



United States Department of Agriculture
National Agricultural Statistics Service



Honey Bee Colonies
May 12, 2016

Executive Briefing

Background – NASS Honey Bee Surveys

Surveys	Content
Honey	Maximum number of honey producing colonies during the year, yield, production, stocks, and price by State and United States.
Cost of Pollination	Cost of honey bees pollinating crops by State and United States.
Honey Bee Colonies	Honey bee colonies held on first of the quarter, maximum number of colonies, loss of colonies, renovated, and newly added colonies by State. Colony loss percentage by State and United States. Colony health stressors and loss percentages by State and United States. Colonies reported lost with Colony Collapse Disorder symptoms for the United States.

Questionnaire Development

Honey producers, commercial pollinators, and hobbyist beekeepers were interviewed.

- 1) Data needs
- 2) Data collection approach and methods

Draft questionnaires were provided to universities, honey bee researchers, and other USDA agencies for review.

Draft questionnaire was posted on the internet by Office of Management and Budget for public review on March 6, 2015 .

Honey Bee Colonies

Survey Overview	
Population	NASS list frame and qualify as a farm
Two samples	<p>Operations with five or more colonies, sampled from the Bee and Honey Survey, quarterly panel</p> <p>Operations with less than five colonies, sampled from the NASS List Frame</p>
Sample size	<p>3,300 operations with five or more colonies</p> <p>20,000 operations with less than five colonies</p>
Collection methods	Mail, Telephone, Internet, Face-to-Face Interview
Primary data items	Honey bee colonies held on first of quarter, colony loss, renovated, and newly added colonies by State and United States. Colonies affected by stressors by State and United States. Colonies lost with Colony Collapse Disorder for the United States.

Honey Bee Colonies

Terms and Definitions

Lost	A completely failed colony, loss of most workers, and possibly the queen. Colony is no longer viable. Sometimes referred to as a dead out.
Renovated	An existing colony that was requeened or received a nuc or package.
Maximum colonies	Refers to the sum of colonies in a state on the first of the quarter plus all those moved into the state during that period.

Honey Bee Colonies

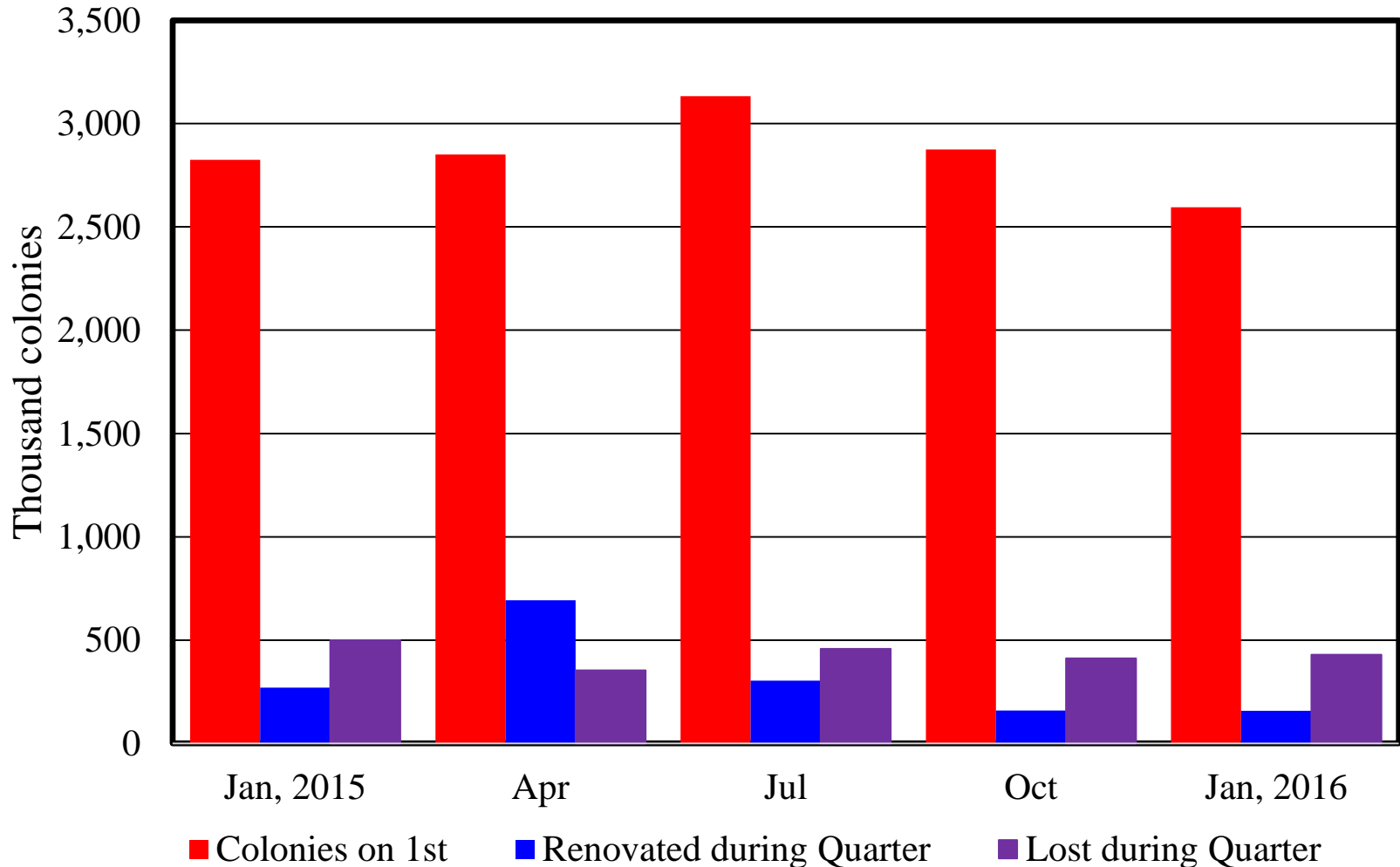
Operations with Five or More Colonies

Item	Jan 1, 2015 (000)	April 1, 2015 (000)	July 1, 2015 (000)	Oct 1, 2015 (000)	Jan 1, 2016 (000)
Colonies	2,825	2,850	3,133	2,875	2,595
During the Quarter					
Item	Jan – Mar (000)	Apr – Jun (000)	Jul – Sep (000)	Oct – Dec (000)	Jan – Mar (000)
Lost	500	353	457	412	429
Renovated	271	693	303	159	158
Added	547	662	173	117	378

Honey Bee Colonies by Quarter

Operations with Five or More Colonies

1st of Quarter Colonies, Lost, and Renovated During Quarter



Honey Bee Colonies

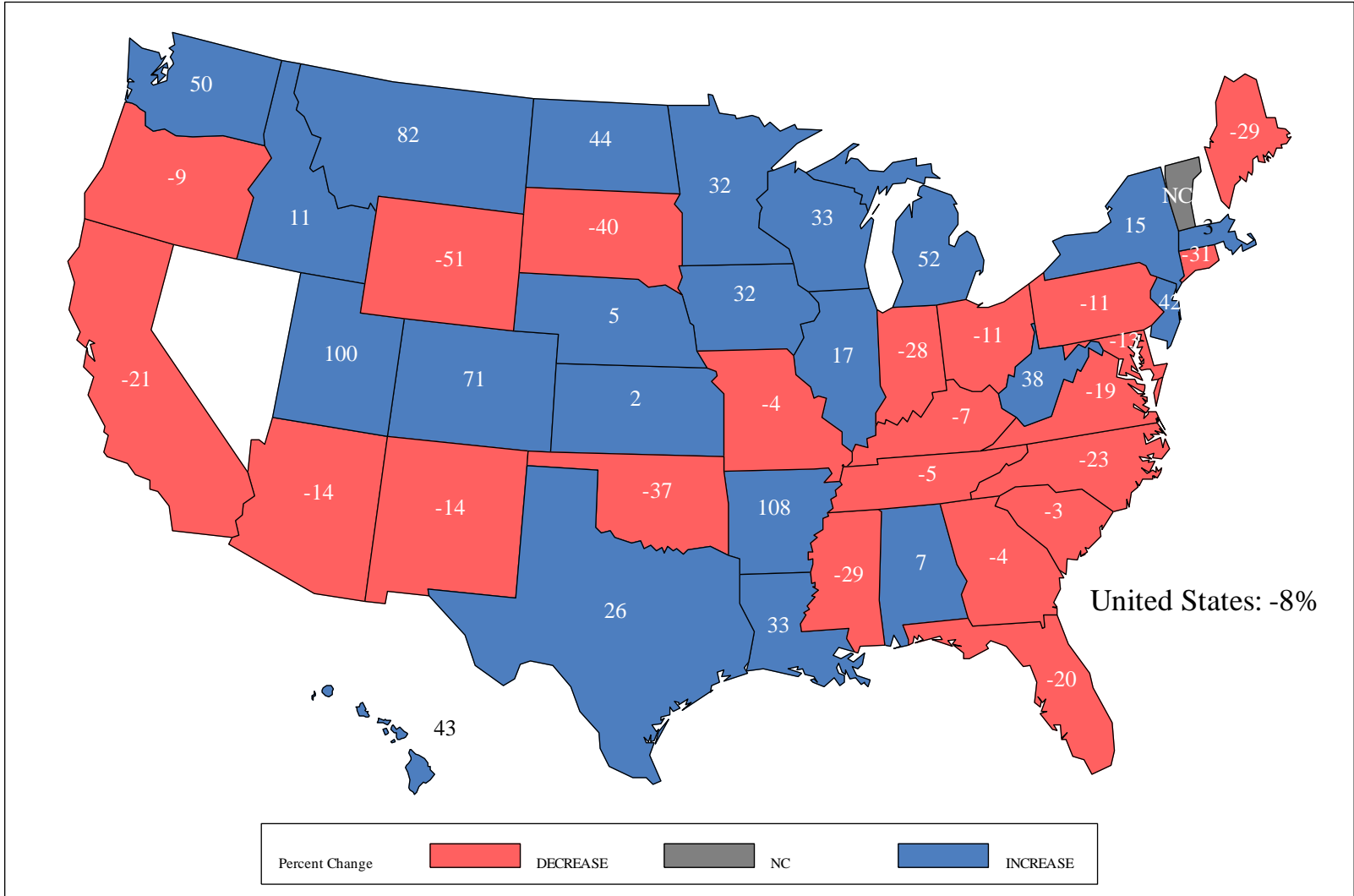
Operations with Five or More Colonies

Quarter	Lost (percent)	Renovated (percent)
January-March 2015	18	10
April-June 2015	12	24
July-September 2015	15	10
October-December 2015	14	6
January-March 2016	17	6

Honey Bee Colonies

Operations with Five or More Colonies

January 1, 2016 as percent of January 1, 2015



Pollinator Movement of Honey Bee Colonies

Background Information

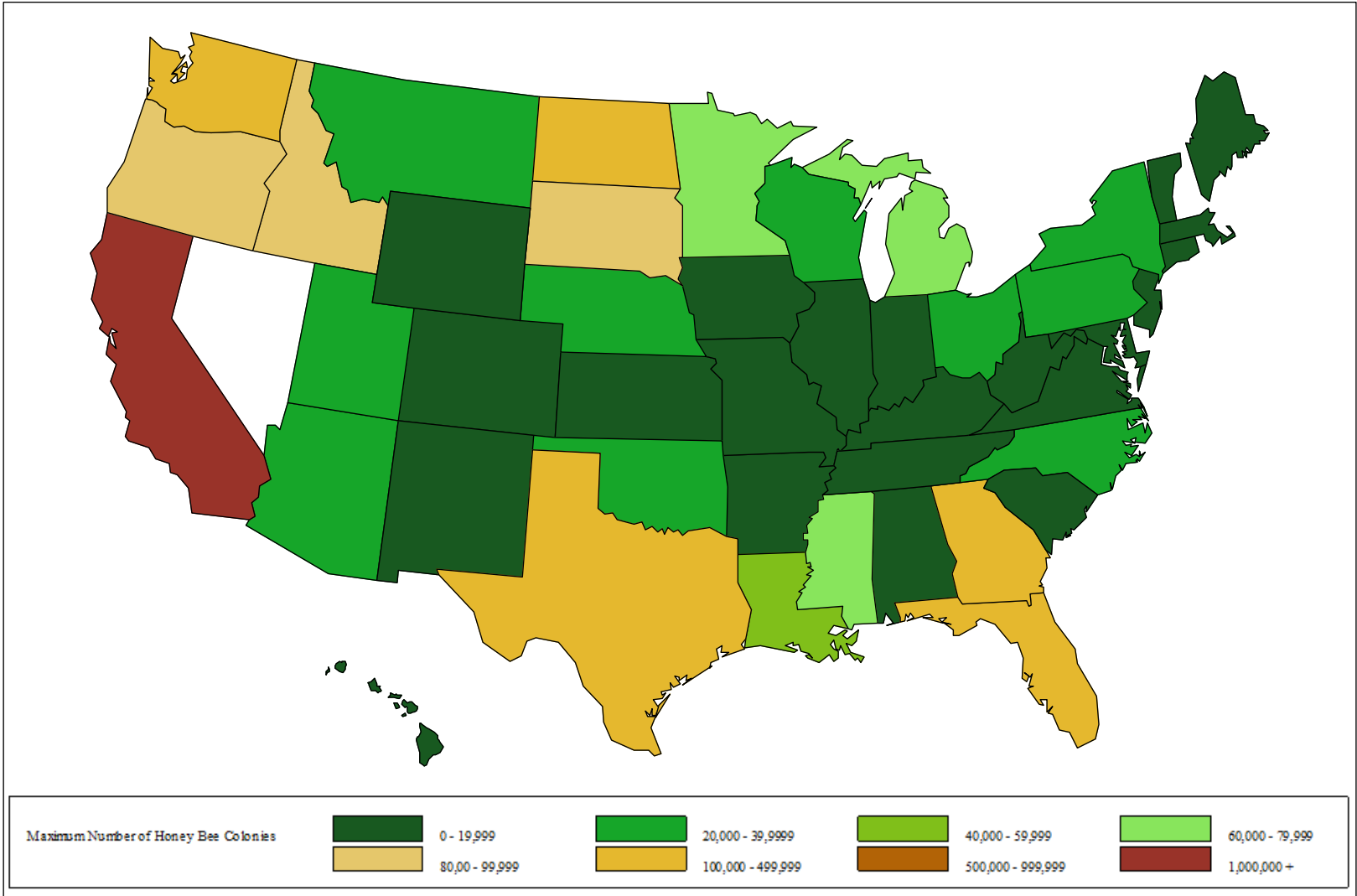


Source: Adapted by USDA, Economic Research Service from Kautzmann (2011), with input from commercial beekeepers and apiculture experts, including Dr. Jeff Pettis and Dr. David Epstein, an entomologist and authority on pollinators with the USDA's Office of Pest Management Policy. Crop production acres are from USDA, NASS, 2012 Agricultural Census, 2014.

Maximum Number of Honey Bee Colonies

Operations with Five or More Colonies

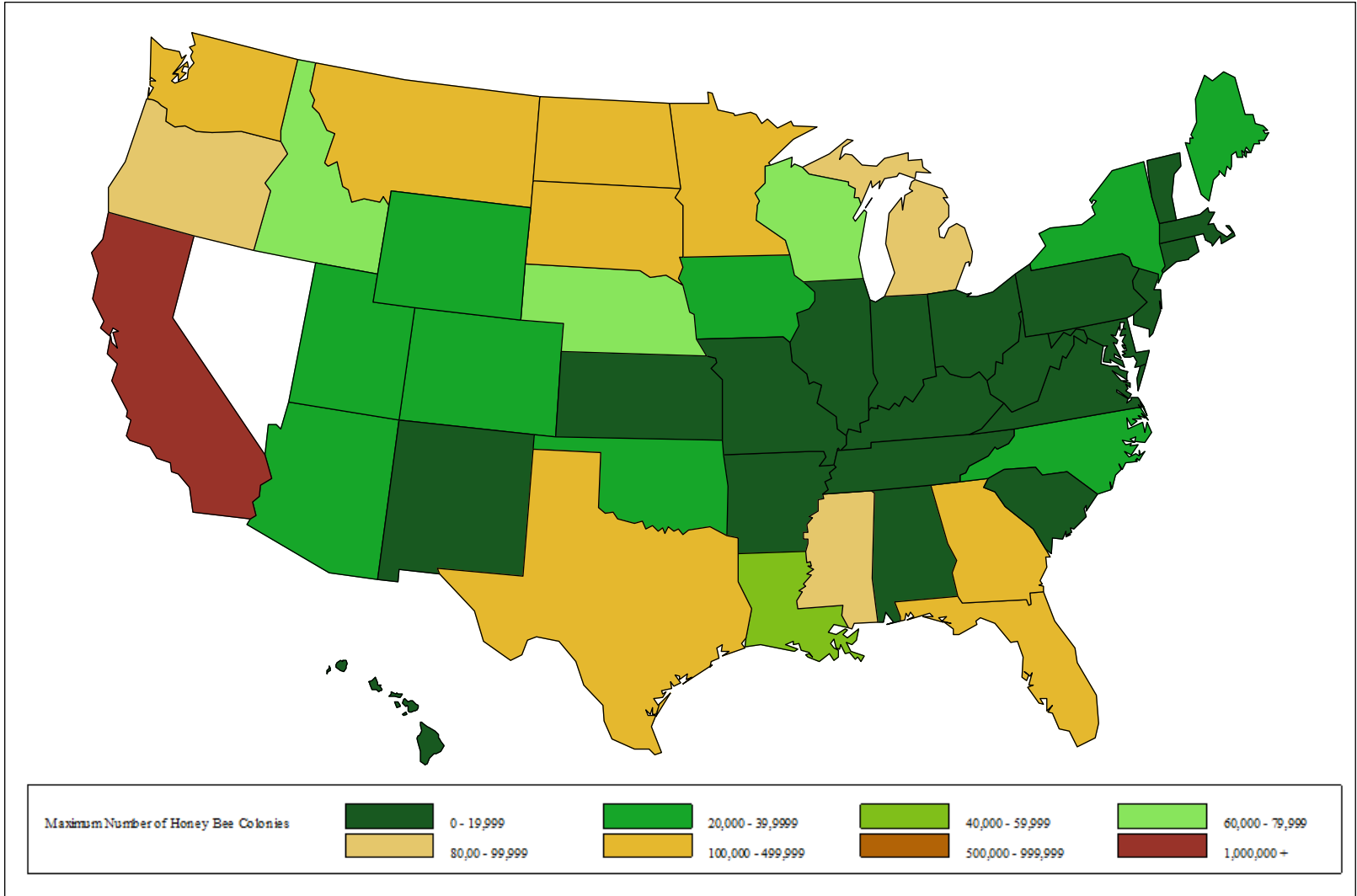
January - March 2015



Maximum Number of Honey Bee Colonies

Operations with Five or More Colonies

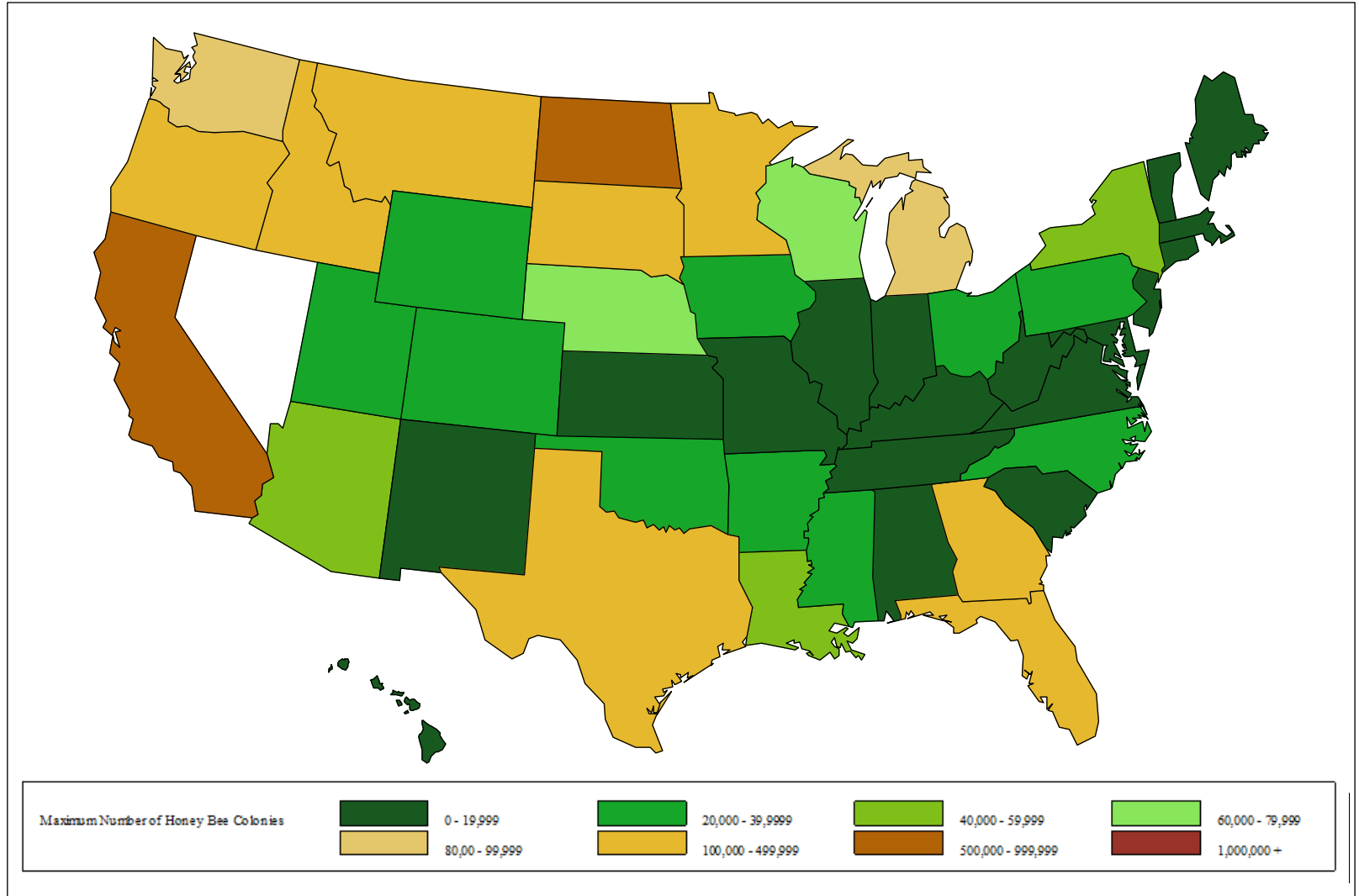
April - June 2015



Maximum Number of Honey Bee Colonies

Operations with Five or More Colonies

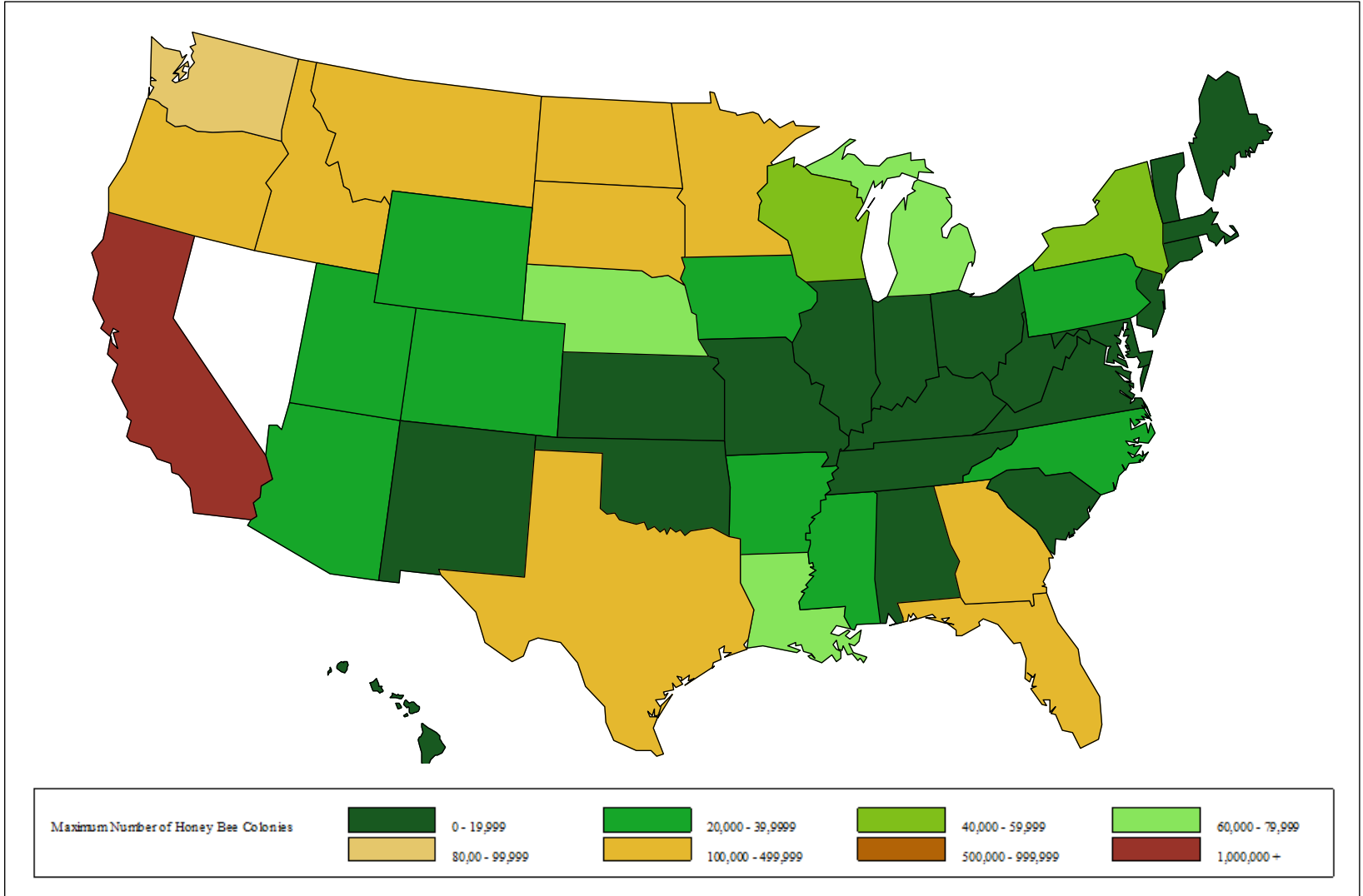
July - September 2015



Maximum Number of Honey Bee Colonies

Operations with Five or More Colonies

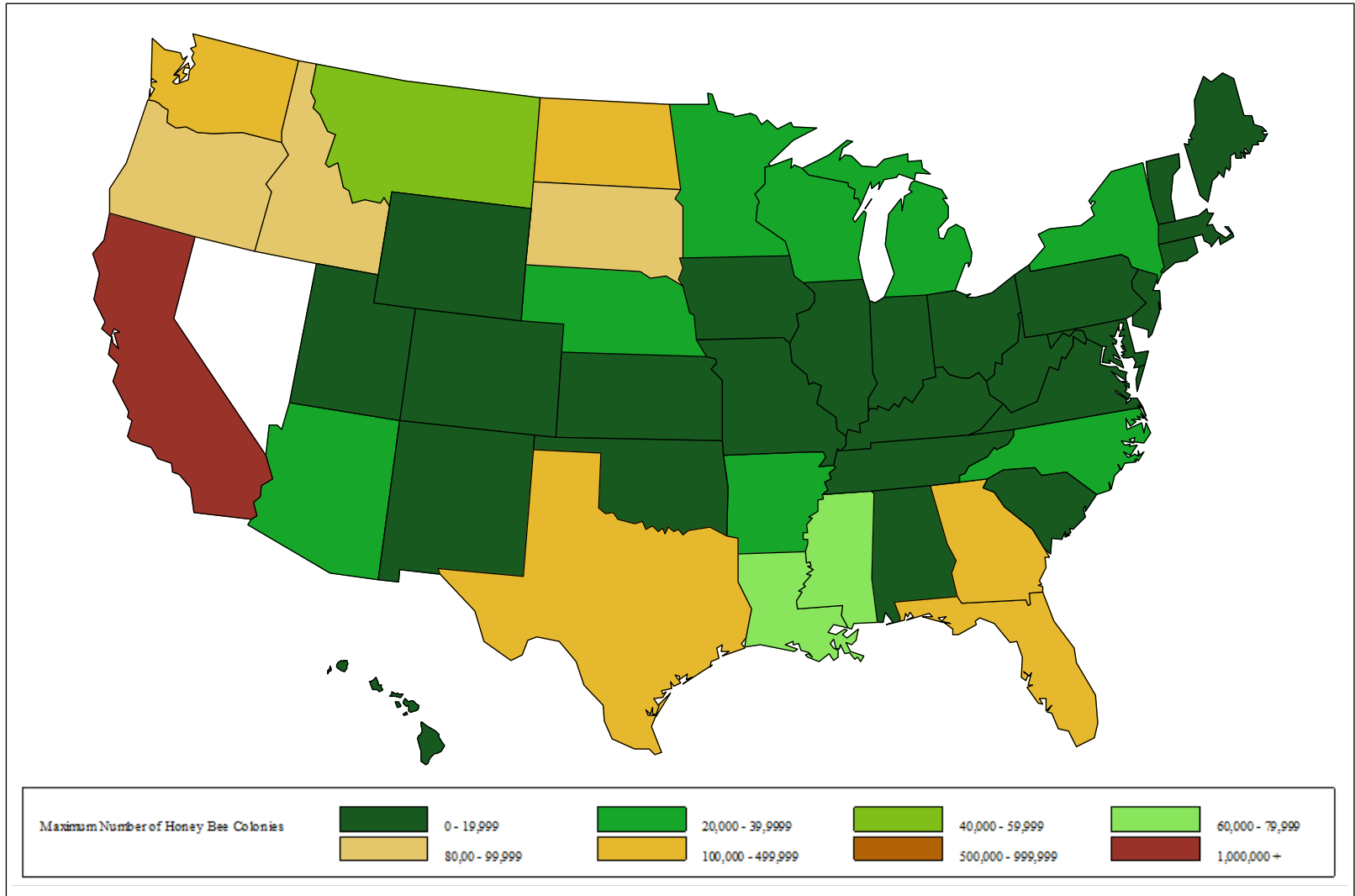
October - December 2015



Maximum Number of Honey Bee Colonies

Operations with Five or More Colonies

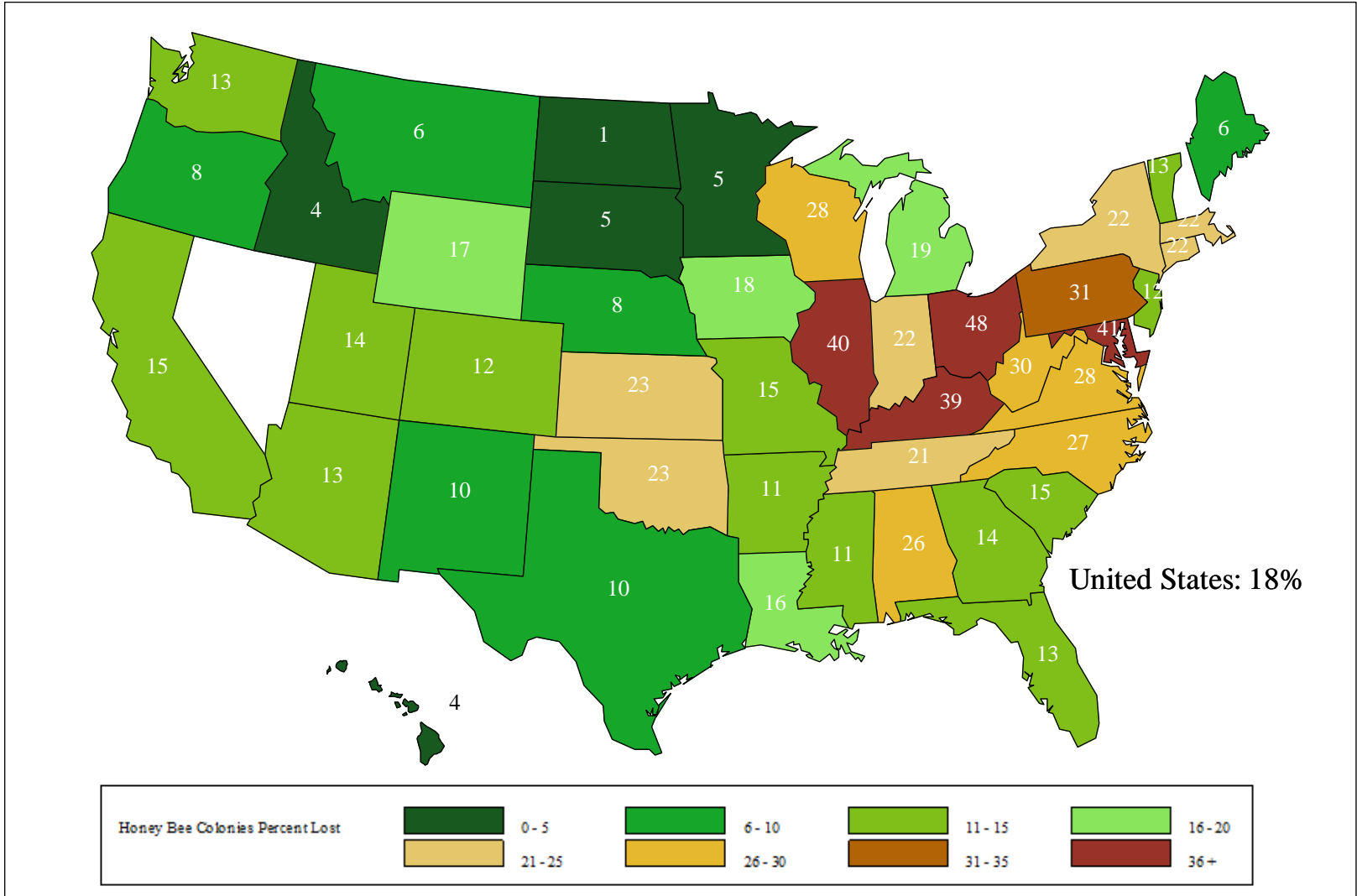
January - March 2016



Percent of Honey Bee Colonies Lost

Operations with Five or More Colonies

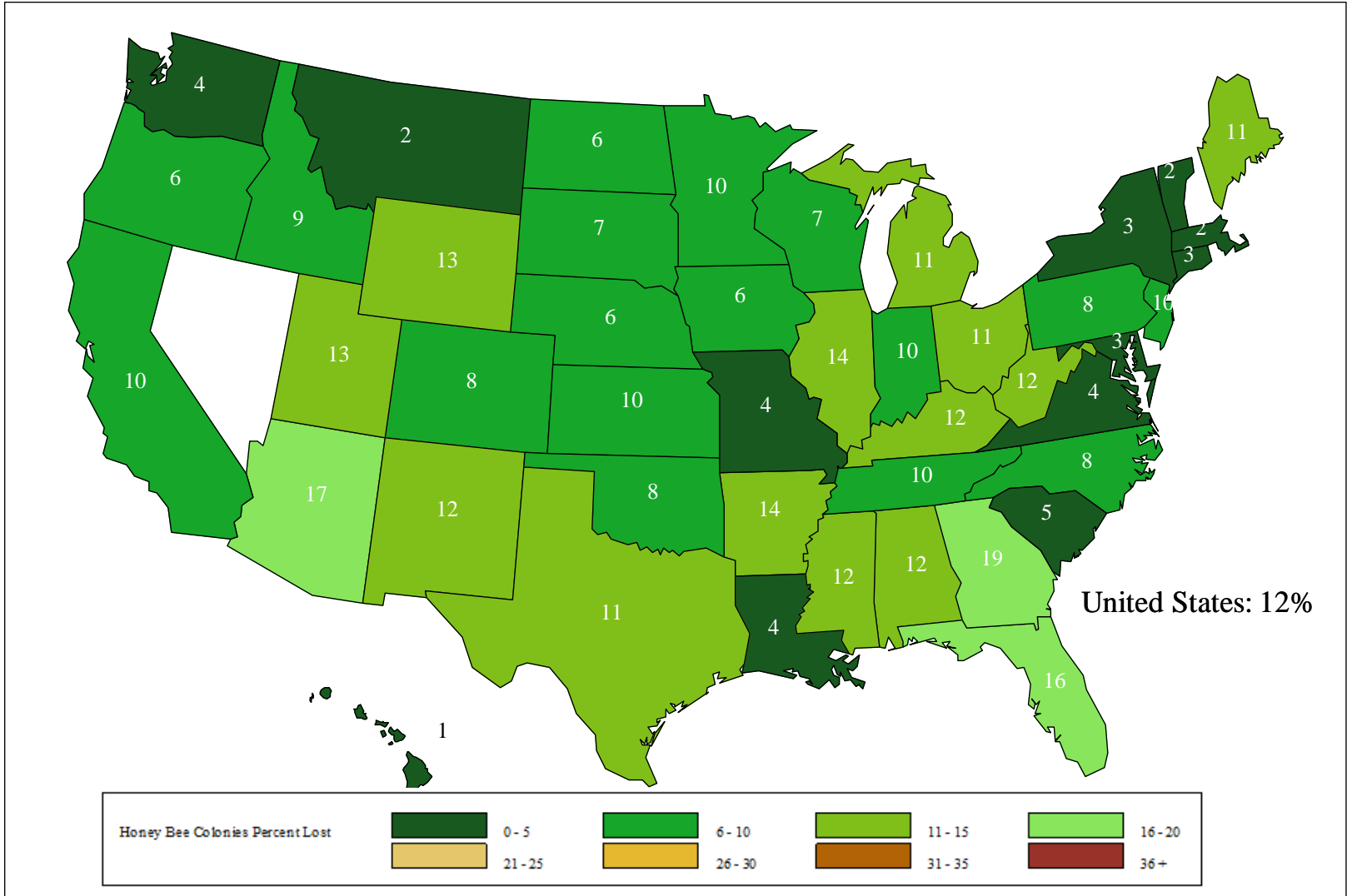
January - March 2015



Percent of Honey Bee Colonies Lost

Operations with Five or More Colonies

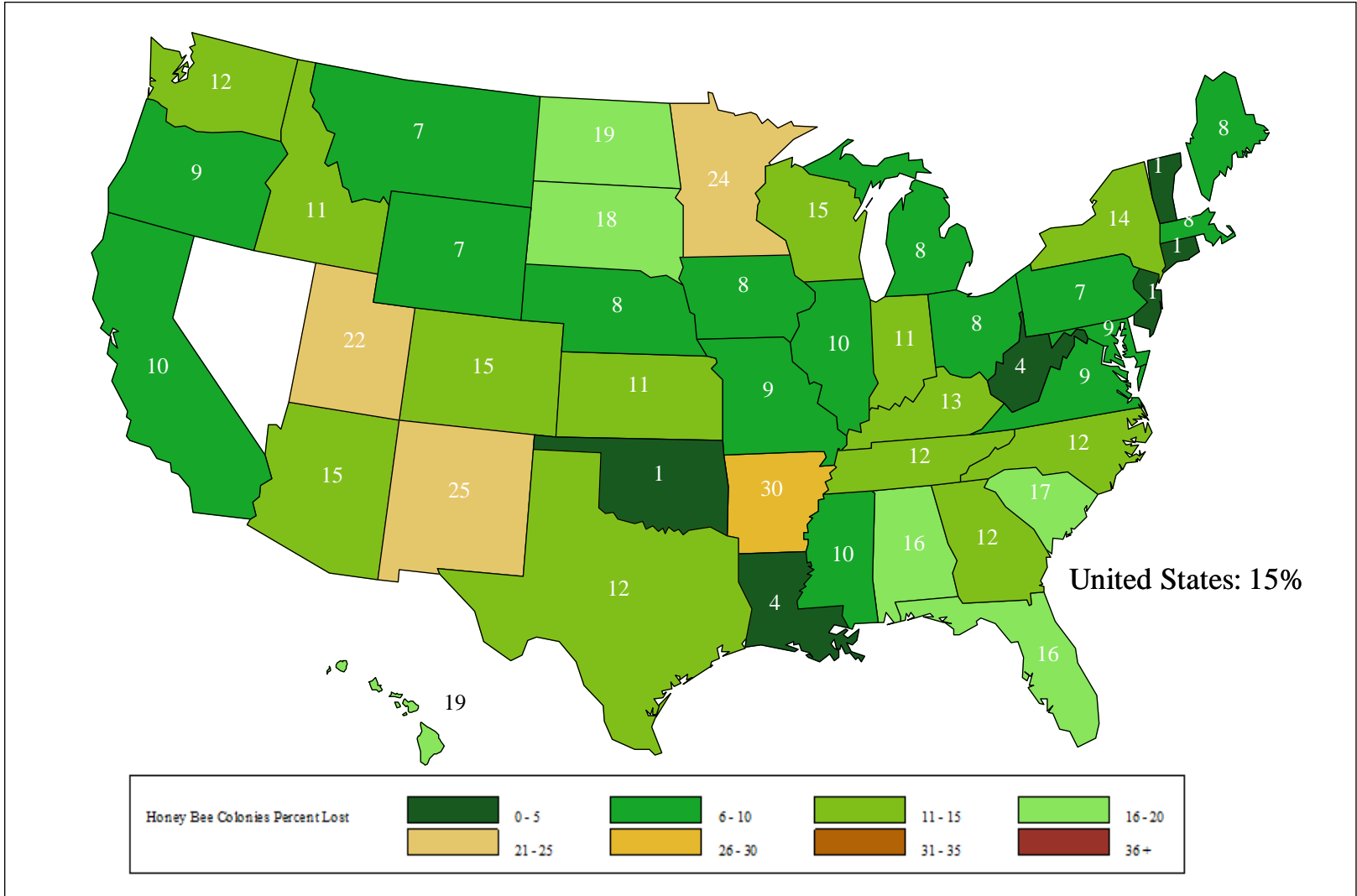
April - June 2015



Percent of Honey Bee Colonies Lost

Operations with Five or More Colonies

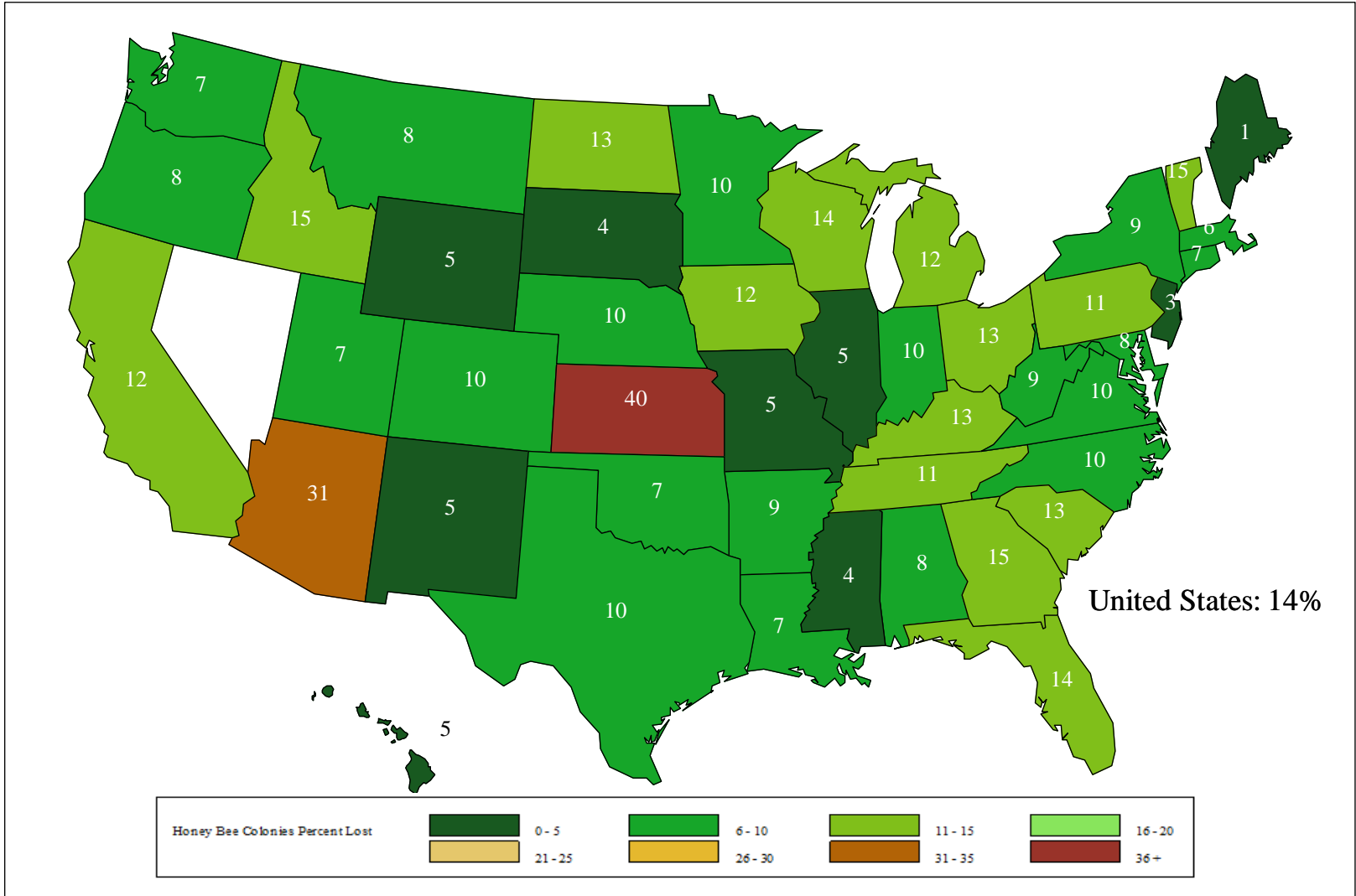
July - September 2015



Percent of Honey Bee Colonies Lost

Operations with Five or More Colonies

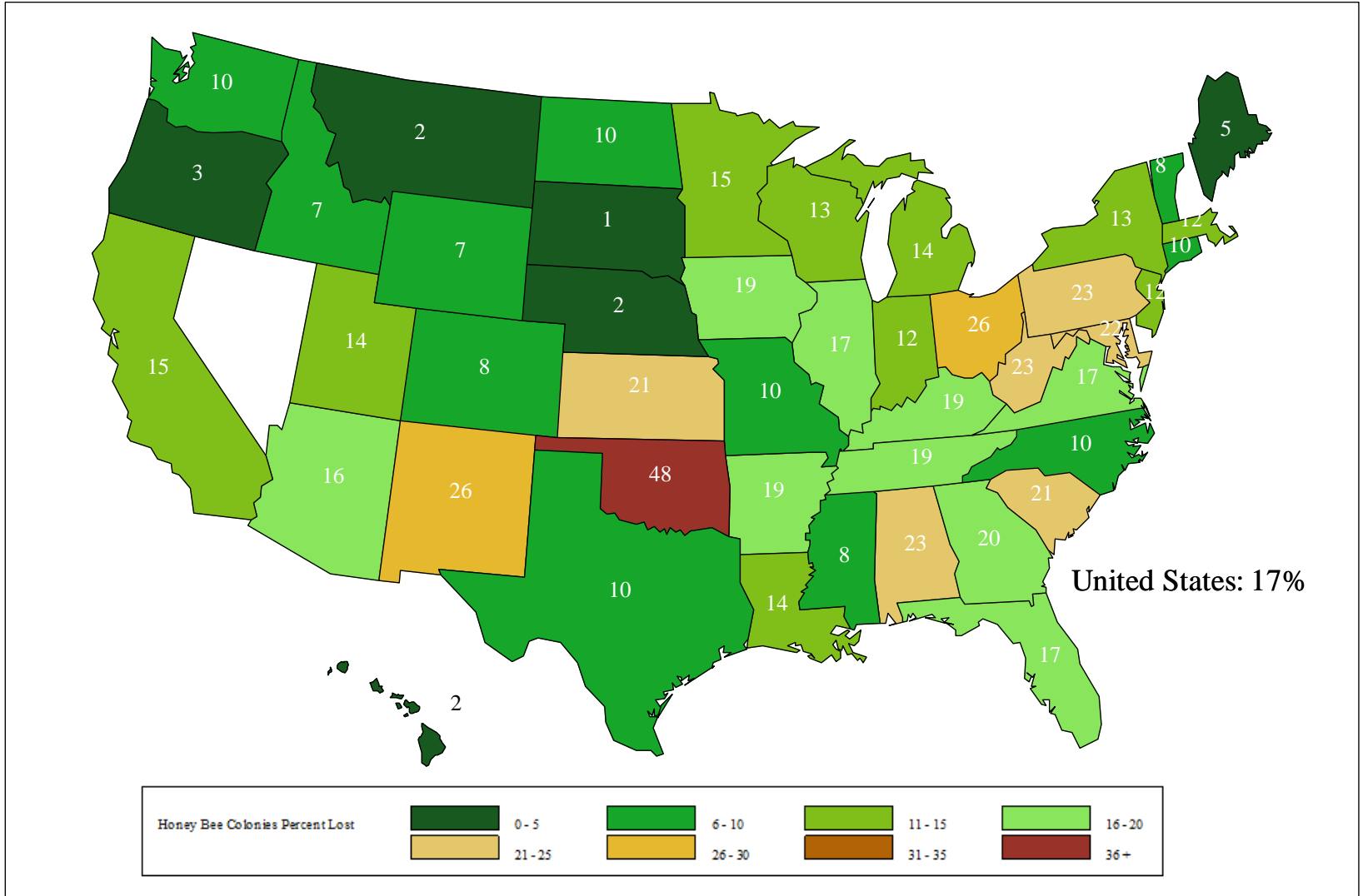
October - December 2015



Percent of Honey Bee Colonies Lost

Operations with Five or More Colonies

January - March 2016



Honey Bee Colonies on 1st

Quarter	Operations with Five or More Colonies	Operations with Less than Five Colonies
January 1, 2015	2,824,610	50,000
April 1, 2015	2,849,500	43,000
July 1, 2015	3,132,880	52,000
October 1, 2015	2,874,760	49,000
January 1, 2016	2,594,590	Not available



Honey Bee Colonies Affected by Stressors

By Size of Operation



	Less than 5 Colonies	Five or More Colonies During the Quarter				
Item	2015	2015				2016
	Annual (percent)	Jan – Mar (percent)	Apr – Jun (percent)	Jul – Sep (percent)	Oct – Dec (percent)	Jan – Mar (percent)
Varroa mites	19.8	25.2	43.4	41.2	37.0	34.3
Other pests & parasites	12.5	8.6	19.5	17.6	11.4	12.6
Diseases	2.2	3.1	4.9	8.0	5.2	6.2
Pesticides	4.9	7.4	16.6	15.2	9.5	10.5
Other	15.5	6.9	11.6	8.8	7.3	7.0
Unknown	20.8	4.3	3.5	4.8	6.9	5.4

Honey Bee Colonies Lost

With Colony Collapse Disorder Symptoms

By Size of Operation

Item	Less than 5 Colonies	Five or More Colonies				
		During the Quarter				2016 Jan – Mar (number)
	2015 Annual (number)	2015				
		Jan – Mar (number)	Apr – Jun (number)	Jul – Sep (number)	Oct – Dec (number)	
Lost	7,000	92,250	56,760	88,390	87,610	113,930

CCD Criteria:

- 1) Little to no build-up of dead bees in the hive or at the hive entrance.
- 2) Rapid loss of adult honey bee population despite the presence of queen, capped brood, and food reserves.
- 3) Absence or delayed robbing of food reserves.
- 4) Loss not attributable to varroa or nosema loads.



Upcoming NASS Reports



Release Date	Report Title
May 19	Milk Production
May 20	Cattle on Feed
May 31	Agricultural Prices
June 10	Crop Production
June 21	Milk Production
June 24	Cattle on Feed Quarterly Hogs and Pigs
June 29	Agricultural Prices



United States Department of Agriculture
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All Reports Available At
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For Questions
(202) 720-3570
(800) 727-9540
nass@nass.usda.gov