National Hemp Report Methodology and Quality Measures

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Released June 4, 2026, by the National Agricultural Statistics Service (NASS), Agricultural Statistics Board, United States Department of Agriculture (USDA).

Scope and Purpose: The Hemp Production and Disposition Inquiry (PDI) is a survey conducted under an agreement with the Agricultural Marketing Service (AMS) and collects information on the total planted and harvested area, yield, production, and value of hemp by utilization in the United States. The survey provides critical data about the hemp industry to assist producers, regulatory agencies, state governments, processors, and other key industry entities. As defined in the Agricultural Improvement Act of 2018 (2018 Farm Bill), the term "hemp" means the plant species *Cannabis sativa* L. and any part of the plant such as the seeds, all derivatives, and extracts, whether growing or not, with a delta-9 tetrahydrocannabinol (THC) concentration of not more than 0.3% on a dry weight basis. The Domestic Hemp Production Program, established in the 2018 Farm Bill and administered by AMS, allows for the cultivation of hemp under certain conditions. As of 2022, all 50 states operated under the regulations of the 2018 Farm Bill. The target population for the Hemp PDI survey is all growers in the United States who are licensed to grow hemp in 2025 under the 2018 Farm Bill. The survey is administered in all 50 States.

Timeline: Data collection begins with the mailing of questionnaires early in the year following the crop year of reference. Telephone follow up with nonrespondents begins in February and concludes in March. Analysis, summarization, and the establishment of estimates are completed from mid-March to mid-April. The 2025 publication was released on April 16, 2026.

Sampling: The sampling frame is all farm operations potentially growing hemp on the NASS list frame and was updated using lists from AMS and other USDA agencies. For the 2025 survey, the resulting sample of 7,777 operations is a census of all known hemp growers.

Data Collection: NASS in cooperation with AMS and other USDA agencies developed the Hemp Production and Disposition Inquiry questionnaire. During questionnaire development, NASS survey methodologists conduct cognitive interviews, and updates are made based on cognitive testing results. Mail, web, and telephone interview modes of data collection are utilized for the survey. All sampled operations are mailed a questionnaire and instructions to complete the survey on the internet. Text message and email reminders are mailed after the first week of data collection to those who have not responded, and then telephone follow up begins with any remaining nonrespondents. NASS promotes the survey online and emphasizes the importance of survey response.

All federal data collections require approval by the Office of Management and Budget (OMB). NASS must document the public need for the data, apply sound statistical practice, prove the data does not already exist elsewhere, and ensure the public is not excessively burdened. The questionnaires must display an active OMB number that gives NASS the authority to conduct the survey, a statement of the purpose of the survey and the use of the data being collected, a response burden statement that gives an estimate of the time required to complete the form, a confidentiality statement that the respondent's information will be protected from disclosure, and a statement saying that response to the survey is voluntary and not required by law.

Survey Edit: As survey data are collected and captured, they are edited for consistency and reasonableness using automated systems. The edit logic also ensures administrative coding follows the methodological rules associated with the survey design. Relationships between data items (i.e., responses to individual questions) on the current survey are verified. Records that do not pass the edit logic are either updated or certified by an analyst as accurate. In some cases, respondents are re-contacted to verify unusual survey responses.

Analysis Tools: Edited data are analyzed through a standard interactive analysis tool which displays data for all

reports by item. The tool provides scatter plots, tables, charts, and special tabulations that allow the analyst to compare record level data of similar records. Atypical responses, unusual data relationships, and statistical outliers for all items are revealed by the analysis tool. RFO and Headquarters staff review such relationships to determine if they are correct. Data found to be in error are corrected, while accepted data are retained.

Nonsampling Errors: Nonsampling error is present in any survey process. This error includes reporting, recording, and editing errors, as well as nonresponse error. Steps are taken to minimize the impact of these errors, such as questionnaire testing, comprehensive interviewer training, validation and verification of the processing systems, application of detailed computer edits, and evaluation of the data via the analysis tool.

Estimators: Response to the Hemp PDI Survey is voluntary. Some producers refuse to participate in the survey. Others cannot be located during the data collection period, and some submit incomplete reports. These nonrespondents must be accounted for if accurate estimates of acreage and production are to be made.

Nonresponse weighting groups or strata are created in each state based on historical and administrative data. Nonrespondents are accounted for by adjusting the weights of the complete responses in each stratum. The adjustment is also performed for each individual item because sometimes only a partial report is obtained. The adjustment is calculated by taking the total number of operations in the stratum and dividing by the number of complete responses in the stratum. This ratio is applied to the sampling weights of the complete records. This adjustment assumes that the data of the nonrespondents are like the data of the respondents. The sampling frame is assumed to be complete, so weights are not adjusted for undercoverage.

Two kinds of estimators are used in the Hemp PDI survey: direct expansions and ratio estimators. Direct expansions are used to estimate totals such as total planted and harvested acres and production. Direct expansions are calculated by summing the reported values multiplied by the nonresponse adjusted sampling weights. Variances and coefficients of variation (CVs) are calculated for the direct expansions to measure the precision of the estimates.

The ratio estimator takes the form of a ratio of two direct expansions which are calculated using the method described above. The ratio estimator is used for all within survey ratios (e.g., Yields and Prices). If either the numerator or denominator of the ratio is not complete, the sampling unit is excluded from the estimate and the weights of the complete records are adjusted accordingly. CVs are also calculated for any ratio estimates in the summary. One advantage of the ratio estimator is that the CVs tend to be smaller than those for the direct expansions.

Estimation: When all samples are accounted for, all responses fully edited, and the analysis material is reviewed, State and National summaries are executed in Headquarters. The summary results provide multiple point estimates and corresponding standard errors for each data series being estimated. It also provides information used to assess the performance of the current survey and evaluate the quality of the survey results, such as strata level expansions, response rates, and percent of the expansion from complete reports.

Information obtained from the survey along with Federal and State administrative data is used to establish estimates of total planted and harvested acres, yield, production, price, and value by utilization. These National and State level estimates are reviewed by the Agricultural Statistics Board (ASB) for errors, reasonableness, and consistency. To be considered, the administrative data must be deemed reliable and come from an unbiased source.

All hemp estimates are subject to revision the following year based on a thorough review of all available data. Estimates will also be reviewed following the 5-year Census of Agriculture, which is an exhaustive data collection effort of all known farm operations across the United States. The information gathered from the Census of Agriculture provides the last chance for revision.

Quality Metrics for National Hemp Report

Purpose and Definitions: Under the guidance of the Statistical Policy Office of the Office of Management and Budget (OMB), the United States Department of Agriculture's National Agricultural Statistics Service (NASS) provides data

users with quality metrics for its published data series. The metrics tables below describe the performance data for all surveys contributing to the publication. The accuracy of data products may be evaluated through sampling and nonsampling error. The Hemp PDI Survey CVs measure the error due to sampling as well as some nonsampling error. Nonsampling error is also evaluated by examining survey response rates and the weighted item response rates.

Sample size is the number of observations selected from the population to represent a characteristic of the population.

Response rate is the proportion of the above sample that completed the survey, excluding those operations that did not have the item of interest or were out of business at the time of data collection. This calculation follows Guideline 3.2.2 of the OMB Standards and Guidelines for Statistical Surveys (September 2006).

Weighted item response rate is a ratio of reported survey data expanded by the original sampling weight compared to final nonresponse adjusted summary totals.

Coefficient of variation provides a measure of the size for the standard error relative to the point estimate and is used to measure the precision of the results of a survey estimator.

Hemp PDI Survey Sample Size and Response Rate - States and United States: 2024 and 2025

State	Sample Size		Response Rate	
	2024	2025	2024	2025
	(number)	(number)	(percent)	(percent)
Alabama	114	92	50.3	37.6
Alaska	(D)	(D)	(D)	(D)
Arizona	(D)	(D)	(D)	(D)
Arkansas	(D)	(D)	(D)	(D)
California	154	150	59.6	36.4
Colorado	228	227	58.2	42.5
Connecticut	74	69	73.8	59.8
Delaware	(D)	(D)	(D)	(D)
Florida	957	744	35.6	24.7
Georgia	204	172	50.1	34.8
Hawaii	(D)	(D)	(D)	(D)
Idaho	34	(D)	84.1	(D)
Illinois	249	206	60.2	40.1
Indiana	122	140	74.4	45.5
Iowa	45	38	57.2	50.9
Kansas	104	114	76.7	56.9
Kentucky	257	292	69.6	61.4
Louisiana	82	69	55.0	44.2
Maine	21	25	71.1	52.9
Maryland	61	58	77.9	59.3
Massachusetts	43	(D)	68.7	(D)
Michigan	81	70	73.0	47.1
Minnesota	460	389	51.7	36.1
Mississippi	169	147	44.8	40.6
Missouri	110	139	70.4	57.6
Montana	82	79	87.1	55.2
Nebraska	42	54	72.2	62.5
Nevada	(D)	(D)	(D)	(D)
New Hampshire	(D)	(D)	(D)	(D)
New Jersey	61	52	65.8	38.1
New Mexico	(D)	(D)	(D)	(D)
New York	274	219	73.1	54.8
North Carolina	794	950	70.0	48.4
North Dakota	61	56	58.5	55.0
Ohio	110	88	58.0	44.8
Oklahoma	117	138	65.9	46.2
Oregon	249	214	69.9	53.4
Pennsylvania	227	243	72.0	57.6
Rhode Island	(D)	(D)	(D)	(D)
South Carolina	164	158	46.0	37.6
South Dakota	56	50	83.8	70.9
Tennessee	373	323	65.3	40.9
Texas	595	695	55.6	40.4
Utah	54	47	69.6	45.1
Vermont	202	59	44.8	66.2
Virginia	296	269	56.8	48.7
Washington	89	96	75.8	56.9
West Virginia	76	63	69.7	67.8
Wisconsin	427	494	70.0	54.0
Wyoming	(D)	(D)	(D)	(D)
Other States [1]	235	227	60.7	47.1
United States	8,153	7,777	61.4	46.3

(D) Withheld to avoid disclosing data for individual operations.
[1] Includes data withheld above.

Quality Metrics for Hemp Grown in the Open Area Planted - States and United States: 2024 and 2025

State	Weighted Item Response Rate		Coefficient of Variation	
	2024	2025	2024	2025
	(percent)	(percent)	(percent)	(percent)
Alabama	55.3	35.6	36.8	63.6
Alaska	(D)	(D)	(D)	(D)
Arizona	(D)	(D)	(D)	(D)
Arkansas	(D)	(D)	(D)	(D)
California	64.9	34.0	48.4	57.0
Colorado	51.8	36.8	54.2	56.5
Connecticut	65.5	37.4	30.1	44.4
Delaware	(D)	(D)	(D)	(D)
Florida	(D)	41.6	(D)	45.6
Georgia	(D)	(D)	(D)	(D)
Hawaii	(D)	(D)	(D)	(D)
Idaho	76.5	(D)	44.5	(D)
Illinois	53.0	47.9	82.1	46.4
Indiana	87.4	(D)	89.9	(D)
Iowa	60.3	50.1	40.0	98.8
Kansas	73.2	58.2	35.1	50.0
Kentucky	51.2	52.7	31.6	24.2
Louisiana	(D)	56.5	(D)	68.5
Maine	61.9	40.0	52.0	57.7
Maryland	(D)	53.3	(D)	43.8
Massachusetts	48.4	(D)	60.2	(D)
Michigan	82.6	48.0	36.5	51.8
Minnesota	(D)	56.3	(D)	52.6
Mississippi	(D)	(D)	(D)	(D)
Missouri	78.8	60.0	44.1	54.0
Montana	86.4	62.5	38.0	40.7
Nebraska	(D)	46.1	(D)	60.2
Nevada	(D)	(D)	(D)	(D)
New Hampshire	(D)	(D)	(D)	(D)
New Jersey	70.9	38.0	47.3	75.9
New Mexico	(D)	(D)	(D)	(D)
New York	62.4	57.4	40.6	56.8
North Carolina	59.6	63.6	56.8	44.4
North Dakota	58.1	47.4	64.0	74.9
Ohio	(D)	37.6	(D)	90.6
Oklahoma	64.2	42.7	44.2	77.1
Oregon	65.9	(D)	50.2	(D)
Pennsylvania	73.2	46.6	44.4	23.4
Rhode Island	(D)	(D)	(D)	(D)
South Carolina	54.7	41.4	37.7	75.5
South Dakota	75.6	76.5	24.7	46.8
Tennessee	74.3	32.2	62.0	73.5
Texas	54.1	40.0	26.3	33.6
Utah	65.4	66.3	69.3	84.4
Vermont	43.0	55.6	83.0	94.1
Virginia	69.0	47.9	61.8	41.8
Washington	70.3	42.0	60.5	65.4
West Virginia	65.7	56.0	33.3	35.4
Wisconsin	40.1	52.7	52.6	54.0
Wyoming	(D)	(D)	(D)	(D)
Other States [1]	61.9	57.9	39.3	48.6
United States	65.1	48.5	12.5	17.0

(D) Withheld to avoid disclosing data for individual operations.
[1] Includes data withheld above.

Quality Metrics for Industrial Hemp Grown Under Protection Area in Production - States and United States: 2024 and 2025

State	Weighted Item Response Rate		Coefficient of Variation	
	2024	2025	2024	2025
	(percent)	(percent)	(percent)	(percent)
Alabama	55.2	42.5	35.6	92.9
Alaska	(D)	(D)	(D)	(D)
Arizona	(D)	(D)	(D)	(D)
Arkansas	(D)	(D)	(D)	(D)
California	59.9	52.9	81.3	73.2
Colorado	62.8	40.5	59.7	59.5
Connecticut	66.1	56.8	44.0	97.8
Delaware	(D)	(D)	(D)	(D)
Florida	50.4	37.1	46.8	43.0
Georgia	66.1	49.5	64.9	93.9
Hawaii	(D)	(D)	(D)	(D)
Idaho	76.5	(D)	68.1	(D)
Illinois	(D)	(D)	(D)	(D)
Indiana	74.7	48.0	68.7	68.1
Iowa	(D)	(D)	(D)	(D)
Kansas	67.9	(D)	40.9	(D)
Kentucky	60.1	51.8	59.4	52.1
Louisiana	52.0	53.6	79.8	51.7
Maine	(D)	(D)	(D)	(D)
Maryland	66.7	(D)	68.6	(D)
Massachusetts	51.3	(D)	71.5	(D)
Michigan	60.1	(D)	82.9	(D)
Minnesota	60.9	(D)	47.2	(D)
Mississippi	62.9	42.9	53.2	54.2
Missouri	64.9	62.3	47.8	70.1
Montana	(D)	(D)	(D)	(D)
Nebraska	74.5	(D)	55.4	(D)
Nevada	(D)	(D)	(D)	(D)
New Hampshire	(D)	(D)	(D)	(D)
New Jersey	(D)	(D)	(D)	(D)
New Mexico	(D)	(D)	(D)	(D)
New York	59.2	59.4	54.0	88.5
North Carolina	65.6	56.6	34.6	41.1
North Dakota	61.9	(D)	68.3	(D)
Ohio	58.9	46.9	50.1	54.5
Oklahoma	56.7	39.5	39.4	40.0
Oregon	59.3	38.6	33.4	50.5
Pennsylvania	56.0	45.2	56.6	57.5
Rhode Island	(D)	(D)	(D)	(D)
South Carolina	46.2	37.0	70.9	90.4
South Dakota	(D)	(D)	(D)	(D)
Tennessee	61.9	48.4	36.0	64.1
Texas	58.4	43.8	25.8	37.5
Utah	70.1	(D)	67.2	(D)
Vermont	(D)	(D)	(D)	(D)
Virginia	56.6	56.3	58.7	50.9
Washington	75.4	52.1	43.4	57.8
West Virginia	(D)	(D)	(D)	(D)
Wisconsin	68.3	48.9	33.0	37.1
Wyoming	(D)	(D)	(D)	(D)
Other States [1]	61.6	32.9	94.9	36.9
United States	60.3	48.7	27.7	29.1

(D) Withheld to avoid disclosing data for individual operations.
[1] Includes data withheld above.

Information Contacts

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Questionnaires	Data Collection Branch	(202) 720-6201	HQ_CSD_DCB@usda.gov
Sampling and Editing	Sampling, Editing, and Imputation Methodology Branch	(202) 690-8141	HQ_CSD_SB@usda.gov
Analysis and Estimators	Summary, Estimation, and Disclosure Methodology Branch	(202) 690-8141	HQ_SD_SMB@usda.gov
Dissemination	Data Dissemination Office	(202) 720-3869	HQSDOD@usda.gov
Media Contact and Webmaster	Public Affairs Office	(202) 720-2639	HQOAPAO@usda.gov

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