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Special Note

Beginning with this publication, new tables have been added with estimates on expenditures, incomes, and other data related to beekeeping. Please contact the Livestock Branch at (202) 720-3570 or email at HQ_SD_LB@nass.usda.gov with any questions or concerns.

United States Honey Production Up 3 Percent for Operations with Five or More Colonies in 2016

United States honey production in 2016 from producers with five or more colonies totaled 162 million pounds, up 3 percent from 2015. There were 2.78 million colonies from which honey was harvested in 2016, up 4 percent from 2015. Yield of honey harvested per colony averaged 58.3 pounds, down 1 percent from the 58.9 pounds in 2015. 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 41.3 million pounds on December 15, 2016, down 2 percent from a year earlier. Stocks held by producers exclude those held under the commodity loan program.

Operations with Less than Five Colonies Produced 766 Thousand Pounds of Honey in 2016

United States honey production in 2016 from producers with less than five colonies totaled 766 thousand pounds, up 6 percent from 2015. There were 24 thousand colonies from which honey was harvested in 2016, up 4 percent from 2015. The average yield was 31.9 pounds per colony in 2016, up 2 percent from the previous year. This yield is 26.4 pounds less than what was harvested per colony on operations with five or more colonies.

Honey Prices Down Slightly for Operations with Five or More Colonies in 2016

United States honey prices decreased during 2016 to 207.5 cents per pound, down slightly from 208.3 cents per pound in 2015. 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 2015 crop reflect honey sold in 2015 and 2016. Some 2015 honey was sold in 2016, which caused some revisions to the 2015 honey prices. Price data was not collected for operations with less than five colonies.

Price Paid per Queen was 19 Dollars for Operations with Five or More Colonies in 2016

For operations with five or more colonies, the average prices paid in 2016 for honey bee queens, packages, and nucs were \$19, \$89, and \$117 respectively. The average prices paid in 2016 for operations with less than five colonies were \$33 per queen, \$109 per package, and \$122 per nuc. Comparable data is not available for 2015. For operations with five more colonies, pollination income for 2016 was \$338 million, down 1 percent from 2015. Other income from honey bees for operations with five or more colonies in 2016 was \$149 million, down 10 percent from 2015. These estimates along with expenditure and apiary worker information can be found on pages 4 and 5 of this report.

Number of Colonies, Yield, Production, Stocks, Price, and Value – States and United States: 2015

[Operations with 5 or more colonies that also qualify as a farm. 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)	(cents)	(1,000 dollars)
Alabama	7	47	329	13	383	1,260
Arizona	26	49	1,274	306	203	2,586
Arkansas	24	72	1,728	121	206	3,560
California	275	30	8,250	1,485	203	16,748
Colorado	29	51	1,479	399	226	3,343
Florida	220	54	11,880	832	197	23,404
Georgia	69	40	2,760	221	243	6,707
Hawaii	14	102	1,428	71	191	2,727
Idaho	89	32	2,848	1,082	193	5,497
Illinois	8	51	408	155	466	1,901
Indiana	6	53	318	165	323	1,027
Iowa	36	50	1,800	990	220	3,960
Kansas	8	36	288	107	350	1,008
Kentucky	5	46	230	55	404	929
Louisiana	44	99	4,356	348	195	8,494
Maine	10	47	470	47	543	2,552
Michigan	90	58	5,220	1,984	244	12,737
Minnesota	122	68	8,296	2,157	184	15,265
Mississippi	15	83	1,245	87	240	2,988
Missouri	10	52	520	52	355	1,846
Montana	146	83	12,118	3,757	194	23,509
Nebraska	57	48	2,736	1,450	204	5,581
New Jersey	12	27	324	207	420	1,361
New York	58	62	3,596	899	294	10,572
North Carolina	12	45	540	103	451	2,435
North Dakota	490	74	36,260	9,428	180	65,268
Ohio	17	50	850	357	360	3,060
Oregon	71	38	2,698	809	243	6,556
Pennsylvania	17	53	901	225	362	3,262
South Carolina	14	67	938	38	410	3,846
South Dakota	290	66	19,140	9,379	179	34,261
Tennessee	7	59	413	78	404	1,669
Texas	126	66	8,316	1,164	210	17,464
Utah	27	42	1,134	147	192	2,177
Vermont	5	52	260	62	423	1,100
Virginia	6	38	228	50	553	1,261
Washington	73	44	3,212	1,221	180	5,782
West Virginia	5	35	175	32	444	777
Wisconsin	52	67	3,484	1,603	243	8,466
Wyoming	38	77	2,926	146	190	5,559
Other States ^{5 6}	30	39	1,168	371	524	6,102
United States ^{6 7}	2,660	58.9	156,544	42,203	208.3	326,081

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 Alaska, Connecticut, Delaware, Maryland, Massachusetts, Nevada, New Hampshire, New Mexico, Oklahoma, and Rhode Island not published separately to avoid disclosing data for individual operations.

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.

Number of Colonies, Yield, Production, Stocks, Price, and Value – States and United States: 2016

[Operations with 5 or more colonies that also qualify as a farm. 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)	(cents)	(1,000 dollars)
Alabama	7	52	364	33	337	1,227
Arizona	27	46	1,242	261	199	2,472
Arkansas	24	69	1,656	99	184	3,047
California	310	36	11,160	2,009	200	22,320
Colorado	32	40	1,280	282	217	2,778
Florida	215	50	10,750	538	244	26,230
Georgia	96	39	3,744	899	269	10,071
Hawaii	16	113	1,808	127	231	4,176
Idaho	97	34	3,298	1,253	172	5,673
Illinois	10	48	480	77	539	2,587
Indiana	7	62	434	208	336	1,458
Iowa	37	48	1,776	746	207	3,676
Kansas	7	48	336	54	297	998
Kentucky	5	46	230	48	402	925
Louisiana	50	86	4,300	301	193	8,299
Maine	12	34	408	65	321	1,310
Michigan	89	60	5,340	1,709	225	12,015
Minnesota	124	59	7,316	1,390	164	11,998
Mississippi	19	85	1,615	113	174	2,810
Missouri	8	62	496	30	218	1,081
Montana	159	77	12,243	3,183	175	21,425
Nebraska	48	46	2,208	640	188	4,151
New Jersey	12	27	324	198	669	2,168
New York	64	57	3,648	1,167	320	11,674
North Carolina	12	37	444	89	461	2,047
North Dakota	485	78	37,830	6,809	173	65,446
Ohio	15	79	1,185	664	384	4,550
Oregon	74	35	2,590	622	206	5,335
Pennsylvania	19	50	950	266	315	2,993
South Carolina	16	45	720	36	450	3,240
South Dakota	280	71	19,880	12,127	174	34,591
Tennessee	6	55	330	69	478	1,577
Texas	133	70	9,310	2,607	196	18,248
Utah	31	32	992	169	191	1,895
Vermont	6	52	312	69	282	880
Virginia	5	38	190	30	582	1,106
Washington	84	35	2,940	412	188	5,527
West Virginia	5	32	160	43	373	597
Wisconsin	54	62	3,348	1,205	244	8,169
Wyoming	40	68	2,720	190	176	4,787
Other States ^{5 6}	35	44	1,525	416	426	6,497
United States ^{6 7}	2,775	58.3	161,882	41,253	207.5	335,905

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 Alaska, Connecticut, Delaware, Maryland, Massachusetts, Nevada, New Hampshire, New Mexico, Oklahoma, and Rhode Island not published separately to avoid disclosing data for individual operations.

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.

Number of Colonies, Yield, and Production – United States: 2015 and 2016

[Operations with less than 5 colonies that also qualify as a farm]

State	Honey producing colonies ¹		Yield per colony		Production	
	2015	2016	2015	2016	2015	2016
	(1,000)	(1,000)	(pounds)	(pounds)	(1,000 pounds)	(1,000 pounds)
United States ²	23	24	31.3	31.9	720	766

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

Honey Price by Color Class – United States: 2015 and 2016

[Operations with 5 or more colonies that also qualify as a farm]

Color class	Price					
	Co-op and private		Retail		All	
	2015	2016	2015	2016	2015	2016
	(cents per pound)	(cents per pound)	(cents per pound)	(cents per pound)	(cents per pound)	(cents per pound)
Water white, extra white, white	188.6	185.1	305.4	490.8	190.6	192.9
Extra light amber	202.5	187.7	411.8	377.5	213.2	195.1
Light amber, amber, dark amber	200.4	189.4	412.1	436.4	234.7	224.8
All other honey, area specialties	284.9	244.0	656.6	792.8	351.5	385.6
All honey	195.0	188.1	409.9	462.0	208.3	207.5

Queen, Package, and Nuc Prices Paid – United States: 2016

[Operations that qualify as a farm. Represents prices paid by operations, regardless of whether honey produced. For more estimates on the total number of colonies, see the *Honey Bee Colonies* report]

United States	Queen	Package	Nuc
	(dollars per)	(dollars per)	(dollars per)
Operations with			
5 or more colonies	19	89	117
Less than 5 colonies	33	109	122

Pollination and Other Income – United States: 2015 and 2016

[Operations that qualify as a farm. Represents incomes from the total number of colonies, regardless of whether honey was harvested. For more estimates on the total number of colonies, see the *Honey Bee Colonies* report]

United States	Pollination income		Other income ¹	
	2015	2016	2015	2016
	(1,000 dollars)	(1,000 dollars)	(1,000 dollars)	(1,000 dollars)
Operations with				
5 or more colonies	340,275	337,834	165,732	148,523
Less than 5 colonies	70	180	103	62

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

Expenditures for Honey Bee Operations – United States: 2015 and 2016

[Operations that qualify as a farm. Represents expenditures on the total number of colonies, regardless of whether honey was harvested. For more estimates on the total number of colonies, see the *Honey Bee Colonies* report]

Expenditures	5 or more colonies		Less than 5 colonies	
	2015	2016	2015	2016
	(1,000 dollars)	(1,000 dollars)	(1,000 dollars)	(1,000 dollars)
Varroa control and treatment	16,128	16,042	264	262
Other colony issues ¹	6,371	6,647	100	82
Feed ²	50,283	50,307	559	482
Foundation	9,461	7,294	400	320
Hives/woodenware	11,156	9,014	719	706

¹ Includes Nosema, tracheal mites, foulbrood, paralysis, Kashmir, cloudy wing, etc.

² Includes syrup, sugar water, honey, pollen patties, and other feeds.

Apiary Workers – United States: 2015 and 2016

[Operations that qualify as a farm. Represents number of paid and unpaid workers that worked with colonies, regardless of whether honey was harvested. For more estimates on the total number of colonies, see the *Honey Bee Colonies* report]

United States	Apiary workers	
	2015	2016
	(workers)	(workers)
5 or more colonies	23,000	24,000
Less than 5 colonies	19,000	19,000

Statistical Methodology

Survey Procedures: Data for honey producing operations are collected from a stratified sample of all known operations 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 1.3 percent. This means that chances are 2 out of 3 that the final estimate will not be above or below the current estimate of 2.78 million colonies by more than 1.3 percent. Chances are 9 out of 10 that the difference will not exceed 2.4 percent.

Reliability of Honey Estimates

[Based on data for the past 10 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	1.3	2.4	17	-	85	5	1
Honey production	1.3	2.4	1,080	-	4,796	4	2

- 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@nass.usda.gov

Dan Kerestes, Chief, Livestock Branch	(202) 720-3570
Bruce Boess, Head, Poultry and Specialty Commodities Section	(202) 720-4447
Aaron Cosgrove – Catfish Production, Egg Products, Poultry Slaughter, Trout Production, Turkey Hatchery, Turkeys Raised	(202) 690-3237
Alissa Cowell-Mytar – Cold Storage	(202) 720-4751
Tom Kruchten – Census of Aquaculture	(202) 690-4870
Kim Linonis – Layers, Eggs	(202) 690-8632
Joshua O’Rear – Cost of Pollination, Honey, Honey Bee Colonies.....	(202) 690-3676
Miste Salmon – Broiler Hatchery, Chicken Hatchery, Mink	(202) 720-3244

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