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United States Honey Production Down 14 Percent in 2021

United States honey production in 2021 totaled 126 million pounds, down 14 percent from 2020. There were 2.70 million colonies producing honey in 2021, down slightly from 2020. Yield per colony averaged 46.9 pounds, down 14 percent from the 54.5 pounds in 2020. Colonies which produced honey in more than one State were counted in each State where the honey was produced. Therefore, at the United States level yield per colony may be understated, but total production would not be impacted. Colonies were not included if honey was not harvested. Producer honey stocks were 23.5 million pounds on December 15, 2021, down 41 percent from a year earlier. Stocks held by producers exclude those held under the commodity loan program.

Honey Prices Up 21 Percent in 2021

United States honey prices increased 21 percent during 2021 to \$2.54 per pound, compared to \$2.10 per pound in 2020. United States and State level prices reflect the portions of honey sold through cooperatives, private, and retail channels. Prices for each color class are derived by weighting the quantities sold for each marketing channel. Prices for the 2020 crop reflect honey sold in 2020 and 2021. Some 2020 crop honey was sold in 2021, which caused some revisions to the 2020 crop prices.

Price Paid per Queen was 20 Dollars in 2021

The average prices paid in 2021 for honey bee queens, packages, and nucs were \$20, \$91, and \$125 respectively. Pollination income for 2021 was \$269 million, up 6 percent from 2020. Other income from honey bees in 2021 was \$102 million, up 82 percent from 2020. These estimates along with expenditure and apiary worker information can be found on page 4 of this report.

Colonies, Yield, Production, Stocks, Price, and Value – States and United States: 2020

[Colonies which produced honey in more than one State were counted in each State]

State	Honey producing colonies ¹	Yield per colony	Production	Stocks December 15 ²	Average price per pound ³	Value of production ⁴
	(1,000)	(pounds)	(1,000 pounds)	(1,000 pounds)	(dollars)	(1,000 dollars)
Alabama	7	39	273	66	5.52	1,507
Arizona	25	36	900	360	2.38	2,142
Arkansas	20	49	980	176	1.85	1,813
California	320	43	13,760	2,752	1.95	26,832
Colorado	30	41	1,230	455	2.39	2,940
Florida	192	46	8,832	883	2.24	19,784
Georgia	101	34	3,434	412	2.52	8,654
Hawaii	15	105	1,575	79	1.70	2,678
Idaho	107	35	3,745	637	1.76	6,591
Illinois	10	52	520	156	5.65	2,938
Indiana	9	55	495	149	3.91	1,935
Iowa	35	58	2,030	1,259	2.54	5,156
Kansas	8	62	496	164	3.25	1,612
Kentucky	7	33	231	58	5.76	1,331
Louisiana	33	69	2,277	228	2.46	5,601
Maine	10	30	300	78	3.36	1,008
Michigan	95	47	4,465	1,384	2.95	13,172
Minnesota	108	55	5,940	2,495	1.80	10,692
Mississippi	25	73	1,825	146	1.99	3,632
Missouri	9	41	369	100	3.59	1,325
Montana	110	81	8,910	3,208	1.61	14,345
Nebraska	37	52	1,924	250	1.69	3,252
New Jersey	14	31	434	91	4.32	1,875
New York	58	56	3,248	844	3.13	10,166
North Carolina	12	38	456	123	5.50	2,508
North Dakota	495	78	38,610	8,108	1.59	61,390
Ohio	16	75	1,200	576	3.50	4,200
Oregon	95	29	2,755	1,102	2.40	6,612
Pennsylvania	19	48	912	392	4.12	3,757
South Carolina	16	46	736	66	3.44	2,532
South Dakota	245	61	14,945	8,668	1.77	26,453
Tennessee	7	51	357	54	4.23	1,510
Texas	157	57	8,949	1,253	2.00	17,898
Utah	28	34	952	171	2.02	1,923
Vermont	6	47	282	96	3.94	1,111
Virginia	5	40	200	54	6.03	1,206
Washington	98	37	3,626	798	2.51	9,101
West Virginia	6	46	276	58	3.81	1,052
Wisconsin	45	50	2,250	855	3.11	6,998
Wyoming	38	40	1,520	608	1.71	2,599
Other States ^{5 6}	33	42	1,375	303	4.68	6,435
United States ^{6 7}	2,706	54.5	147,594	39,715	2.10	309,947

¹ Honey producing colonies are the maximum number of colonies from which honey was harvested during the year. It is possible to harvest honey from colonies which did not survive the entire year.

² Stocks held by producers.

³ Average price per pound based on expanded sales.

⁴ Value of production is equal to production multiplied by average price per pound.

⁵ Includes data for States not published in this table.

⁶ Due to rounding, total colonies multiplied by total yield may not exactly equal production.

⁷ United States value of production will not equal summation of States.

Colonies, Yield, Production, Stocks, Price, and Value – States and United States: 2021

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State	Honey producing colonies ¹	Yield per colony	Production	Stocks December 15 ²	Average price per pound ³	Value of production ⁴
	(1,000)	(pounds)	(1,000 pounds)	(1,000 pounds)	(dollars)	(1,000 dollars)
Alabama	8	40	320	112	5.99	1,917
Arizona	26	40	1,040	368	2.34	2,434
Arkansas	17	50	850	255	2.07	1,760
California	290	33	9,570	1,627	2.40	22,968
Colorado	29	40	1,160	232	2.78	3,225
Florida	193	44	8,492	849	2.42	20,551
Georgia	96	34	3,264	261	2.73	8,911
Hawaii	15	93	1,395	56	2.21	3,083
Idaho	100	30	3,000	270	2.37	7,110
Illinois	10	46	460	115	5.83	2,682
Indiana	10	52	520	177	3.89	2,023
Iowa	38	55	2,090	502	2.46	5,141
Kansas	7	42	294	144	2.74	806
Kentucky	7	37	259	73	4.60	1,191
Louisiana	37	58	2,146	205	2.50	5,365
Maine	11	34	374	60	3.18	1,189
Michigan	101	51	5,151	1,957	2.97	15,298
Minnesota	125	57	7,125	285	2.32	16,530
Mississippi	25	71	1,775	71	2.77	4,917
Missouri	8	35	280	92	3.99	1,117
Montana	117	57	6,669	1,934	2.17	14,472
Nebraska	39	47	1,833	550	2.17	3,978
New Jersey	15	35	525	158	3.27	1,717
New York	57	53	3,021	665	4.15	12,537
North Carolina	13	39	507	104	6.84	3,468
North Dakota	515	55	28,325	2,266	2.19	62,032
Ohio	16	64	1,024	389	3.70	3,789
Oregon	86	31	2,666	693	2.14	5,705
Pennsylvania	20	42	840	336	3.40	2,856
South Carolina	16	42	672	67	5.32	3,575
South Dakota	250	49	12,250	5,268	2.27	27,808
Tennessee	8	56	448	81	5.00	2,240
Texas	137	56	7,672	384	2.30	17,646
Utah	31	33	1,023	92	2.18	2,230
Vermont	7	47	329	76	3.28	1,079
Virginia	6	40	240	79	8.23	1,975
Washington	96	32	3,072	1,206	2.52	7,741
West Virginia	6	43	258	136	4.80	1,238
Wisconsin	42	47	1,974	750	2.81	5,547
Wyoming	38	58	2,204	242	2.07	4,562
Other States ^{5 6}	28	48	1,349	340	4.90	6,610
United States ^{6 7}	2,696	46.9	126,466	23,527	2.54	321,224

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Honey Price by Color Class – United States: 2020 and 2021

Color class	Co-op and private		Retail		All	
	2020	2021	2020	2021	2020	2021
	(dollars per pound)	(dollars per pound)	(dollars per pound)	(dollars per pound)	(dollars per pound)	(dollars per pound)
Water white, extra white, white	1.73	2.22	4.18	5.35	1.81	2.30
Extra light amber	1.81	2.24	4.67	3.80	1.93	2.35
Light amber, amber, dark amber	2.00	2.42	5.51	5.51	2.53	2.85
All other honey, area specialties	2.39	2.55	7.23	6.71	3.00	3.56
All honey	1.84	2.30	5.23	5.04	2.10	2.54

Income and Expenditures – United States: 2020 and 2021

[Represents income and expenditures on the total number of colonies, regardless of whether honey was harvested]

Item	2020	2021
	(1,000 dollars)	(1,000 dollars)
Income		
Pollination income	254,282	268,590
Other income ¹	55,773	101,688
Expenditures		
Varroa control and treatment	11,706	11,565
Other colony issues ²	3,166	3,066
Feed ³	40,930	42,582
Foundation	6,567	7,064
Hives/woodenware	11,153	9,863

¹ Includes sales of queens, queen cells, beeswax, propolis, etc.

² Includes Nosema, tracheal mites, foulbrood, paralysis, Kashmir, cloudy wing, etc.

³ Includes syrup, sugar water, honey, pollen patties, and other feeds.

Queen, Package, and Nuc Prices Paid – United States: 2020 and 2021

[Represents prices paid on the total number of colonies, regardless of whether honey was harvested]

Item	2020	2021
	(dollars)	(dollars)
Queen	18	20
Package	84	91
Nuc	106	125

Apiary Workers – United States: 2020 and 2021

[Represents number of paid and unpaid workers that worked with colonies, regardless of whether honey was harvested]

Item	2020	2021
	(workers)	(workers)
Apiary workers	24,000	24,000

Statistical Methodology

Survey Procedures: Data for honey producing operations are collected from a stratified sample of all known operations with at least 5 honey bee colonies that also meet USDA's definition of a farm. To qualify as a farm, an operation must be any place from which \$1,000 or more of agricultural products were produced and sold, or normally would have been sold, during the year. NASS Regional Field Offices maintain a list of all known operations and use known sources of operations to update their lists. All sampled operations are mailed a questionnaire and given adequate time to respond by mail or electronic data reporting (EDR). Those that do not respond by mail or EDR are telephoned or possibly enumerated in person. Prices are collected by color class and marketing channel from operations with five or more colonies.

Estimation Procedures: Sound statistical methodology is employed to derive the estimates from reported data. All data are analyzed for unusual values. Data from each operation are compared to their own past operating profile and to trends from similar operations. Data for missing operations were estimated based on similar operations or historical data. State offices prepare these estimates by using a combination of survey indications and historic trends. Prices for each color class are derived by weighting the quantities sold for each marketing channel. Individual State estimates are reviewed by the Agricultural Statistics Board for reasonableness.

Revision Policy: The previous year's estimates are subject to revision when current year's estimates are made. Revisions are the result of late reports or corrected data. Price revisions can be the result of additional sales reported the following year. Estimates will also be reviewed after data from the 5-year Census of Agriculture are available. No revisions will be made after that date.

Reliability: Since all operations are not included in the sample, survey estimates are subject to sampling variability. Survey results are also subject to non-sampling errors such as omissions, duplication, and mistakes in reporting, recording, and processing the data. While these errors cannot be measured directly, they are minimized through strict quality controls in the data collection process and a careful review of all reported data for consistency and reasonableness.

To assist in evaluating the reliability of the estimates in this report, the "Root Mean Square Error" is shown for selected items in the following table. The "Root Mean Square Error" is a statistical measure based on past performance and is computed using the differences between first and final estimates. The "Root Mean Square Error" for honey producing colonies over the past 10 years is 1.1 percent. This means that chances are 1 out of 3 that the final estimate will not be above or below the current estimate of 2.70 million colonies by more than 1.1 percent. Chances are 9 out of 10 that the difference will not exceed 2.0 percent.

Reliability of Honey Estimates

[Based on data for the previous ten years]

Item	Root mean square error	90 percent confidence level	Difference between first and latest estimate				
			Average	Smallest	Largest	Years	
						Below latest	Above latest
	(percent)	(percent)	(1,000)	(1,000)	(1,000)	(number)	(number)
Honey producing colonies	1.1	2.0	13	-	85	6	1
Honey production	1.2	2.1	846	-	4,796	6	1

- Represents zero.

Information Contacts

Listed below are the commodity specialists in the Livestock Branch of the National Agricultural Statistics Service to contact for additional information. E-mail inquiries may be sent to nass@usda.gov

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Alissa Cowell-Mytar – Cold Storage, Capacity of Refrigerated Warehouses	(202) 720-4751
Liana Cuffman – Catfish and Trout, Mink, Census of Aquaculture	(202) 720-8784
Fatema Haque – Turkey Hatchery, Turkeys Raised	(202) 720-3244
Derron Martin – Chicken Hatchery, Egg Products	(202) 690-3237
Seth Riggins – Honey, Honey Bee Colonies	(202) 690-4870
Autumn Stone – Layers, Eggs	(202) 690-3676
Takiyah Walker – Broiler Hatchery.....	(202) 720-6147

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- Cornell’s Mann Library has launched a new website housing NASS’s and other agency’s archived reports. The new website, <https://usda.library.cornell.edu>. All email subscriptions containing reports will be sent from the new website, <https://usda.library.cornell.edu>. To continue receiving the reports via e-mail, you will have to go to the new website, create a new account and re-subscribe to the reports. If you need instructions to set up an account or subscribe, they are located at: <https://usda.library.cornell.edu/help>. You should whitelist notifications@usda-esmis.library.cornell.edu in your email client to avoid the emails going into spam/junk folders.

For more information on NASS surveys and reports, call the NASS Agricultural Statistics Hotline at (800) 727-9540, 7:30 a.m. to 4:00 p.m. ET, or e-mail: nass@usda.gov.

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