United States Department of Agriculture

Animal and Plant Health Inspection Service

Veterinary Services

National Animal Health Monitoring System

August 2011

Poultry 2010

Urban Chicken Ownership in Los Angeles County, California, 2010

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Cover photo courtesy Judy Rodriguez

Items of Note

Raising chickens in urban environments is a growing phenomenon in the United States. Urban chicken flocks are not part of the commercial poultry industry; however, they sometimes provide chicken meat and eggs to local food systems such as farmers' markets. Urban chickens represent an avian population for which very little information is available. An understanding of the level of urban chicken ownership could be important in the event of a disease outbreak such as avian influenza or exotic Newcastle disease (END). For example, the 2003 END outbreak in southern California involved many urban chicken flocks. This study was conducted to determine the percentage of households in Los Angeles County, California, that owned chickens and to describe the residents' opinions about raising chickens in urban settings.

Encompassing 4,083 square miles (10,570 sq km) and containing highly urban areas as well as sparsely populated areas, Los Angeles County contains 88 incorporated cities, the largest of which is Los Angeles with a population of 3,792,621 (2010 U.S. Census). Overall, Los Angeles County has a population of 9,818,605 (2010 U.S. Census), which is the largest population of any county in the United States.

Throughout Los Angeles County, chicken ownership laws and regulations vary by city and by neighborhood. Some cities and homeowner's associations have specific rules about chicken ownership. For example, laws in the city of Los Angeles permit chicken ownership with no limitations on the number or type of chickens.

Here are a few highlights from the study:

- Overall, 1.2 percent of households in Los Angeles County owned chickens. Of households that did not have chickens, 4.6 percent planned to own chickens in the next 5 years.

- About 4 of 10 respondents (43.0 percent) agreed* with the statement, "I would be in favor of a law in my community that allows the ownership of chickens." A lower percentage of Black/African-American respondents (24.5 percent) agreed* that they would be in favor of a law allowing chicken ownership compared with respondents in other race or ethnicity categories.

- About 4 of 10 respondents (39.7 percent) agreed* with the statement, "I would not mind if my neighbor owned chickens," and 40.5 percent strongly disagreed. The percentage of respondents that would not mind if their neighbor owned chickens was inversely related to the age of the respondents.

*Slightly agreed, agreed, or strongly agreed.

- About 6 of 10 respondents (61.5 percent) agreed* with the statement, “Eggs from home-raised chickens are better for you than eggs purchased at a grocery store.” A higher percentage of respondents aged 25 to 34 and 35 to 44 agreed with the statement that eggs from home-raised chickens are better for you (66.3 and 67.0 percent, respectively) compared with respondents aged 55 to 64 and 65 or older (57.0 and 55.8 percent, respectively).

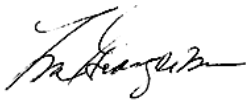
- About one-half of respondents (53.7 percent) agreed* with the statement, “Chickens in urban areas will lead to more illnesses in humans.” A lower percentage of White respondents (45.1 percent) agreed that chickens in urban areas will lead to more illnesses in humans compared with Asian, Black/African-American, or Hispanic/Latino respondents (68.1, 62.6, and 61.7 percent, respectively).

*Slightly agreed, agreed, or strongly agreed.

Acknowledgments

The Poultry 2010 study was a cooperative effort among animal health officials, university researchers, extension personnel, and poultry producers.Recognition also goes to the personnel at the Centers for Epidemiology and Animal Health for their efforts in generating reports from Poultry 2010 data and to our reviewers, who provided valuable expertise and guidance through their comments.

All participants are to be commended, particularly those whose voluntary efforts made this component of the Poultry 2010 study possible.



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Suggested bibliographic citation for this report:
USDA. 2011. Poultry 2010. Urban Chicken Ownership in Los Angeles County, California, 2010
USDA–APHIS–VS, CEAH. Fort Collins, CO
#609.0711

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Table of Contents

Introduction

The National Animal Health Monitoring System (NAHMS) is a nonregulatory program of the United States Department of Agriculture (USDA) Animal and Plant Health Inspection Service. NAHMS is designed to help meet the Nation's animal health information needs.

Layers '99 was NAHMS' first national study of poultry and provided baseline health and management information for the table egg industry. Layers '99 estimated the prevalence and associated risk factors of *Salmonella enterica* Enteritidis in U.S. layer flocks.

Poultry 2004 was NAHMS' second study of the U.S. poultry industry. Poultry 2004 provided information regarding bird health, bird movement, and biosecurity practices of backyard flocks, game fowl breeder flocks, and live poultry markets.

The Small-Enterprise Chicken study conducted in 2007 was NAHMS' third study of the poultry industry and focused on biosecurity and bird movement on operations with 1,000 to 19,999 chickens.

Poultry 2010 is NAHMS' fourth study of the U.S. poultry industry. During 2009, NAHMS conducted an extensive assessment to determine the information needs of the poultry industry, researchers, and Federal and State governments. This needs assessment resulted in three objectives for the Poultry 2010 study:

1. Describe the structure of commercial poultry industries, including interactions among poultry industry segments, movements, and biosecurity practices. Describe farm-level practices for chicken primary breeder and multiplier flocks. Identify critical factors for exclusion of disease (such as *Mycoplasma*).

2. Estimate the prevalence and investigate risk factors associated with clostridial dermatitis (cellulitis/gangrenous dermatitis) on turkey grower farms.

3. Describe bird health, movement, and biosecurity practices of urban chicken flocks in four U.S. cities—Miami, Denver, Los Angeles, and New York City. Determine the percentage of households that own chickens and attitudes about chickens in urban settings in Los Angeles.

"Poultry 2010: Urban Chicken Ownership in Los Angeles County, California" is the second in a series of reports containing information from Poultry 2010. Due to resource limitations, only one city (Los Angeles) was selected for this portion of the urban chicken study. A questionnaire was administered to determine the percentage of households that owned chickens in Los Angeles County and to ascertain the residents' opinions about raising chickens in urban settings.

The methods used and the number of respondents in the study can be found at the end of this report.

Further information on NAHMS studies and reports is available at: http://nahms.aphis.usda.gov

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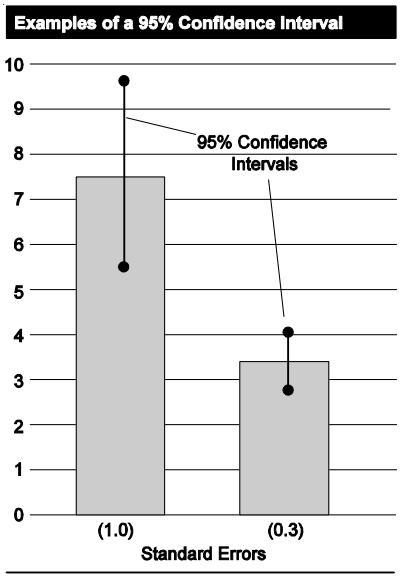
Terms Used in This Report

Population estimates: Estimates in this report make reference to all households in Los Angeles County, California (see Section II: Methodology, p25).



Precision of population estimates: Population estimates in this report are provided with a measure of precision called the standard error. A 95-percent confidence interval can be created with bounds equal to the estimate plus or minus two standard errors. If the only error is sampling error, the confidence intervals created in this manner will contain the true population mean 95 out of 100 times. In the example to the left, an estimate of 7.5 with a standard error of 1.0 results in limits of 5.5 to 9.5 (two times the standard error above and below the estimate). The second estimate of 3.4 shows a standard error of 0.3 and results in limits of 2.8 and 4.0. Alternatively, the 90-percent confidence interval would be created by multiplying the standard error by 1.65 instead of 2. Most estimates in this report are rounded to the nearest tenth. If rounded to 0, the standard error was reported (0.0). If there were no reports of the event, no standard error was reported (—). References to estimates being higher or lower than other estimates are based on the 95-percent confidence intervals not overlapping.

Urban chicken flocks: Flocks of chickens in large cities (urban settings) on less than 1 acre of land owned by families, individuals, or groups of individuals.

Section I: Population Estimates

A. Urban-Chicken Ownership

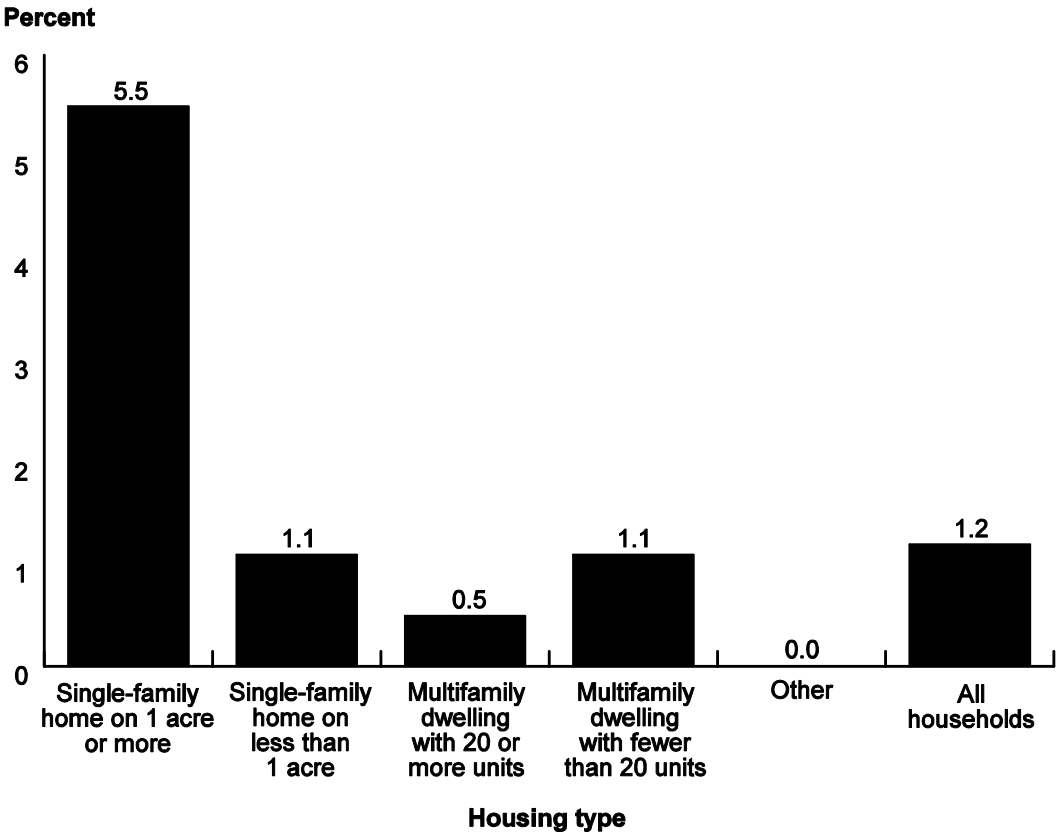
1. Percentage of households that owned chickens

Overall, 1.2 percent of households in Los Angeles County owned chickens. Single-family homes on 1 acre of land or more were likely located in the outskirts of cities rather than in truly urban areas. When single-family homes on 1 acre of land or more were excluded from the analysis, 1.0 percent of households in Los Angeles County owned chickens (standard error=0.2).

a. Percentage of households that owned chickens, by housing type:

Housing Type	Percent Households	Std. Error
Single-family home on 1 acre or more	5.5	(1.9)
Single-family home on less than 1 acre	1.1	(0.2)
Multifamily dwelling with 20 or more units	0.5	(0.5)
Multifamily dwelling with fewer than 20 units	1.1	(0.7)
Other	0.0	(—)
All households	1.2	(0.2)

Percentage of households that owned chickens, by housing type:



A total of 1.9 percent of households in which respondents were of Hispanic/Latino ethnicity owned chickens compared with 0.0 percent of households in which respondents were Black/African American.

b. Percentage of households that owned chickens, by race/ethnicity of respondents:

Race/Ethnicity	Percent Households	Std. Error
Asian	0.8	(0.5)
Black/African-American	0.0	(—)
Hispanic/Latino (any race)	1.9	(0.6)
White	1.2	(0.3)
Multiracial/other	1.0	(0.8)

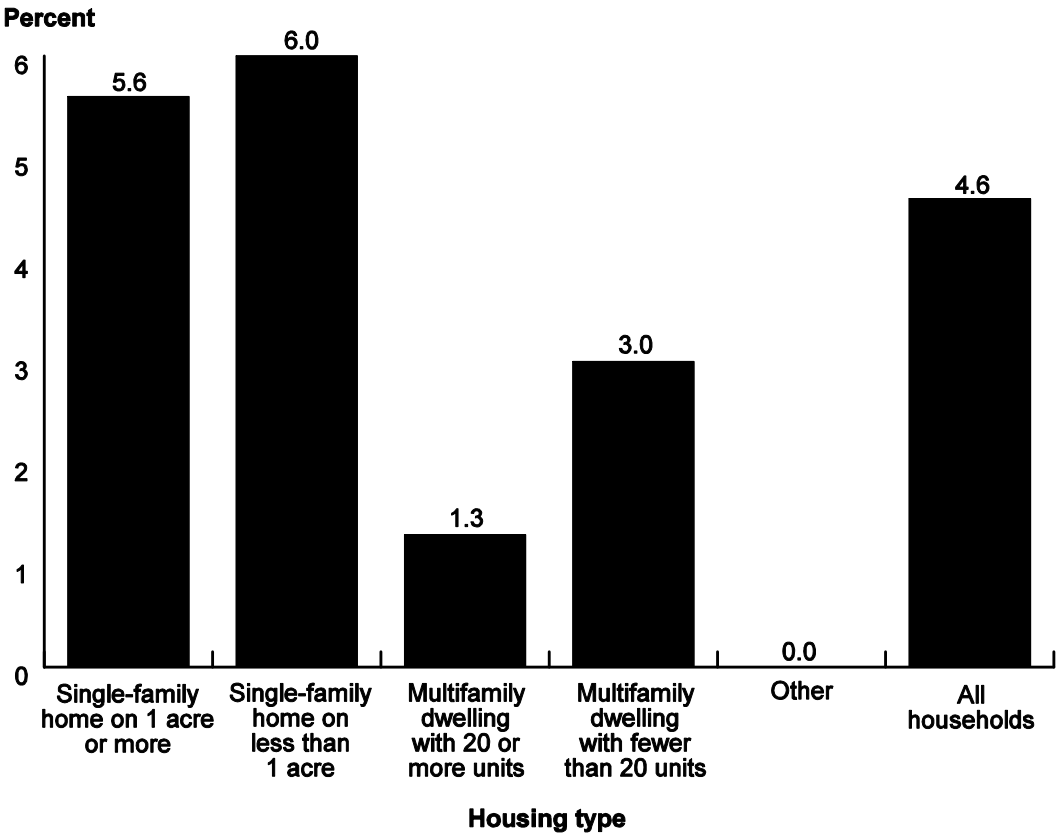
2. New chicken owners in the next 5 years

A total of 4.6 percent of respondents who did not currently own chickens said they planned to own chickens in the next 5 years. When single-family homes on 1 acre of land or more were excluded from the analysis, the percentage of households that did not own chickens but planned to in the next 5 years still rounded to 4.6 percent.

a. For households that did not own chickens, percentage of households that planned to own chickens in the next 5 years, by housing type:

Housing Type	Percent Households	Std. Error
Single-family home on 1 acre or more	5.6	(1.9)
Single-family home on less than 1 acre	6.0	(0.7)
Multifamily dwelling with 20 or more units	1.3	(0.6)
Multifamily dwelling with fewer than 20 units	3.0	(1.0)
Other	0.0	(—)
All households	4.6	(0.5)

For households that did not own chickens, percentage of households that planned to own chickens in the next 5 years, by housing type



Similar to current ownership levels (see table b., p 5), a lower percentage of households in which the respondent was Black/African American (0.5 percent) planned to own chickens in the next 5 years compared with respondents in other race or ethnicity categories.

b. For households that did not currently own chickens, percentage of households that planned to own chickens in the next 5 years, by race/ethnicity of respondents:

Race/Ethnicity	Percent Households	Std. Error
Asian	4.9	(1.6)
Black/African-American	0.5	(0.5)
Hispanic/Latino (any race)	4.4	(1.0)
White	5.3	(0.7)
Multiracial/other	5.6	(1.7)

B. Opinions about Raising Chickens in Urban Settings

Note: All respondents in Los Angeles County, including those who owned chickens and those who did not, were asked for their opinions about urban chicken flocks. Results in this section represent the respondents' opinions only, not those of APHIS.

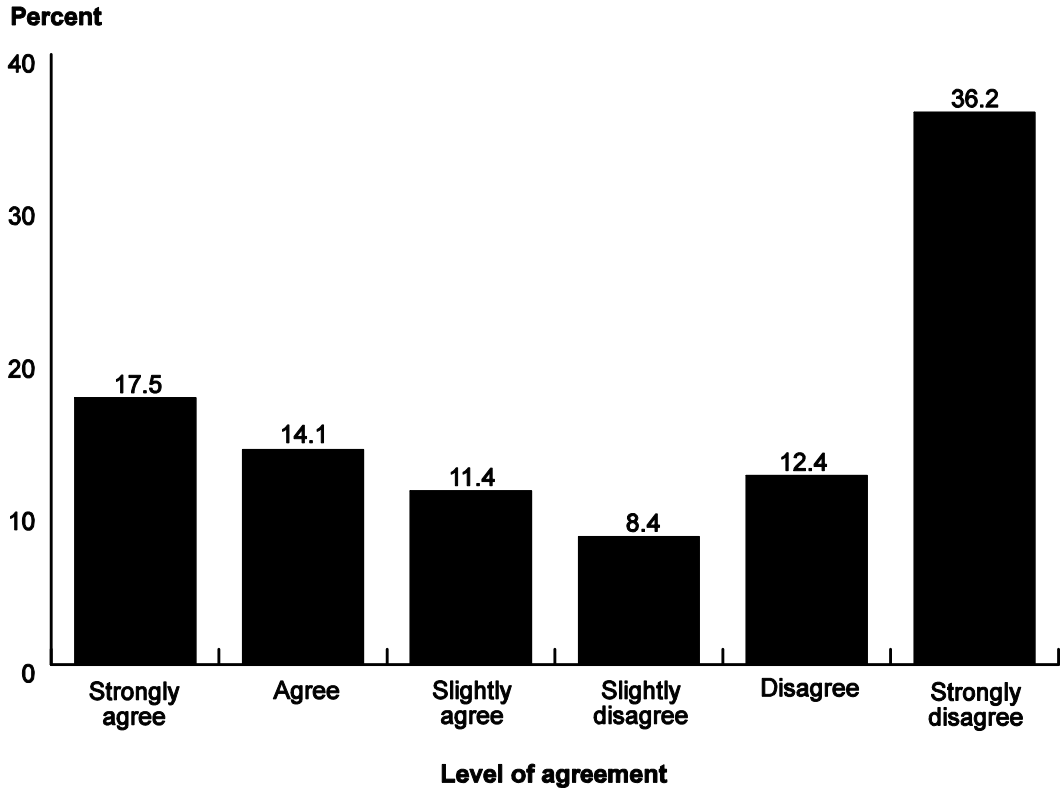
1. Laws allowing chicken ownership

Overall, 43.0 percent of respondents slightly agreed, agreed, or strongly agreed that they were in favor of a law in their community that would allow chicken ownership.

a. Percentage of respondents by level of agreement with the statement, "I would be in favor of a law in my community that allows the ownership of chickens."

Level of Agreement	Percent Respondents	Std. Error
Strongly agree	17.5	(0.8)
Agree	14.1	(0.7)
Slightly agree	11.4	(0.7)
Slightly disagree	8.4	(0.6)
Disagree	12.4	(0.7)
Strongly disagree	36.2	(1.0)
Total	100.0	

Percentage of respondents by level of agreement with the statement, "I would be in favor of a law in my community that allows the ownership of chickens."



About one of four respondents living in “other” housing (26.0 percent) slightly agreed, agreed, or strongly agreed that they were in favor of a law in their community allowing chicken ownership, compared with over one-half of respondents living in single family homes on 1 acre of land or more (58.7 percent). Mobile homes were the most common type of “other” housing.

b. Percentage of respondents that agreed* with the statement, “I would be in favor of a law in my community that allows the ownership of chickens,” by housing type:

Housing Type	**Percent Respondents**	**Std. Error**
Single-family home on 1 acre or more	58.7	(4.4)
Single-family home on less than 1 acre	40.9	(1.3)
Multifamily dwelling with 20 or more units	43.2	(2.8)
Multifamily dwelling with fewer than 20 units	47.0	(2.6)
Other	26.0	(7.6)
All respondents	43.0	(1.0)

*Slightly agreed, agreed, or strongly agreed.

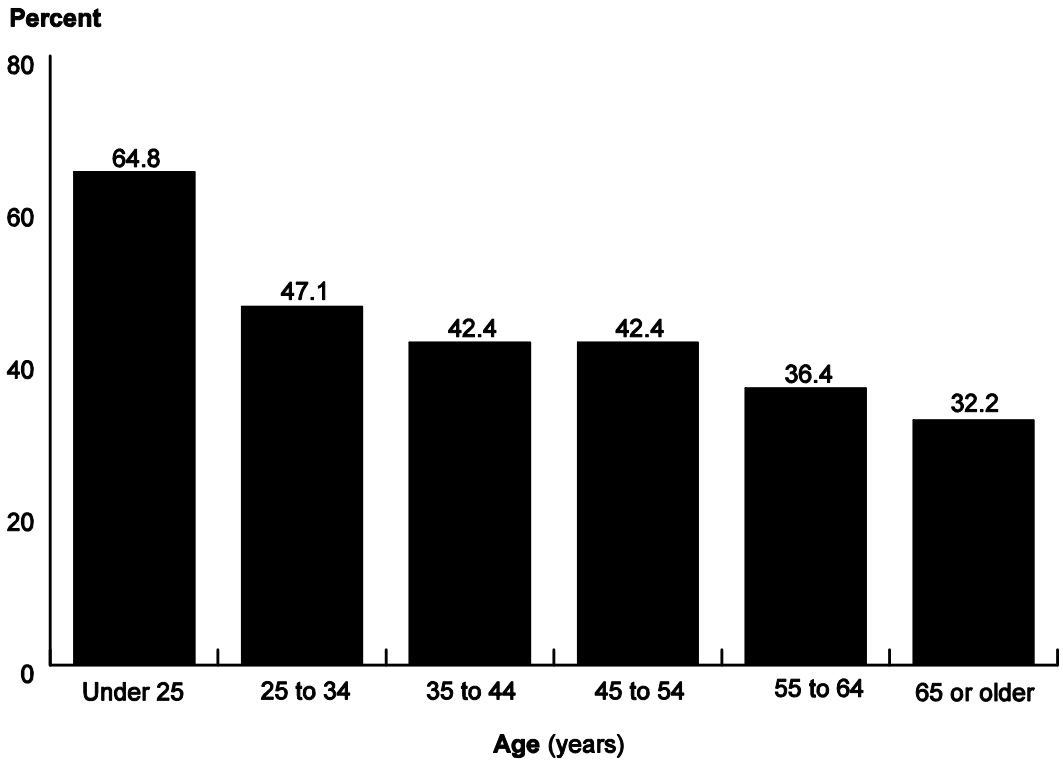
The percentage of respondents that slightly agreed, agreed, or strongly agreed that they were in favor of a law allowing chicken ownership ranged from 32.2 percent of respondents 65 years of age or older to 64.8 percent of respondents less than 25 years of age.

c. Percentage of respondents that agreed* with the statement, “I would be in favor of a law in my community that allows the ownership of chickens,” by age of respondent:

Age (Years)	**Percent Respondents**	**Std. Error**
Under 25	64.8	(4.5)
25 to 34	47.1	(2.0)
35 to 44	42.4	(2.6)
45 to 54	42.4	(2.2)
55 to 64	36.4	(2.2)
65 or older	32.2	(2.2)

*Slightly agreed, agreed, or strongly agreed.

Percentage of respondents that agreed* with the statement, "I would be in favor of a law in my community that allows the ownership of chickens," by age of respondent



*Slightly agreed, agreed, or strongly agreed.

The percentage of respondents that slightly agreed, agreed, or strongly agreed that they were in favor of a law allowing chicken ownership was similar for female and male respondents.

d. Percentage of respondents that agreed* with the statement, "I would be in favor of a law in my community that allows the ownership of chickens," by gender of respondent:

Gender	Percent Respondents	Std. Error
Female	45.4	(1.4)
Male	41.6	(1.6)

*Slightly agreed, agreed, or strongly agreed.

A lower percentage of Black/African-American respondents slightly agreed, agreed, or strongly agreed that they were in favor of a law allowing chicken ownership compared with respondents in the other race or ethnicity categories. This is consistent with the findings that few Black/African-American respondents owned chickens and only 0.5 percent planned to do so in the next 5 years.

e. Percentage of respondents that agreed* with the statement, “I would be in favor of a law in my community that allows the ownership of chickens,” by race or ethnicity of respondent:

Race/Ethnicity	Percent Respondents	Std. Error
Asian	37.9	(3.1)
Black/African-American	24.5	(3.5)
Hispanic/Latino (any race)	43.9	(2.3)
White	45.7	(1.5)
Multiracial/other	50.1	(3.5)

*Slightly agreed, agreed, or strongly agreed.

2. Neighbors with chickens

About 4 of 10 respondents (39.7 percent) slightly agreed, agreed, or strongly agreed that they would not mind if their neighbor owned chickens, while 40.5 percent strongly disagreed.

a. Percentage of respondents by level of agreement with the statement, “I would not mind if my neighbor owned chickens:”

Level of Agreement	Percent Respondents	Std. Error
Strongly agree	17.2	(0.8)
Agree	13.7	(0.7)
Slightly agree	8.8	(0.6)
Slightly disagree	6.0	(0.5)
Disagree	13.8	(0.7)
Strongly disagree	40.5	(1.0)
Total	100.0	

About 2 of 10 respondents living in “other” housing (21.4 percent) slightly agreed, agreed, or strongly agreed that they would not mind if their neighbor owned chickens. Mobile homes were the most common type of “other” housing. About 4 of 10 respondents living in multifamily dwellings with fewer than 20 units (41.5 percent), and about 6 of 10 respondents living in single-family homes on 1 acre of land or more (60.6 percent), slightly agreed, agreed, or strongly agreed that they would not mind if their neighbor owned chickens.

b. Percentage of respondents that agreed* with the statement, “I would not mind if my neighbor owned chickens,” by housing type:

Housing Type	Percent Respondents	Std. Error
Single-family home on 1 acre or more	60.6	(4.3)
Single-family home on less than 1 acre	38.5	(1.3)
Multifamily dwelling with 20 or more units	35.9	(2.7)
Multifamily dwelling with fewer than 20 units	41.5	(2.6)
Other	21.4	(7.2)
All respondents	39.7	(1.0)

*Slightly agreed, agreed, or strongly agreed.

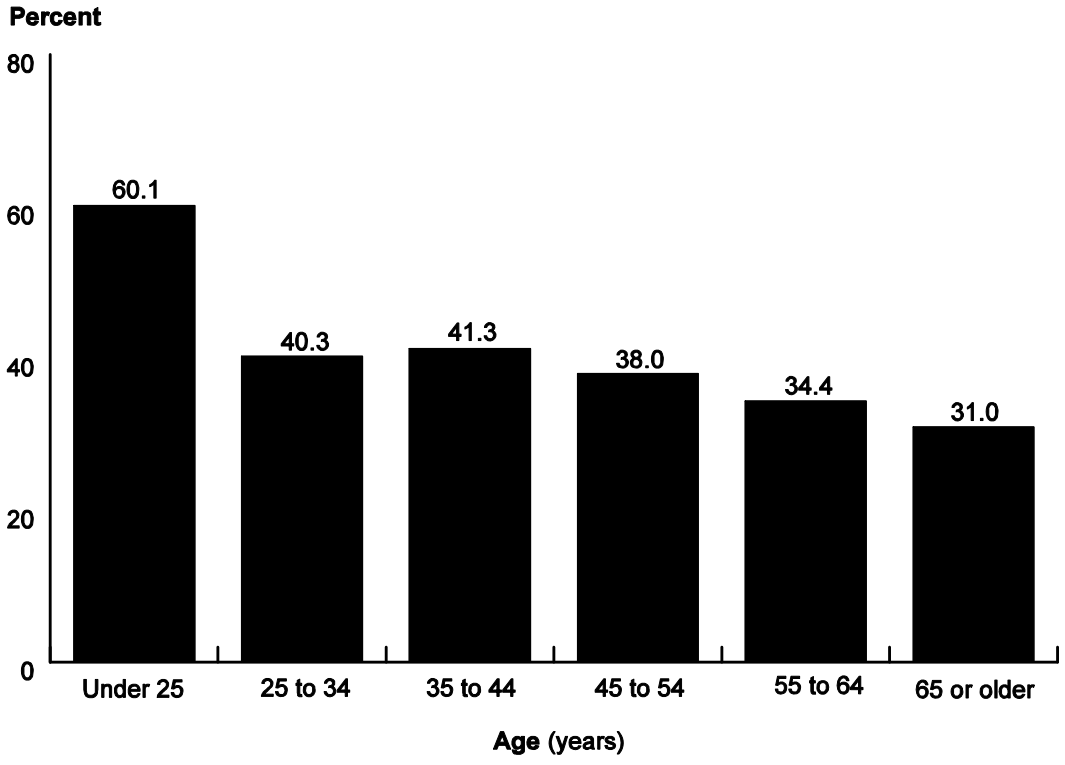
The percentage of respondents that slightly agreed, agreed, or strongly agreed that they would not mind if their neighbor owned chickens ranged from 31.0 percent of respondents 65 years of age or older to 60.1 percent of respondents less than 25 years of age.

c. Percentage of respondents that agreed* with the statement, “I would not mind if my neighbor owned chickens,” by age of respondent:

Age (Years)	**Percent Respondents**	**Std. Error**
Under 25	60.1	(4.6)
25 to 34	40.3	(2.0)
35 to 44	41.3	(2.6)
45 to 54	38.0	(2.1)
55 to 64	34.4	(2.1)
65 or older	31.0	(2.2)

*Slightly agreed, agreed, or strongly agreed.

Percentage of respondents that agreed* with the statement, “I would not mind if my neighbor owned chickens,” by age of respondent



*Slightly agreed, agreed, or strongly agreed.

The percentage of respondents that slightly agreed, agreed, or strongly agreed that they would not mind if their neighbor owned chickens was similar for female and male respondents.

d. Percentage of respondents that agreed* with the statement, “I would not mind if my neighbor owned chickens,” by gender of respondent:

Gender	Percent Respondents	Std. Error
Female	39.8	(1.4)
Male	39.7	(1.6)

*Slightly agreed, agreed, or strongly agreed.

A lower percentage of Black/African-American respondents (23.0 percent) slightly agreed, agreed, or strongly agreed that they would not mind if their neighbor owned chickens compared with respondents of Hispanic/Latino ethnicity, White, or Multiracial/other (41.3, 42.2, and 46.4 percent, respectively).

e. Percentage of respondents that agreed* with the statement, “I would not mind if my neighbor owned chickens,” by race or ethnicity of respondent:

Race/Ethnicity	Percent Respondents	Std. Error
Asian	32.6	(3.0)
Black/African-American	23.0	(3.4)
Hispanic/Latino (any race)	41.3	(2.3)
White	42.2	(1.5)
Multiracial/other	46.4	(3.5)

*Slightly agreed, agreed, or strongly agreed.

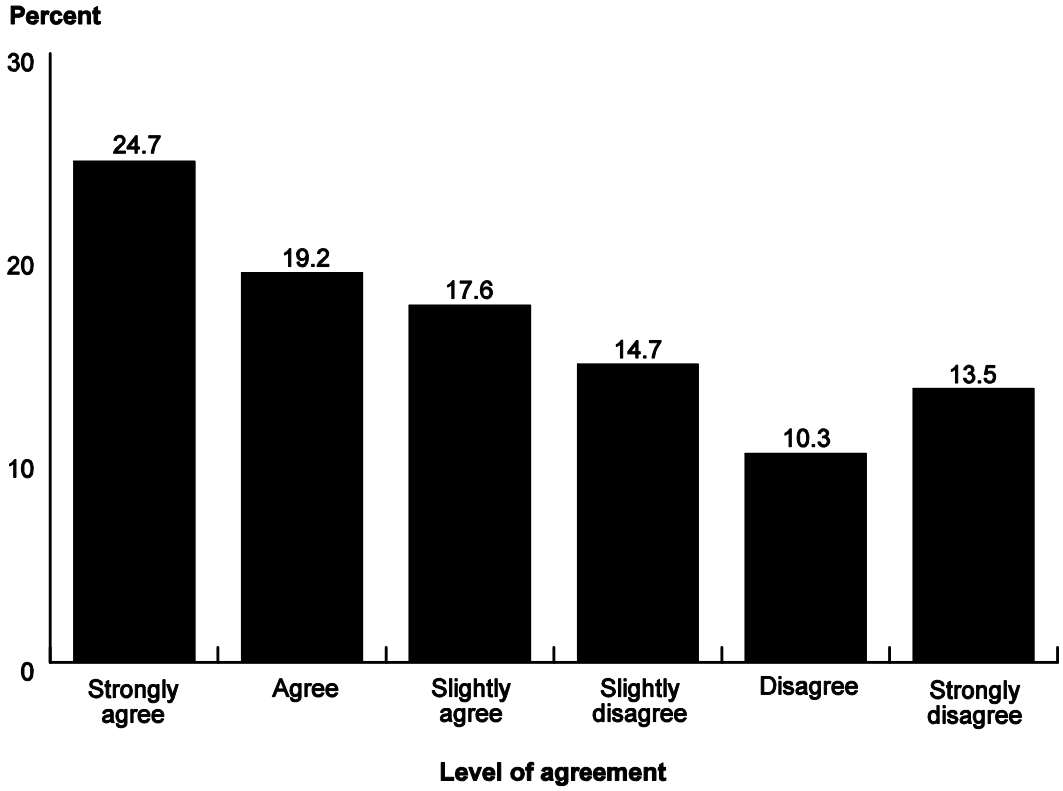
3. Eggs from home-raised chickens

About 6 of 10 respondents (61.5 percent) were of the opinion (slightly agreed, agreed, or strongly agreed) that eggs from home-raised chickens are better for you than eggs purchased at a grocery store.

a. Percentage of respondents by level of agreement with the statement, “Eggs from home-raised chickens are better for you than eggs purchased at a grocery store.”

Level of Agreement	Percent Respondents	Std. Error
Strongly agree	24.7	(0.9)
Agree	19.2	(0.8)
Slightly agree	17.6	(0.8)
Slightly disagree	14.7	(0.8)
Disagree	10.3	(0.6)
Strongly disagree	13.5	(0.7)
Total	100.0	

Percentage of respondents by level of agreement with the statement, "Eggs from home-raised chickens are better for you than eggs purchased at a grocery store."



The percentage of respondents that slightly agreed, agreed, or strongly agreed with the statement that eggs from home-raised chickens are better for you than eggs purchased at a grocery store did not differ substantially by housing type.

b. Percentage of respondents that agreed* with the statement, “Eggs from home-raised chickens are better for you than eggs purchased at a grocery store,” by housing type:

Housing Type	Percent Respondents	Std. Error
Single-family home on 1 acre or more	54.9	(4.5)
Single-family home on less than 1 acre	60.2	(1.3)
Multifamily dwelling with 20 or more units	66.5	(2.7)
Multifamily dwelling with fewer than 20 units	65.0	(2.4)
Other	47.4	(8.3)
All respondents	61.5	(1.0)

*Slightly agreed, agreed, or strongly agreed.

A higher percentage of respondents 25 to 34 and 35 to 44 years of age slightly agreed, agreed, or strongly agreed that eggs from home-raised chickens are better for you (66.3 and 67.0 percent, respectively) compared with respondents 55 to 64 years of age and 65 or older (57.0 and 55.8 percent, respectively).

c. Percentage of respondents that agreed* with the statement, “Eggs from home-raised chickens are better for you than eggs purchased at a grocery store,” by age of respondent:

Age (Years)	Percent Respondents	Std. Error
Under 25	60.1	(4.6)
25 to 34	66.3	(1.9)
35 to 44	67.0	(2.5)
45 to 54	60.1	(2.2)
55 to 64	57.0	(2.3)
65 or older	55.8	(2.3)

*Slightly agreed, agreed, or strongly agreed.

The percentage of respondents that slightly agreed, agreed, or strongly agreed with the statement that eggs from home-raised chickens are better for you was similar for female and male respondents.

d. Percentage of respondents that agreed* with the statement, “Eggs from home-raised chickens are better for you than eggs purchased at a grocery store,” by gender of respondent:

Gender	Percent Respondents	Std. Error
Female	64.4	(1.4)
Male	59.0	(1.5)

*Slightly agreed, agreed, or strongly agreed.

About 6 of 10 respondents in each race or ethnicity category slightly agreed, agreed, or strongly agreed with the statement that eggs from home-raised chickens are better for you.

e. Percentage of respondents that agreed* with the statement, “Eggs from home-raised chickens are better for you than eggs purchased at a grocery store,” by race or ethnicity of respondent:

Race/Ethnicity	Percent Respondents	Std. Error
Asian	59.0	(3.1)
Black/African-American	56.0	(3.8)
Hispanic/Latino (any race)	56.8	(2.3)
White	64.6	(1.4)
Multiracial/other	65.1	(3.3)

*Slightly agreed, agreed, or strongly agreed.

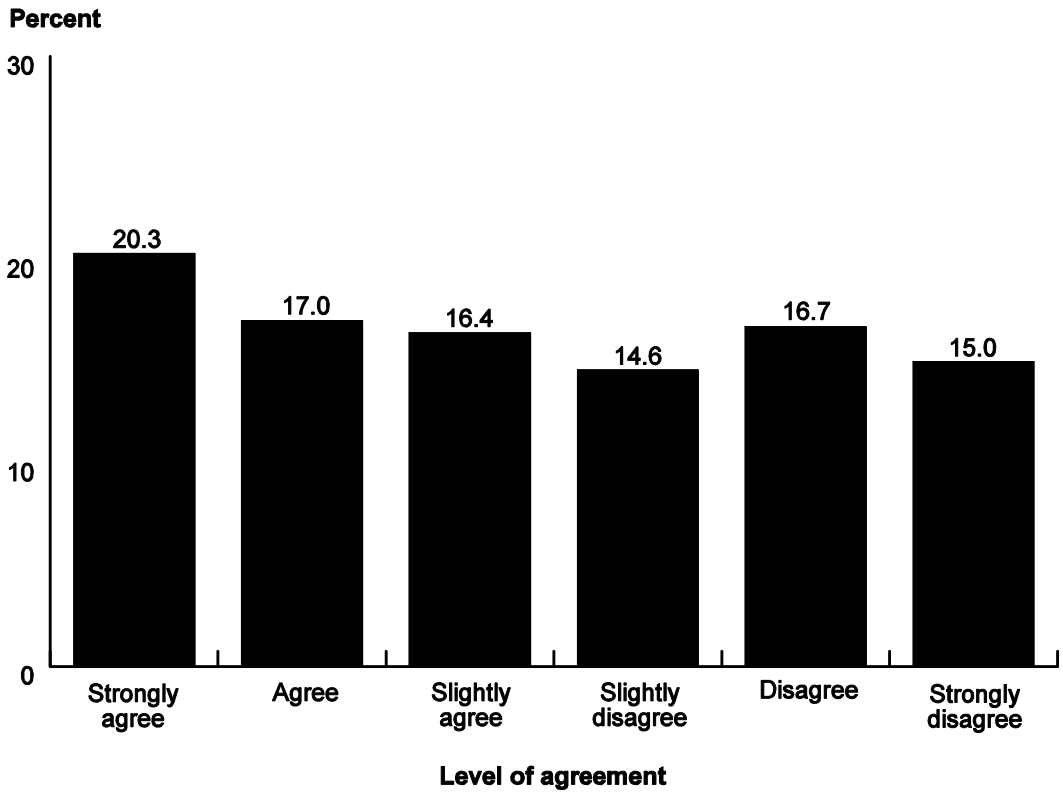
4. Urban chickens and illnesses in humans

About one-half of respondents (53.7 percent) slightly agreed, agreed, or strongly agreed that chickens in urban areas will lead to more illnesses in humans.

a. Percentage of respondents by level of agreement with the statement, “Chickens in urban areas will lead to more illnesses in humans.”

Level of Agreement	Percent Respondents	Std. Error
Strongly agree	20.3	(0.8)
Agree	17.0	(0.8)
Slightly agree	16.4	(0.8)
Slightly disagree	14.6	(0.7)
Disagree	16.7	(0.8)
Strongly disagree	15.0	(0.7)
Total	100.0	

Percentage of respondents by level of agreement with the statement, "Chickens in urban areas will lead to more illnesses in humans."



The percentage of respondents that slightly agreed, agreed, or strongly agreed that chickens in urban areas will lead to more illnesses in humans did not differ substantially by housing type, age of respondent, or gender of respondent.

b. Percentage of respondents that agreed* with the statement, “Chickens in urban areas will lead to more illnesses in humans,” by housing type:

Housing Type	**Percent Respondents**	**Std. Error**
Single-family home on 1 acre or more	48.1	(4.5)
Single-family home on less than 1 acre	53.3	(1.3)
Multifamily dwelling with 20 or more units	55.3	(2.8)
Multifamily dwelling with fewer than 20 units	54.8	(2.6)
Other	68.0	(7.8)
All respondents	53.7	(1.0)

*Slightly agreed, agreed, or strongly agreed.

c. Percentage of respondents that agreed* with the statement, “Chickens in urban areas will lead to more illnesses in humans,” by age of respondent:

Age (Years)	**Percent Respondents**	**Std. Error**
Under 25	46.9	(4.7)
25 to 34	51.8	(2.0)
35 to 44	57.3	(2.6)
45 to 54	56.6	(2.2)
55 to 64	53.1	(2.3)
65 or older	51.7	(2.3)

*Slightly agreed, agreed, or strongly agreed.

d. Percentage of respondents that agreed* with the statement, “Chickens in urban areas will lead to more illnesses in humans,” by gender of respondent:

Gender	Percent Respondents	Std. Error
Female	52.1	(1.4)
Male	55.2	(1.6)

*Slightly agreed, agreed, or strongly agreed.

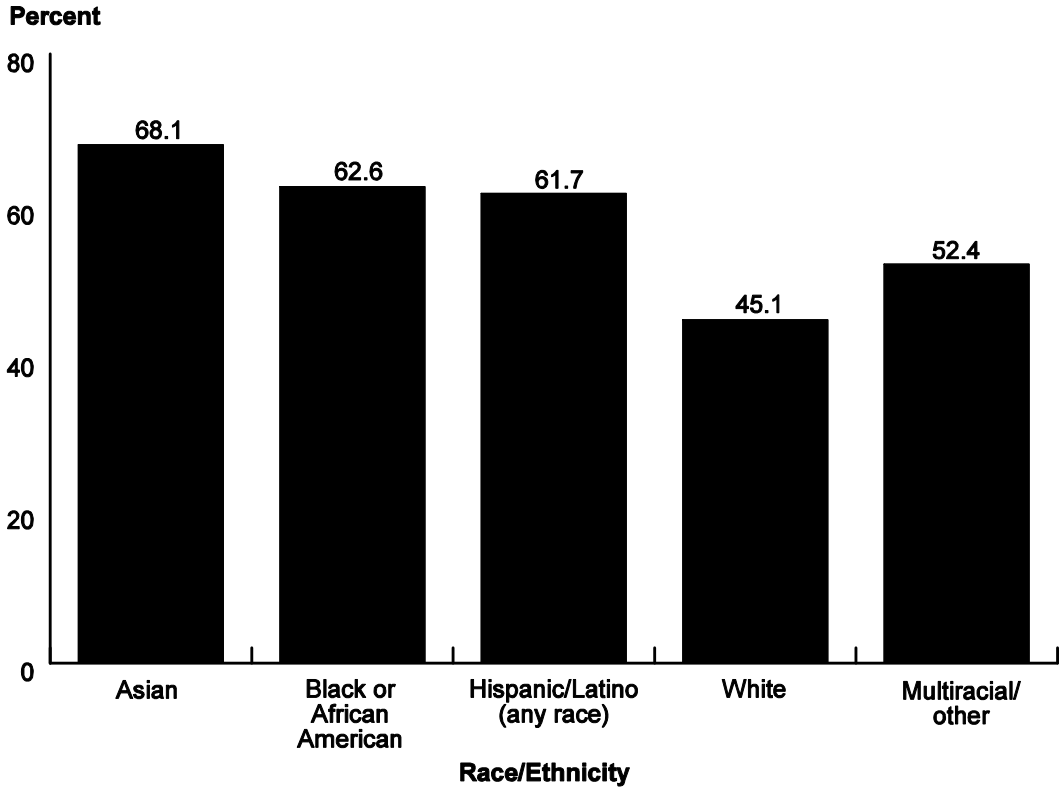
A lower percentage of White respondents slightly agreed, agreed, or strongly agreed that chickens in urban areas will lead to more illnesses in humans (45.1 percent), compared with Asian, Black/African American, or Hispanic/Latino respondents (68.1, 62.6, and 61.7 percent, respectively).

e. Percentage of respondents that agreed* with the statement, “Chickens in urban areas will lead to more illnesses in humans,” by race or ethnicity of respondent:

Race/Ethnicity	Percent Respondents	Std. Error
Asian	68.1	(3.0)
Black/African-American	62.6	(3.8)
Hispanic/Latino (any race)	61.7	(2.3)
White	45.1	(1.5)
Multiracial/other	52.4	(3.5)

*Slightly agreed, agreed, or strongly agreed.

Percentage of respondents that agreed* with the statement, "Chickens in urban areas will lead to more illnesses in humans," by race or ethnicity of respondent



*Slightly agreed, agreed, or strongly agreed.

Section II: Methodology

A. Sampling and Estimation

1. Background

Four large cities were selected for inclusion in the urban chicken study: Denver, Colorado; Los Angeles, California; Miami, Florida; and New York City, New York. These cities were selected because they were geographically diverse. Also, it was hypothesized that two of these cities (Los Angeles and Miami) had a long history of chicken ownership, and the other two cities had a comparatively shorter history of chicken ownership. All four cities were included in Phase I of the urban chicken study. Phase I involved administering a questionnaire to feed store customers in Los Angeles, Denver, and Miami, which focused on bird health, movement, and biosecurity practices in urban chicken flocks. In New York City, an educational presentation was offered to members of a chicken club by an APHIS data collector, and attendees were asked to complete the questionnaire. Additionally, the questionnaire was accessible to members via the club's Web site. All completed questionnaires in New York City were from this source. Chicken owners who did not belong to this club are not represented in this study (see report Poultry 2010: "Reference of the Health and Management of Chicken Flocks in Urban Settings in Four U.S. Cities, 2010").

Due to resource limitations, only one metro area (Los Angeles County) was selected for Phase II of the urban chicken study. Phase II determined the percentage of households that owned chickens and ascertained the residents' opinions about chickens in urban settings.

2. Household selection

The study was designed to allow for expansion of the results to estimate and report the percentage of Los Angeles County households that owned chickens. A simple random sample of 15,800 Los Angeles County households was selected from a commercially available address list. A total of 2,686 completed questionnaires were obtained, which was considered an adequate sample size to estimate a prevalence of 0.50 ± 0.27 percent.

3. Population inferences

Inferences cover all households in Los Angeles County. Survey responses were weighted to adjust for any differences in demographics between respondents and nonrespondents, by comparing respondent demographics to 2005–09 U.S. Census estimates for Los Angeles County.

B. Data Collection

Data collection occurred in three stages from July 2010 to January 2011. During each stage, households selected for participation received a postcard in the mail introducing the study and providing a Web address and access password for completing the questionnaire online. Nonrespondents received a second mailing 2 weeks later that included a paper questionnaire, a postage-paid return envelope, and the information for completing the questionnaire online. Telephone numbers were obtained for households that were nonrespondents to both mailings. Approximately 52 percent of addresses could be matched to telephone numbers. Nonrespondents were contacted by telephone 2 weeks after the second mailing and asked to complete the survey over the phone. All printed study materials were provided in English and Spanish, while telephone surveys were conducted in English.

C. Data Analysis

1. Validation and estimation

Data were entered into a SAS dataset. Validation checks were performed by NAHMS staff. Weighted point estimates were generated using SUDAAN software.

2. Response rate

Of the 15,800 households selected, 2,686 completed the survey (17.0 percent), 803 were undeliverable (5.1 percent), and 77.9 percent were nonrespondents.

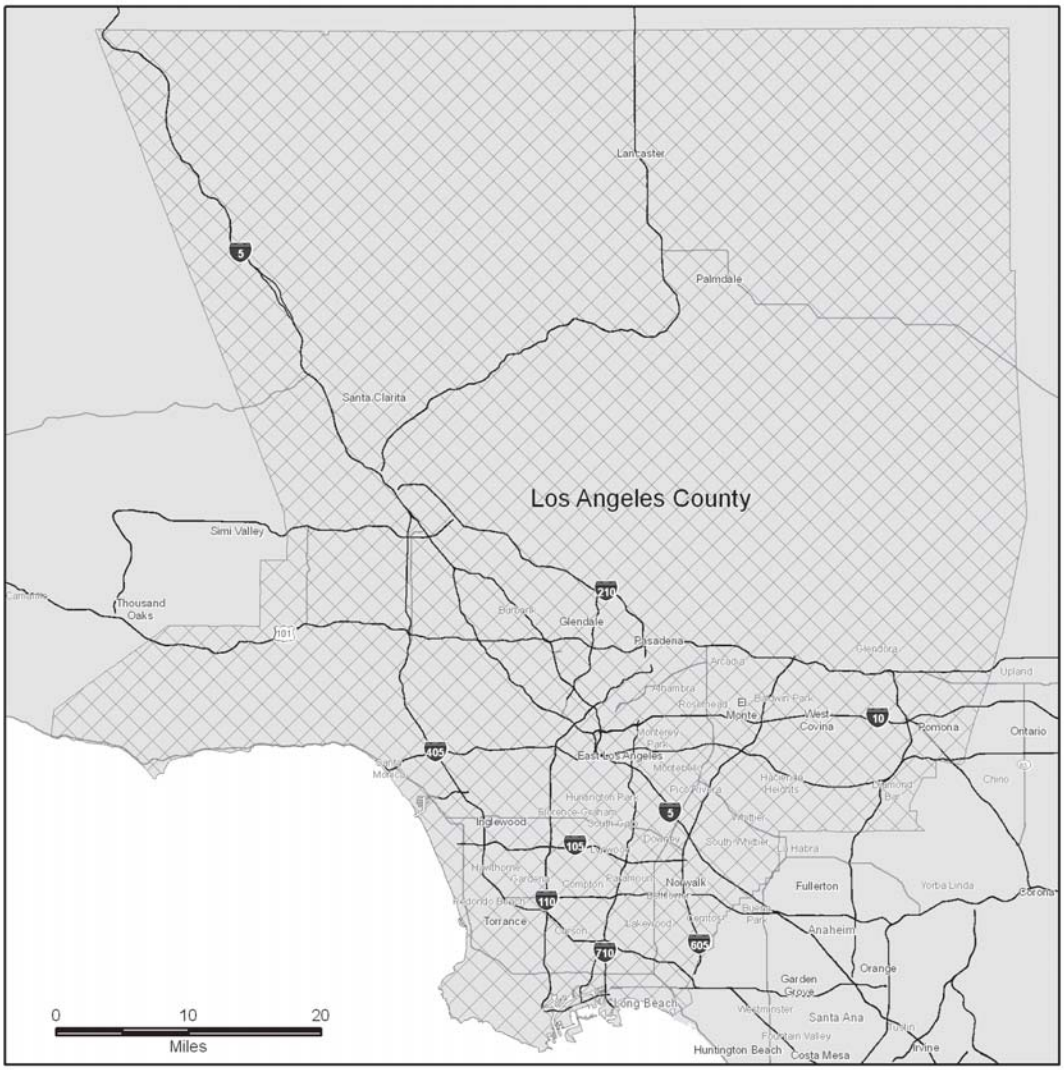
Response Category	Frequency	Percent
Completed—mail	1,561	9.9
Completed—online	452	2.9
Completed—telephone	673	4.2
Undeliverable	803	5.1
Refusal/no response	12,311	77.9
Total	15,800	100.0

Photo courtesty Judy Rodriguez

Appendix I: Los Angeles County Demographics

Los Angeles County has a population of 9,818,605 (2010 U.S. Census), which is the largest population of any County in the United States. Los Angeles County contains 88 incorporated cities, the largest of which is Los Angeles with a population of 3,792,621 (2010 U.S. Census). The 10 cities with the largest populations are listed in the following table (p, 28). Los Angeles County is 4,083 square miles (10,570 sq km) and contains highly urban areas as well as sparsely populated areas.

Throughout Los Angeles County, chicken ownership laws and regulations vary by city and by neighborhood. Some cities and homeowner's associations have specific rules about chicken ownership. For example, laws in the city of Los Angeles permit chicken ownership with no limitations on the number or type of chickens.



Although 26.4 percent of California residents live in Los Angeles County, only 2.1 percent of the farms in California are located in Los Angeles County (1,734 farms in Los Angeles County of 81,033 farms in California; NASS 2007 Census of Agriculture). The census definition of a farm is any place from which $1,000 or more of agricultural products were produced and sold, or normally would have been sold, during the census year.

a. Ten most populous cities in Los Angeles County:

City	Population
Los Angeles	3,792,621
Long Beach	492,682
Glendale	207,303
Santa Clarita	177,150
Pomona	163,408
Palmdale	151,346
Pasadena	150,185
Torrance	149,111
Lancaster	145,074
El Monte	126,308

b. Demographics of Los Angeles County:*

	Number	Percent
Housing Units		
Total housing units	3,370,108	100.0
Single family (one unit) homes	1,902,915	56.5
Multifamily dwelling with 20 or more units	590,459	17.5
Multifamily dwelling with fewer than 20 units	817,905	24.3
Other	58,829	1.7
Population		
Total population	9,785,295	100.0
Age (years)		
Under 25	3,518,307	35.9
25–34	1,554,695	15.9
35–44	1,483,575	15.2
45–54	1,321,237	13.5
55–64	899,648	9.2
65 or older	1,007,833	10.3
Gender		
Female	4,935,208	50.4
Male	4,850,087	49.6
Race		
White	4,963,235	50.7
Black/African-American	862,521	8.8
Asian	1,276,546	13.1
Multiracial/other race	2,682,993	27.4
Hispanic or Latino (of any race)**		
Yes	4,627,543	47.3
No	5,157,752	52.7

*2005–09 U.S. Census Bureau American Community Survey 5-Year estimates.
**The U.S. Census form asks about Hispanic/Latino ethnicity separate from race.

Appendix II: Sample Profile

1. Number of respondents by housing type

Housing Type	Number	Percent
Single-family home on 1 acre or more	147	5.5
Single-family home on less than 1 acre	1,661	61.8
Multifamily dwelling with 20 or more units	355	13.2
Multifamily dwelling with fewer than 20 units	448	16.7
Other	38	1.4
Did not specify	37	1.4
Total	2,686	100.0

2. Number of respondents by age

Age (Years)	Number	Percent
Under 25	113	4.2
25 to 34	604	22.5
35 to 44	378	14.1
45 to 54	526	19.6
55 to 64	500	18.6
65 or older	513	19.1
Did not specify	52	1.9
Total	2,686	100.0

3. Number of respondents by gender

Gender	Number	Percent
Female	1,406	52.4
Male	1,158	43.1
Did not specify	122	4.5
Total	2,686	100.0

Appendix III: Study Objectives and Related Outputs

1. Describe the structure of commercial poultry industries, including interactions among poultry industry segments, movements, and biosecurity practices. Describe farm-level practices for chicken primary breeder and multiplier flocks. Identify critical factors for exclusion of disease (such as *Mycoplasma*).

- Poultry 2010: Poultry Industry Structure in the United States, 2010, descriptive report, expected fall 2011
- Poultry 2010: Reference of Health and Management of Breeder Chicken Flocks in the United States, 2010, descriptive report, expected fall 2011
- Info sheets, expected fall 2011

2. Estimate the prevalence and investigate risk factors associated with clostridial dermatitis (cellulitis/gangrenous dermatitis) on turkey grower farms.

- Poultry 2010: Clostridial dermatitis on United States Turkey Farms, interpretive report, expected spring 2012
- Info sheets, expected spring 2012

3. Describe bird health, movement, and biosecurity practices of urban chicken flocks in four U.S. cities—Miami, Denver, Los Angeles, and New York City. Determine the percentage of households that own chickens and attitudes about chickens in urban settings in Los Angeles.

- Poultry 2010: Reference of the Health and Management of Chicken Flocks in Urban Settings in Four U.S. Cities, descriptive report, May 2011
- Characteristics of Chicken Flocks in Four U.S. Cities, info sheet, April 2011
- Urban Chicken Flocks in Four U.S. Cities: the Human/Chicken Interface, info sheet, April 2011
- Biosecurity of Urban Chicken Flocks in Four U.S. Cities, info sheet, April 2011
- Poultry 2010: Urban-chicken Ownership in Los Angeles County, California, 2010, descriptive report, August 2011
- Urban Chicken Flocks in Los Angeles County, California, 2010, info sheet, August 2011