in Question D13 above. Leave blank if none. Enter “DK” if unknown.

**□ Approximating Total Labor Hours – Example: Suppose your hemp harvest lasted two days and required three paid workers, each of whom spent about six hours per day. Total labor hours for all paid workers would equal 36 hours, that is: 2 days x 3 workers x 6 hours per day = 36 total hours.**

Field Work Activity	Total hours, unpaid managers	Total hours, paid managers	Total hours, unpaid workers	Total hours, paid workers
a. Planting (planting, transplanting, land preparation, etc)				
b. Crop management (scouting, weed control, culling of male plants, fertilizing, etc)				
c. Harvest (exclude post-harvest handling or further processing)				

### E. GREENHOUSES, BUILDINGS, AND OTHER COVERED STRUCTURES

Some hemp activities use greenhouses, buildings, or other covered structures like sheds, warehouses, hoop houses, or high tunnels. Examples include the production of hemp seed or transplants, the hardening of transplants before planting, the drying of harvested hemp materials, or full hemp production.

E1. Did you use greenhouses, buildings, or other covered structures for hemp activities in 2020? Include staging, production, storage, processing, and marketing activities.

- Yes **Continue below**     
  No **Skip to F1**     
  Don't know **Skip to F1**

a. How many square feet of greenhouse or other covered structures did you use for hemp activities in 2020? Leave blank if unknown.

b. How many unique greenhouses or other covered structures did you use for your hemp activities in 2020? Count each unique or non-contiguous structure as a separate location. Leave blank if unknown.

E2. What hemp activities did you carry out using greenhouses, buildings, or other structures in 2020? How many weeks per year and about how many square feet did each activity use? Leave blank if unknown.

Activities	Carried out activity in 2020? Mark box if yes	If YES complete information below:	
		Weeks per year Number of weeks	Square feet used Number of sq feet
a. Staging/hardening of hemp starters before planting	<input type="checkbox"/>		
b. Drying/curing of hemp material after harvest	<input type="checkbox"/>		
c. Storage of hemp material after harvest	<input type="checkbox"/>		
d. Production of non-feminized hemp seed	<input type="checkbox"/>		
e. Production of feminized hemp seed	<input type="checkbox"/>		
f. Production of hemp seed starts	<input type="checkbox"/>		
g. Production of hemp clones	<input type="checkbox"/>		
h. Production of smokable hemp	<input type="checkbox"/>		
i. Production of hemp floral material	<input type="checkbox"/>		
f. Other, explain: _____	<input type="checkbox"/>		

E3. Consider the greenhouses, buildings, and other structures that you used for hemp activities. How many of each type did you use for hemp activities in 2020? Were they also used for non-hemp activities in 2020?

Type of building/structure	Number of each type used for hemp activities in 2020 Leave blank if none	If used in 2020: Also used for other (non-hemp) activities in 2020? Mark box if Yes
		Mark box if Yes
a. Greenhouse, glass		<input type="checkbox"/>
b. Greenhouse, plastic		<input type="checkbox"/>
c. Shed/barn		<input type="checkbox"/>
d. Hoop house/high tunnel		<input type="checkbox"/>
e. Warehouse		<input type="checkbox"/>
f. Other, explain: _____		<input type="checkbox"/>

E4. Did you retrofit (improve or repair) any existing greenhouses, buildings, or other covered structures specifically for hemp production?

- Yes **Continue**     
  No **Skip to E5**     
  Don't know **Skip to E5**

a. Did the retrofit include structural renovations like ventilation or lighting?

- No  Yes  **If YES:** total cost of structural changes: \$ \_\_\_\_\_ Leave blank if unknown
- b. Did the retrofit include installation of shelving, drying racks, irrigation, fogging, or other equipment?  
 No  Yes  **If YES:** total cost of equipment: \$ \_\_\_\_\_ Leave blank if unknown

E5. How many people worked on the hemp-related activities that you managed inside of greenhouses, buildings, or other covered structures in 2020? Include the primary grower and family members if applicable. Leave blank if none. Enter "DK" if unknown.

Greenhouse/Indoor Activity	Number of unpaid managers	Number of paid managers	Number of unpaid workers	Number of paid workers
a. Staging (hardening of seed starts or clones before planting outdoors, etc.)				
b. Drying/curing (handling plants or raw material after harvest, etc.)				
c. Storage (handling dried or processed plants or raw hemp)				
d. Production of hemp seed or transplants (seed starts, clones)				
e. Production of hemp floral material or smokable hemp				
f. Other, explain: _____				

E6. How many labor hours were spent on each of the following production activities? Report the total labor hours spent performing each activity by the managers and workers listed in Question E5 above. Leave blank if none. Enter "DK" if unknown.

**Example - Approximating Total Hours:** Suppose you staged hemp clones in a shed before planting and this activity required two unpaid managers for three weeks, with each spending about four hours per week. Total hours for unpaid managers would equal 24 hours, that is: 2 managers x 3 weeks x 4 hours per week = 24 total hours.

Activity	Total hours, unpaid managers	Total hours, paid managers	Total hours, unpaid workers	Total hours, paid workers
a. Staging (hardening of seed starts or clones before planting outdoors, etc.)				
b. Drying/curing (handling plants or raw material after harvest, etc.)				
c. Storage (handling dried or processed plants or raw hemp)				
d. Production of hemp seed or transplants (seed starts, clones)				
e. Production of hemp floral material or smokable hemp				
f. Other, explain: _____				

## F. HEMP MARKETING AND PROCESSING

F1. Did you have a hemp production contract in place before planting in 2020? For this study, a production contract is where a grower is paid a fee to cultivate hemp on behalf of a contractor or investor with strains, practices, and costs/fees determined before planting.

- Yes  **Continue below**  No  **Skip to F2**  Don't know  **Skip to F2**
- a. Did you produce enough hemp to fulfill the production contract as originally specified?  
 Yes  No  Don't know  Other, explain: \_\_\_\_\_

b. Did your contractor or investor pay you per the terms of the production contract? Mark one.

- Yes, received full payment       No, received no payment       Don't know
- Contract still pending       No, received partial payment       Other, explain: \_\_\_\_\_

F2. Did you have a hemp marketing contract in place before harvesting in 2020? For this study, a marketing contract is where a grower sells hemp to a contractor or investor with prices set before harvest.

- Yes **Continue below**       No **Skip to F3**       Don't know **Skip to F3**

a. Did you produce enough hemp to fulfill the marketing contract as originally specified?

- Yes       No       Don't know       Other, explain: \_\_\_\_\_

b. Did your contractor or investor pay you per the terms of the marketing contract? Mark one.

- Yes, received full payment       No, received no payment       Don't know
- Contract still pending       No, received partial payment       Other, explain: \_\_\_\_\_

F3. Did you keep any raw hemp material in storage during 2020? Raw hemp material is unprocessed hemp biomass, floral material, fiber, or grain.

- Yes **Continue below**       No **Skip to F4**       Don't know **Skip to F4**

a. Did the storage location have any of the following capabilities? Mark all that apply.

- Temperature controlled       UV light protected       Don't know
- Humidity controlled       Other, explain: \_\_\_\_\_

b. About how much raw hemp material did you have in storage at the start and end of 2020? Include any hemp material left over from the 2019 production year.

	Quantity in storage as of <u>January 1, 2020</u>	Quantity in storage as of <u>December 31, 2020</u>
Floral material	_____ lbs	_____ lbs
Grain/seed	_____ lbs	_____ lbs
Fiber/biomass	_____ tons	_____ tons

F4. Did you process, or intend to process, raw hemp material that you produced in 2020? Processing includes the extraction or manufacture of products like oils, distillates, isolates, tinctures, or topicals; proteins, dehulled seed, nuts, or hearts; or textiles, paper, or building materials. Include processing performed by your own hemp operation and custom processing that you hired out.

- Yes **Continue**       No **Skip to G1**       Don't know **Skip to G1**

a. Were you successful at processing some or all of the hemp that you had intended to process in 2020?

- Yes **Continue**       No **Skip to G1**       Don't know **Skip to G1**

b. Who did the processing or extraction of your hemp in 2020? Mark all that apply.

- Your hemp operation       Contractor or investor       Don't know
- Custom/toll processor       Other, explain: \_\_\_\_\_

F5. What products did you have processed from the hemp you grew in 2020? Mark all that apply.

- Crude oil       Tincture       Hemp oil       Textile/fabric
- Distillate       Topicals       Hemp seeds, nuts, hearts       Don't know
- Isolate       Hemp protein       Paper/packaging products       Other, explain: \_\_\_\_\_

F6. Did you sell processed hemp products direct to any of the following outlets in 2020? Mark all that apply.

- Individual consumers, physical storefront       Processor, extractor, manufacturer
- Individual consumers, farmers market, farm stand, or similar       Regional distributor/wholesaler
- Individual consumers, online store format       Don't know
- Retail outlets that sold directly to individual consumers       Other, explain: \_\_\_\_\_

F7. About what percent of the hemp products that you had processed in 2020 were unsold or otherwise still in inventory at the end of 2020? If none, enter "0". Leave blank if unknown.

% of processed products in inventory as of <u>December 31, 2020</u>
--

Crude oil, distillate, isolates	_____ %
Other processed products	_____ %

F8. How many people worked on hemp-related processing and marketing activities in 2020? Report the number of workers and managers in the table below. Include the primary grower and family members if applicable. Leave blank if none. Enter “DK” unknown.

Activity	Number of unpaid managers	Number of paid managers	Number of unpaid workers	Number of paid workers
a. Processing				
b. Marketing				

F9. How many labor hours were spent on hemp processing and marketing activities in 2020? Report the total labor hours spent on each activity in 2020 by type of worker. Leave blank if none. Enter “DK” if don’t know.

**Example - Approximating Total Hours: Suppose your processing activity required two unpaid managers for three weeks, with each spending about four hours per week. Total hours for unpaid managers would equal 24 hours, that is: 2 managers x 3 weeks x 4 hours per week = 24 total hours.**

Activity	Total hours, unpaid managers	Total hours, paid managers	Total hours, unpaid workers	Total hours, paid workers
a. Processing				
b. Marketing				

F10. Did you encounter any of the following issues with processing, or attempting to process, your raw hemp material in 2020? Mark all that apply.

- Delayed/insufficient processing capability on your operation
- Delayed/insufficient processing capability at a custom processor
- Unfulfilled processing commitment by contractor or investor
- Could not identify a custom processor with available capacity
- Did not meet processing agreement due to testing issues (THC content, contaminants, etc.)
- Other, explain: \_\_\_\_\_

F11. Which of the following information sources did you consult before making hemp marketing decisions in 2020, including contracting, pricing, and processing? Which of those sources influenced your actual marketing decisions? Complete both columns.

Information source	Where did you <u>source</u> <u>information</u> about hemp marketing in 2020? Mark all that apply	What sources <u>influenced</u> your actual hemp marketing decisions? Mark all that apply
a. Own previous hemp production experience	<input type="checkbox"/>	<input type="checkbox"/>
b. Outside hemp partners, contractors, or investors	<input type="checkbox"/>	<input type="checkbox"/>
c. Hemp strain supplier or other input dealer	<input type="checkbox"/>	<input type="checkbox"/>
d. Other hemp growers	<input type="checkbox"/>	<input type="checkbox"/>
e. Paid consultants	<input type="checkbox"/>	<input type="checkbox"/>
f. News reports in the media	<input type="checkbox"/>	<input type="checkbox"/>
g. Social media	<input type="checkbox"/>	<input type="checkbox"/>
h. Hemp industry organizations	<input type="checkbox"/>	<input type="checkbox"/>
i. Farm and ranch organizations	<input type="checkbox"/>	<input type="checkbox"/>
j. University extension and research organizations	<input type="checkbox"/>	<input type="checkbox"/>



k. State Departments of Agriculture	<input type="checkbox"/>	<input type="checkbox"/>
l. U.S. Department of Agriculture (FSA, AMS, etc.)	<input type="checkbox"/>	<input type="checkbox"/>
m. Other federal government agencies	<input type="checkbox"/>	<input type="checkbox"/>
n. Other, explain: _____	<input type="checkbox"/>	<input type="checkbox"/>

F12. How likely are you to trust information about hemp marketing from each of the following sources, regardless of whether you actually obtained information from that source? Mark one response per row.

Information source	Very unlikely	Unlikely	Neutral	Likely	Very likely	Not applicable
Mark one for each row						
a. Own previous hemp production experience	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Outside hemp partners, contractors, or investors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Hemp strain supplier or other input dealer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Other hemp growers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Paid consultants	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. News reports in the media	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Social media	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Hemp industry organizations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i. Farm and ranch organizations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
j. University extension and research organizations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
k. State Departments of Agriculture	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
l. U.S. Department of Agriculture (FSA, AMS, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
m. Other federal government agencies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
n. Other, explain: _____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**G. ABOUT YOUR HEMP OPERATION**

G1. Did you grow hemp in any year prior to 2020?

- Yes **Continue**     No **Skip to G2**     Don't know **Skip to G2**

a. How much hemp land area did you register and harvest each year, and what were the intended end products? Complete the table below. Leave blank if none.

Year	Hemp field production Acres Registered	Hemp field production Acres Harvested	Greenhouse/indoor hemp production Square feet	Intended end product
				Mark all that apply
2014				<input type="checkbox"/> Fiber <input type="checkbox"/> Grain <input type="checkbox"/> Floral material
2015				<input type="checkbox"/> Fiber <input type="checkbox"/> Grain <input type="checkbox"/> Floral material
2016				<input type="checkbox"/> Fiber <input type="checkbox"/> Grain <input type="checkbox"/> Floral material
2017				<input type="checkbox"/> Fiber <input type="checkbox"/> Grain <input type="checkbox"/> Floral material
2018				<input type="checkbox"/> Fiber <input type="checkbox"/> Grain <input type="checkbox"/> Floral material
2019				<input type="checkbox"/> Fiber <input type="checkbox"/> Grain <input type="checkbox"/> Floral material

b. Did you produce hemp for the same intended end product (fiber, grain, floral, etc.) in 2020 and 2019?

- Yes **Continue**     No **Skip to G2**     Don't know **Skip to G2**

c. How did your hemp production in 2020 compare to your hemp production in 2019?

	Not applic-able	Lower by more than 25%	Lower by 10 to 25%	No to little change	Higher by 10 to 25%	Higher by 25% or more	Don't know
	Mark one response for each row						
Yield per acre	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pounds of hemp seed or number of hemp transplants per acre	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cost per hemp seed or hemp transplant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Price received per ton or per pound	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Number of paid employees per year	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hours worked per employee per year	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Number of hemp lab tests per year	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Average cost of lab tests	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Share of hemp acres under production or marketing contract prior to harvest	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Share of harvested raw hemp material retained for processing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

G2. In addition to hemp, how many acres of other cropland did you operate in 2020? If none, enter "0". Leave blank if unknown.

G3. In addition to hemp, how many other square feet of indoor/covered space did you operate in 2020? If none, enter "0". Leave blank if unknown.

G4. Did you purchase a hemp crop insurance policy in 2020? Mark all that apply.

- USDA Whole Farm Revenue Protection (WFRP)
- USDA Multi-peril Crop Insurance (MPCI)
- USDA Noninsured Crop Disaster Assistance (NAP)
- USDA Nursery Insurance
- Private crop insurance
- Other, explain: \_\_\_\_\_

G5. Within the past five years, have you produced and sold over \$1,000 of any of the following products in a single calendar year? Mark all that apply.

- Field/row crops
- Forage/hay crops
- Vegetable crops
- Greenhouse/nursery plants
- Trees/landscaping plants
- Livestock or dairy
- Fruit/orchard crops
- Legal marijuana
- Other, explain: \_\_\_\_\_
- Poultry
- Don't know

G6. Was your hemp operation structured as a Limited Liability Company (LLC) in 2020?

- Yes
- No
- Don't know

G7. How was your hemp operation or LLC organized in 2020? Mark one.

- Individual, single family, sole proprietor
- Multiple individuals/families, partnership
- S Corporation
- C Corporation
- Cooperative or agricultural cooperative
- Estate or trust
- Public organization (university, government, etc.)
- Private organization (foundation, non-profit, etc.)
- Don't know
- Other, explain: \_\_\_\_\_

G8. Did you form this operation or LLC specifically for the purpose of hemp production?

- Yes
- No
- Don't know

G9. Have you ever obtained a loan, outside financing, or private investment to help pay for hemp input or operating costs? Include loans, financing, or investments from entities like banks, credit unions, private lenders, private equity or venture capital firms, or business partners like processors or seed/clone suppliers.

- Yes **Continue**
- No **Skip to G10**
- Don't know **Skip to G10**

a. What was the source of the loan, financing, or investment? Mark all that apply.

- Farm Credit System
- USDA Farm Service Agency (FSA)
- Small Business Administration (SBA)
- Implement dealer/financing
- Input dealer/hemp strain supplier
- Farmer Mac
- Commercial bank
- Credit union
- Processor/extractor
- Contractor
- Business partner
- Co-ops & other merchants
- Credit cards
- Other debts (such as unpaid bills)
- Any other individuals
- Any other lenders
- Don't know
- Other, explain: \_\_\_\_\_

b. Approximately what percent of your total hemp input or operating costs did this loan, outside financing, or private investment cover? If none, enter "0". Leave blank if unknown.

G10. Have you ever obtained a loan, outside financing, or private investment to purchase (or retrofit) hemp-related farm machinery or equipment, or farm buildings like sheds or greenhouses, for your hemp operation? Include loans, financing, or investments from entities like equipment dealers, banks, credit unions, private lenders, private equity or venture capital firms, or business partners like processors or input suppliers.

- Yes **Continue**
- No **Skip to G11**
- Don't know **Skip to G11**

a. What was the source of the loan, financing, or investment? Mark all that apply.

- Farm Credit System
- Commercial bank
- Credit cards

- USDA Farm Service Agency (FSA)
- Small Business Administration (SBA)
- Implement dealer/financing
- Input dealer/hemp strain supplier
- Farmer Mac
- Credit union
- Processor/extractor
- Contractor
- Business partner
- Co-ops & other merchants
- Other debts (such as unpaid bills)
- Any other individuals
- Any other lenders
- Don't know
- Other, explain: \_\_\_\_\_

b. What were these loans, financing, or investments used for? Mark all that apply.

- Purchase new machinery/equipment
- Retrofit existing machinery/equipment
- Purchase new buildings/greenhouses
- Improve existing buildings/greenhouses
- Don't know
- Other: \_\_\_\_\_

G11. Have you ever obtained a loan, outside financing, or private investment to purchase farmland or real estate specifically for your hemp operation? Include loans, financing, or investments from entities like banks, credit unions, private lenders, or private equity or venture capital firms.

- Yes **Continue**
- No **Skip to G12**
- Don't know **Skip to G12**

a. What was the source of the loan, financing, or investment? Mark all that apply.

- Farm Credit System
- USDA Farm Service Agency (FSA)
- Small Business Administration (SBA)
- Implement dealer/financing
- Input dealer/hemp strain supplier
- Farmer Mac
- Commercial bank
- Credit union
- Processor/extractor
- Contractor
- Business partner
- Co-ops & other merchants
- Credit cards
- Other debts (such as unpaid bills)
- Any other individuals
- Any other lenders
- Don't know
- Other, explain: \_\_\_\_\_

G12. Did you have a written business plan for your hemp operation in 2020?

- Yes **Continue**
- No **Skip to G13**
- Don't know **Skip to G13**

a. Did this written business plan include any of the following items? Mark all that apply.

- A description of how to dispose of hemp plants if they were to exceed applicable THC limits
- A description of how to maintain cash flow if hemp plants were to exceed applicable THC limits
- A description of an established hemp market for where to sell harvested or processed hemp products

G13. What was the total gross cash farm income from agricultural or greenhouse product sales in 2020, including hemp sales? Mark one.

- Less than \$150,000
- Between \$150,000 and \$349,999
- Between \$350,000 and \$999,999
- Between \$1,000,000 and \$4,999,999
- \$5,000,000 or more
- Prefer not to respond

## H. ABOUT THE PRIMARY DECISION MAKER & OTHER CONTRIBUTORS

**The "primary decision maker" is the individual who was most responsible for hemp decisions in 2020.**

H1. Who is completing this form? Mark all that apply.

- Primary decision maker
- Family member of the primary decision maker
- Hired manager
- Other, explain: \_\_\_\_\_

H2. How many years of farming or ranching experience did the primary decision maker have on this operation as of 2020? Include the year 2020. Leave blank if unknown.

H3. How many years of farming or ranching experience did the primary decision maker have on any operation as of 2020? Include the year 2020. Leave blank if unknown.

H4. How many years of greenhouse or other indoor plant cultivation experience did the primary decision maker have on this operation as of 2020? Include the year 2020. Leave blank if unknown.

H5. How many years of greenhouse or other indoor plant cultivation experience did the primary decision maker have on any operation as of 2020? Include the year 2020. Leave blank if unknown.

[Empty box]

H6. What was the primary decision maker's age in years as of Dec. 31, 2020? Leave blank if unknown.

[Empty box]

H7. Was the primary decision maker retired as of Jan. 1, 2020, even if they spent some time farming, ranching, or working on hemp or other plant cultivation activities?

- Yes No Don't know

H8. Did the primary decision maker and persons related to the primary decision maker own more than half of the hemp business in 2020?

- Yes No Don't know

H9. How did the primary decision maker spend most of their work time (50% or more) in 2020? Mark one.

- Farming/ranching Work other than farming/ranching/indoor cultivation
Greenhouse/other indoor plant cultivation Other, explain:

H10. What is the primary decision maker's gender? Mark all that apply.

- Male Transgender Not listed
Female Non-binary or non-conforming Prefer not to respond

H11. What is the primary decision maker's race? Mark all that apply.

- Asian American Indian or Alaska Native, specify tribe:
Black or African American Native Hawaiian or other Pacific Islander
White Prefer not to respond

H12. Is the primary decision maker a person of Hispanic, Latino, or Spanish origin?

- Yes No Don't know Prefer not to respond

H13. Did the primary decision maker identify with any of the following categories in 2020? Mark all that apply. See definitions below.

- Woman farmer or rancher Limited resource farmer or rancher Disabled farmer or rancher
Beginning farmer or rancher Veteran farmer or rancher Other, explain:

Definitions: A beginning farmer or rancher has not operated a farm or ranch for more than 10 years, does not own a farm or ranch greater than 30% of the average size in the county, and substantially participates in the operation. A limited resource farmer or rancher is a person with direct or indirect gross farm sales not more than \$179,000 and with a total household income at or below the national poverty level in each of the previous two years. For woman farmer include anyone who identifies as female.

H14. What is the highest level of formal education the primary decision maker has attained? Mark one.

- Less than high school Some college (include associates degree) Prefer not to respond
High school Four-year college graduate and beyond

H15. In addition to the primary decision maker, how many other people also contributed to hemp decision-making for your operation in 2020? Include family members, business partners, and hired managers. Exclude outside contractors and investors. If none, enter "0". Leave blank if unknown.

[Empty box] If "0", skip to H16

- a. Did any of the additional individual(s) who contributed to hemp decision-making for your operation in 2020 identify with any of the following groups? Mark all that apply.
b. Did any of the additional individual(s) who contributed to hemp decision-making for your operation in 2020 identify with any of the following groups? Mark all that apply.

H16. Including the primary decision maker, how many people were in the primary decision maker's household in 2020? If none, enter "0". Leave blank if unknown.

**End of Survey**

**J. TO BE COMPLETED BY RESPONDENTS WHO DID NOT PRODUCE HEMP IN 2020**

J1. Did you grow hemp in any year prior to 2020? Round to nearest quarter acre.

- Yes **Continue**    
  No **Skip to J2**    
  Don't know **Skip to J2**

a. How much hemp area did you register and harvest each year, and what were the intended end products? Complete the table below. If none, enter "0". Leave blank if unknown.

Year	Hemp Field Production		Greenhouse/indoor activities Square feet	Intended end product Mark all that apply		
	Acres registered	Acres harvested		<input type="checkbox"/> Fiber	<input type="checkbox"/> Grain	<input type="checkbox"/> Floral material
2014				<input type="checkbox"/> Fiber	<input type="checkbox"/> Grain	<input type="checkbox"/> Floral material
2015				<input type="checkbox"/> Fiber	<input type="checkbox"/> Grain	<input type="checkbox"/> Floral material
2016				<input type="checkbox"/> Fiber	<input type="checkbox"/> Grain	<input type="checkbox"/> Floral material
2017				<input type="checkbox"/> Fiber	<input type="checkbox"/> Grain	<input type="checkbox"/> Floral material
2018				<input type="checkbox"/> Fiber	<input type="checkbox"/> Grain	<input type="checkbox"/> Floral material
2019				<input type="checkbox"/> Fiber	<input type="checkbox"/> Grain	<input type="checkbox"/> Floral material

J2. What was the primary reason that you decided not to grow hemp in 2020? Mark one.

- Hemp was not profitable
- Hemp was profitable, but not enough to justify the effort and/or expenses to produce it
- Uncertain markets, market prices, or market access
- Unable to find or purchase needed inputs or equipment
- Unable to find or hire enough workers
- Regulation too burdensome to justify the effort and/or expenses to produce it
- Stable and compliant hemp genetics were not available
- Prefer to spend time and expenses elsewhere
- Lacked the knowledge, experience, or time to be successful at growing hemp
- Other, explain: \_\_\_\_\_

**End of Survey**