United States Department of Agriculture

Animal and Plant Health Inspection Service

Veterinary Services

National Animal Health Monitoring System

August 2005

Poultry '04

Part II: Reference of Health and Management of Gamefowl Breeder Flocks in the United States, 2004

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, or marital or family status. (Not all prohibited bases apply to all programs). Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 1400 Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

Mention of companies or commercial products does not imply recommendation or endorsement by the USDA over others not mentioned. USDA neither guarantees nor warrants the standard of any product mentioned. Product names are mentioned solely to report factually on available data and to provide specific information.

USDA:APHIS:VS:CEAH
NRRC Building B, M.S. 2E7
2150 Centre Avenue
Fort Collins, CO 80526-8117
970.494.7000
E-mail: NAHMS@aphis.usda.gov
www.aphis.usda.gov/vs/ceah/ncahs

#N433.0805

Cover photo: courtesy of UGBA

Acknowledgments

The Poultry ‘04 study was a cooperative effort among animal health officials, university researchers, extension personnel, and poultry producers. We want to thank the industry members who helped determine the direction and objectives of this study.

We would also like to thank the United Gamefowl Breeders Association for collaborating in the study’s development and implementation. Thanks also to the personnel at the Centers for Epidemiology and Animal Health for their efforts in generating reports from Poultry ‘04 data, and to our reviewers for providing valuable expertise and guidance through their comments.

All participants are to be commended, particularly the gamefowl owners whose voluntary efforts made the gamefowl component of the Poultry ’04 study possible.

Thomas E. Walton

Director
Centers for Epidemiology and Animal Health

Suggested bibliographic citation for this report:
USDA. 2005. Part II: Reference of Health and Management of Gamefowl Breeder Flocks in the United States, 2004

USDA:APHIS:VS,CEAH, National Animal Health Monitoring System, Fort Collins, CO #N433.0805

Contacts for further information:
Questions or comments on the Poultry ‘04 study methods or requests for additional data analysis: Dr. Lindsey Garber 970.494.7000
Information on reprints or other NAHMS reports: Ms. Anne Berry: 970.494.7000

E-mail: NAHMS@aphis.usda.gov

Table of Contents

Introduction

The National Animal Health Monitoring System (NAHMS) is a nonregulatory division of the U.S. Department of Agriculture (USDA) designed to help meet the Nation's animal-health information needs.

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

Poultry '04 is NAHMS' second study of the U.S. poultry industry. For Poultry '04, NAHMS conducted an extensive assessment to determine the information needs of the poultry industry, researchers, and Federal and State governments. This needs assessment indicated a lack of information regarding bird health, bird movement, and biosecurity practices of nontraditional poultry industries, such as backyard flocks, gamefowl, and live poultry markets.

Part I: Reference of Health and Management of Backyard/Small Production Flocks in the United States, 2004, was the first in a series of reports containing national information from the Poultry '04 study. A questionnaire was administered to noncommercial (backyard) flocks in 18 major poultry producing States.

Part II: Reference of Health and Management of Gamefowl Breeder Flocks in the United States, 2004, is the second report from the Poultry '04 study. A questionnaire was mailed to members of United Gamefowl Breeder Association (UGBA) State affiliates and to members of State associations not affiliated with UGBA.

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 online at: www.aphis.usda.gov/vs/ceah/ncahs

For questions about this report or additional copies, please contact:

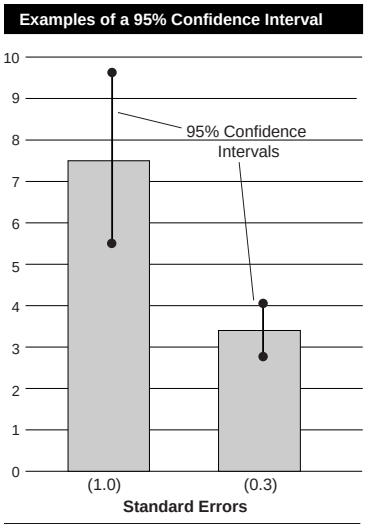
USDA:APHIS:VS:CEAH
NRRC Building B, M.S. 2E7
2150 Centre Avenue
Fort Collins, CO 80526-8117
970.494.7000

Terms Used In This Report

Gamefowl: Breeds of chickens, such as Kelso, Hatch, Claret, and Roundhead, intended primarily for exhibition/competition and bred for beauty, strength, health, vitality, and longevity.

Flock size: Flock size is based on the total number of birds present on the premises on the day of the survey. Small flocks are those with less than 100 birds; medium flocks are those with 100-499 birds; and large flocks are those with 500 or more birds.

Pet birds: Bird breeds not normally used for food and usually housed in cages in the home, e.g., parrots, cockatiels, parakeets, finches, and canaries.

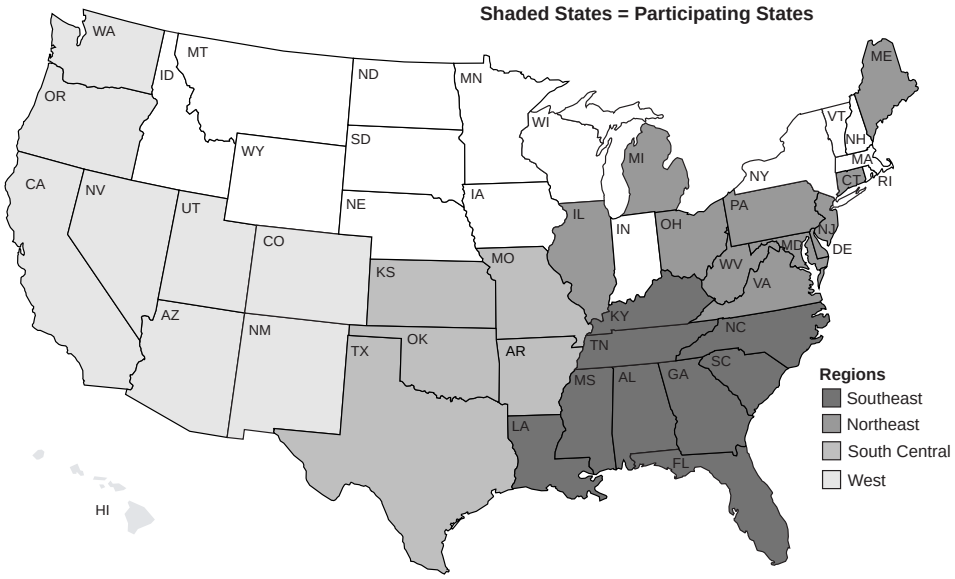


Population estimates: Estimates in this report are provided with a measure of precision called the standard error. A 95-percent confidence interval can be created with bounds equal to the estimate, plus or minus two standard errors. If the only error is sampling error, the confidence intervals created in this manner will contain the true population mean 95 out of 100 times. In the example at 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 2.0. In general, when comparing point estimates between categories, estimates with confidence levels that overlap are not considered different. Most estimates in this report are rounded to the nearest tenth. If rounded to 0, the standard error was reported. If there were no reports of the event, no standard error was reported.

Premises: Location where birds are kept.

Regions (participating States):
West: Arizona, California, Colorado, Hawaii, Nevada, New Mexico, Oregon, Utah, Washington
South Central: Arkansas, Kansas, Missouri, Oklahoma, Texas
Northeast: Connecticut, Delaware, Illinois, Maine, Maryland, Michigan, New Jersey, Ohio, Pennsylvania, Virginia, West Virginia
Southeast: Alabama, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee

Regions


Shaded States = Participating States
WA
OR
CA
ID
NV
MT
WY
UT
AZ
CO
NM
ND
SD
NE
KS
OK
TX
MN
IA
MO
AR
LA
WI
IL
MS
MI
IN
KY
TN
AL
OH
GA
FL
SC
NC
VA
WV
PA
NY
MD
DE
NJ
CT
RI
MA
VT
NH
ME
HI
Regions
Southeast
Northeast
South Central
West

Section I: Population Estimates

A. General Management

1. Bird numbers and types

A total of 2.8 percent of premises had no birds, ranging from 0.6 percent in the Southeast region to 7.5 percent in the Northeast region. Over half of premises (55.3 percent) had between 100 and 499 birds, and 7.5 percent had 500 or more birds.

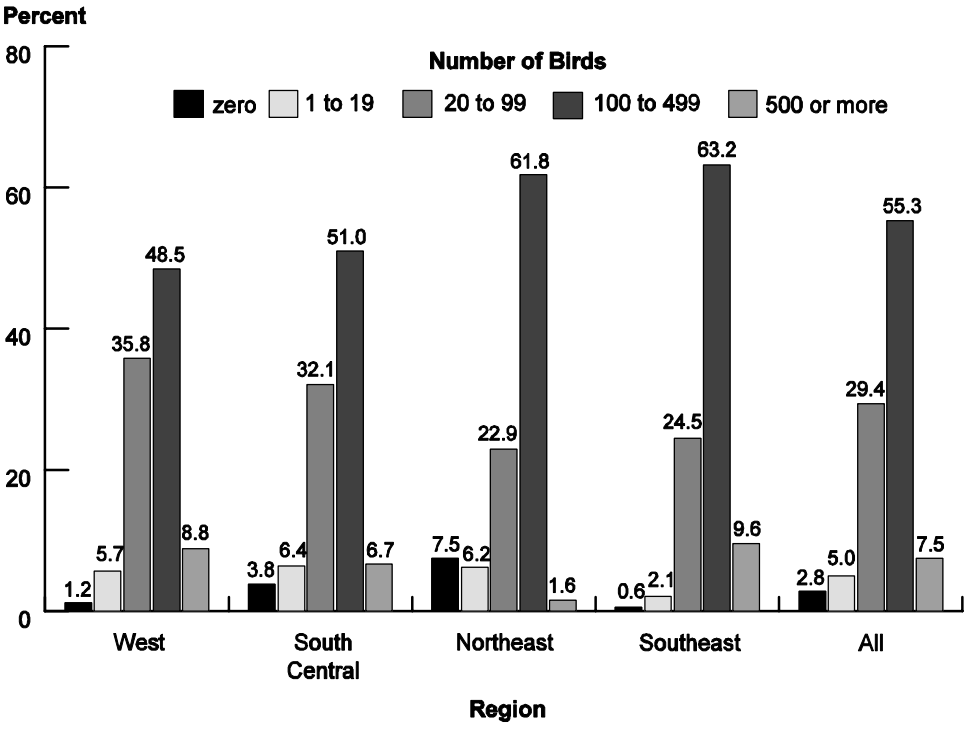
a. Percentage of premises by number of birds and by region:

Percent Premises

	Region									
	West		South Central		Northeast		Southeast		All	
Number of Birds*	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
0	1.2	(1.0)	3.8	(1.5)	7.5	(2.9)	0.6	(0.6)	2.8	(0.9)
1 to 19	5.7	(2.4)	6.4	(1.9)	6.2	(2.7)	2.1	(1.0)	5.0	(1.1)
20 to 99	35.8	(5.1)	32.1	(3.7)	22.9	(4.6)	24.5	(2.5)	29.4	(2.2)
100 to 499	48.5	(5.1)	51.0	(3.9)	61.8	(5.2)	63.2	(2.9)	55.3	(2.3)
500 or more	8.8	(3.0)	6.7	(2.0)	1.6	(1.5)	9.6	(1.8)	7.5	(1.2)
Total	100.0		100.0		100.0		100.0		100.0	

* The Poultry '04 Gamefowl survey was mailed to all members of the UGBA State affiliates, some of which had no birds at the time of the survey.

Percentage of Premises by Number of Birds and by Region



Nearly all premises with birds (98.4 percent) had gamefowl. Over 10 percent of premises had other types of chickens and pet birds.

b. Percentage of premises with birds by type of bird of any age on the premises and by region:

Percent Premises

	Region									
	West		South Central		Northeast		Southeast		All	
Type of Bird	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
Chickens: table egg breeds (e.g., leghorn, sex-link)	18.3	(3.8)	13.6	(2.7)	16.0	(3.4)	11.3	(2.0)	13.4	(1.6)
Chickens: meat breeds (e.g., Cornish, broiler)	4.3	(2.1)	4.7	(1.7)	2.8	(1.6)	4.9	(1.2)	4.6	(1.0)
Chickens: gamefowl	98.8	(0.7)	98.0	(1.1)	98.6	(1.3)	99.0	(0.6)	98.4	(0.6)
Chickens: other (show/ exhibition)	18.9	(4.0)	8.8	(2.2)	11.7	(3.0)	10.5	(1.9)	10.5	(1.4)
Turkeys	4.1	(1.9)	3.6	(1.5)	2.5	(1.8)	2.3	(0.9)	3.2	(0.9)
Ducks	2.5	(1.4)	4.3	(1.6)	4.2	(2.4)	4.6	(1.4)	4.2	(1.0)
Other water fowl (e.g., geese, swans)	4.5	(2.2)	2.3	(1.2)	3.9	(2.2)	0.6	(0.6)	2.0	(0.7)
Pigeons or doves	8.3	(2.8)	6.7	(2.0)	4.3	(1.7)	7.6	(1.8)	7.0	(1.2)
Ratites (ostriches)	0.0	(--)	0.0	(--)	1.4	(1.3)	0.3	(0.3)	0.2	(0.1)
Game birds (quail/ pheasant)	3.1	(1.6)	4.0	(1.6)	3.9	(2.2)	3.1	(1.0)	3.6	(0.9)
Guinea fowl	6.7	(2.5)	4.3	(1.6)	1.4	(0.8)	7.3	(1.6)	5.3	(1.0)
Peafowl	1.9	(1.3)	2.7	(1.3)	0.7	(0.7)	1.9	(0.7)	2.2	(0.7)
Pet birds (caged birds like parrots)	10.5	(3.0)	12.9	(2.7)	11.7	(3.5)	11.5	(2.1)	12.2	(1.6)
Other bird species	0.0	(--)	0.0	(--)	0.0	(--)	0.3	(0.3)	0.1	(0.1)

Over one-third of premises (36.9 percent) had more than one type of bird.

c. Percentage of premises with more than one type of bird:

Percent Premises	Standard Error
36.9	(2.3)

Note: The remainder of this report includes only premises with birds.

Overall, 5.7 percent of the birds on premises that had any gamefowl were species other than chickens.

d. For premises with any gamefowl, percentage of birds by bird type:

Bird Type	Percent Birds	Standard Error
Chickens–gamefowl	91.5	(2.0)
Chickens–other than gamefowl	2.8	(0.4)
Ducks and other waterfowl (e.g., geese, swans)	0.3	(0.1)
Pet birds	0.6	(0.2)
Other	4.8	(1.8)
Total	100.0	

2. Distances

While nearly all respondents could estimate the distance to the nearest feed store, only about half could estimate the distance to the nearest auction, flea market, or commercial operation, and even fewer could estimate the distance to the nearest live-bird market. Over one-third of premises (35.1 percent) were located within 5 miles of a feed store, while 21.6 percent (about half of those that provided a distance estimate) were located 20 or more miles from the nearest commercial operation.

a. Percentage of premises by number of miles to nearest . . .

	Percent Premises									
	Feed Store		Auction Where Birds Are Sold		Flea Market/ Swap Meet		Live-Bird Market		Commercial Operation	
Miles	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
Less than 5	35.1	(2.3)	2.0	(0.7)	1.4	(0.5)	0.4	(0.2)	8.5	(1.1)
5 to 9	28.6	(2.1)	2.7	(0.8)	4.9	(1.0)	1.9	(0.7)	4.8	(0.8)
10 to 19	22.0	(1.9)	5.4	(0.8)	10.7	(1.4)	5.6	(1.1)	9.1	(1.3)
20 or more	12.2	(1.5)	32.0	(2.2)	34.6	(2.2)	17.2	(1.7)	21.6	(1.9)
Did not know	2.1	(0.7)	57.9	(2.3)	48.4	(2.3)	74.9	(2.0)	56.0	(2.2)
Total	100.0		100.0		100.0		100.0		100.0	

Only 6.8 percent of premises were located within 1 mile of a commercial operation. Of the respondents that did not know the distance to the nearest commercial operation, most knew that there was no commercial operation within 1 mile.

b. Percentage of premises by number of commercial poultry operations within 1 mile and by region:

	Percent Premises									
	Region									
	West		South Central		Northeast		Southeast		All	
Number Commercial Operations	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
0	92.7	(3.0)	94.8	(1.8)	98.2	(1.7)	90.0	(1.6)	93.2	(1.1)
1	2.8	(1.9)	4.0	(1.7)	0.0	(--)	5.0	(1.2)	4.0	(0.9)
2 or more	4.5	(2.5)	1.2	(0.9)	1.8	(1.7)	5.0	(1.2)	2.8	(0.7)
Total	100.0		100.0		100.0		100.0		100.0	

3. Housing

Nine out of ten premises (91.5 percent) housed birds inside a barn or coop. Over half of all premises (57.0 percent) had birds that were able to leave the property, ranging from 44.2 percent of premises in the West region to 69.4 percent in the Northeast region.

a. Percentage of premises by bird housing type and by region:

	Percent Premises									
	Region									
	West		South Central		Northeast		Southeast		All	
Housing Type	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
Outdoors, confined to property	90.8	(2.9)	82.5	(3.1)	89.4	(3.3)	89.7	(1.9)	86.0	(1.7)
Outdoors, able to leave property	44.2	(5.1)	53.0	(4.0)	69.4	(5.4)	64.6	(2.9)	57.0	(2.4)
Inside, as in a barn or coop	89.7	(3.2)	92.5	(2.1)	94.5	(2.6)	89.9	(1.9)	91.5	(1.3)

Nearly all premises where birds were housed indoors (97.1 percent) kept some birds in pens, while about half (54.7 percent) kept some birds in cages. Some premises used both housing types.

b. For premises where birds were housed inside, percentage of premises by type of indoor housing and by region:

Percent Premises

	Region									
	West		South Central		Northeast		Southeast		All	
Housing Type	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
Cages	73.0	(4.7)	50.1	(4.2)	53.1	(6.1)	57.1	(3.1)	54.7	(2.5)
Pens	94.3	(2.6)	96.7	(1.5)	98.5	(1.4)	98.2	(0.9)	97.1	(0.9)

The majority of premises that housed birds indoors (83.6 percent) allowed at least some birds outside access.

c. For premises that housed birds indoors, percentage of premises where at least some birds were allowed outdoors, by region:

Percent Premises

Region									
West		South Central		Northeast		Southeast		All	
Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
79.1	(4.4)	80.0	(3.4)	92.3	(3.3)	89.1	(2.0)	83.6	(1.9)

4. Animal contact

Predators such as raccoons, foxes, skunks, or possums had access to bird areas on 42.6 percent of premises in the West region and 80.8 percent of premises in the Northeast region.

a. Percentage of premises where raccoons, foxes, skunks, or possums had access to bird areas, by region:

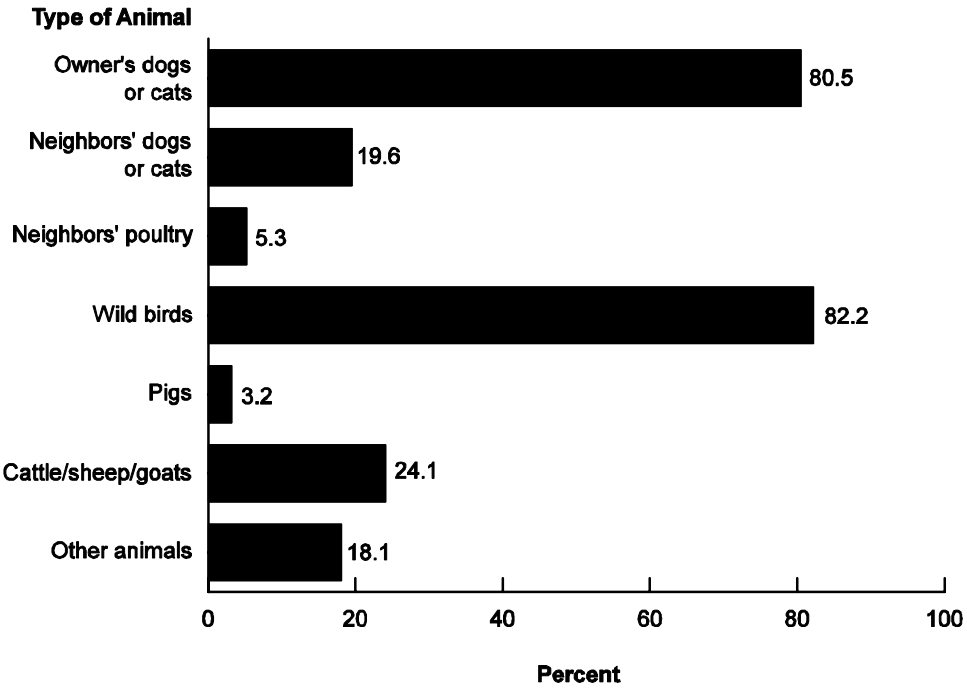
Percent Premises									
Region									
West		South Central		Northeast		Southeast		All	
Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
42.6	(5.0)	54.5	(4.0)	80.8	(4.5)	71.7	(2.7)	60.7	(2.3)

While birds on 82.2 percent of premises had exposure to wild birds, only 5.3 percent of premises reported that their birds had contact with neighbors' poultry. Other animals consisted primarily of horses and wildlife.

b. Percentage of premises where birds had contact with other animals, by type of animal and by region:

	Percent Premises									
	Region									
	West		South Central		Northeast		Southeast		All	
Type of Animal	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
Owner's dogs or cats	75.3	(4.5)	80.1	(3.2)	87.5	(3.8)	81.2	(2.3)	80.5	(1.9)
Neighbors' dogs or cats	18.2	(3.9)	19.8	(3.2)	24.2	(4.9)	18.9	(2.4)	19.6	(1.9)
Neighbors' poultry	6.8	(2.7)	5.4	(1.8)	2.9	(2.0)	5.2	(1.4)	5.3	(1.1)
Wild birds	70.9	(4.7)	80.8	(3.2)	87.2	(3.5)	86.6	(2.0)	82.2	(1.8)
Pigs	3.1	(1.8)	3.4	(1.5)	2.9	(1.6)	2.9	(0.9)	3.2	(0.8)
Cattle/sheep/goats	27.0	(4.7)	23.4	(3.4)	15.0	(3.9)	26.0	(2.7)	24.1	(2.0)
Other animals	17.2	(4.0)	17.6	(3.0)	16.4	(4.2)	19.7	(2.5)	18.1	(1.8)

Percentage of Premises Where Birds had Contact with Other Animals, by Type of Animal



Evidence of rodents was usually or sometimes observed on approximately half of premises (48.3 percent). Evidence of rodents was similar across regions.

c. Percentage of premises by frequency that rodents or evidence of rodents were observed in bird areas and by region:

Percent Premises

	Region									
	West		South Central		Northeast		Southeast		All	
Frequency	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
Usually	10.2	(3.0)	10.2	(2.4)	6.5	(2.6)	10.3	(2.0)	10.0	(1.5)
Sometimes	41.3	(5.2)	35.2	(3.9)	47.1	(5.8)	41.0	(2.9)	38.3	(2.3)
Rarely	37.1	(5.0)	43.0	(4.0)	40.2	(5.8)	42.3	(3.0)	42.1	(2.4)
Never	11.4	(3.3)	11.6	(2.6)	6.2	(2.9)	6.4	(1.5)	9.6	(1.5)
Total	100.0		100.0		100.0		100.0		100.0	

Bait was the most common form of rodent control used in all regions. A professional exterminator was used on 7.8 percent of premises.

d. Percentage of premises by rodent control method used in bird areas and by region:

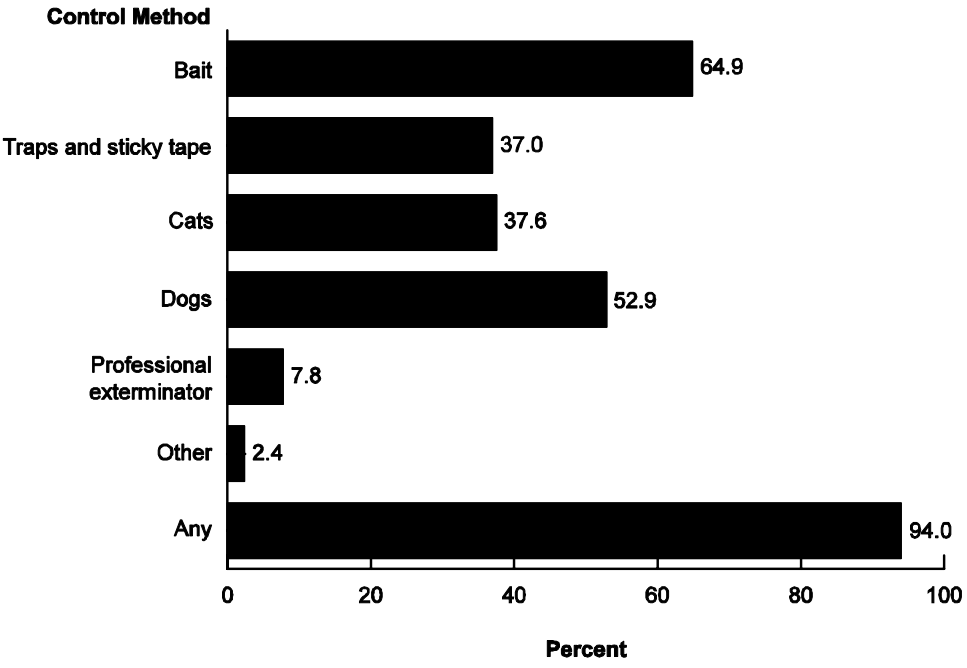
Percent Premises

Region

	West		South Central		Northeast		Southeast		All	
Control Method	**Pct.**	**Std. Error**	**Pct.**	**Std. Error**	**Pct.**	**Std. Error**	**Pct.**	**Std. Error**	**Pct.**	**Std. Error**
Bait	65.3	(4.9)	61.0	(3.9)	67.9	(5.1)	70.4	(2.8)	64.9	(2.3)
Traps and sticky tape	48.5	(5.2)	32.6	(3.8)	36.8	(5.6)	40.8	(3.0)	37.0	(2.3)
Cats	32.8	(4.8)	41.4	(4.0)	37.2	(5.5)	33.0	(2.9)	37.6	(2.4)
Dogs	49.5	(5.3)	51.6	(4.0)	41.3	(5.7)	58.1	(3.0)	52.9	(2.4)
Professional exterminator	10.6	(3.3)	9.1	(2.3)	1.8	(1.7)	6.1	(1.6)	7.8	(1.4)
Other	3.7	(1.8)	2.3	(1.2)	1.4	(0.8)	2.4	(0.9)	2.4	(0.7)
Any	93.8	(2.6)	93.2	(2.1)	92.8	(2.8)	95.4	(1.2)	94.0	(1.2)

Photo: Judy Rodriguez

Percentage of Premises by Rodent Control Method Used in Bird Areas



Bait was used more commonly on premises that usually or sometimes observed evidence of rodents than on premises that rarely or never observed rodents.

e. Percentage of premises by rodent control methods used in the bird areas and by frequency of observing rodents:

	Percent Premises			
	Frequency of Observing Rodents			
	Usually/Sometimes		Rarely/Never	
Control Method	Percent	Standard Error	Percent	Standard Error
Bait	75.4	(3.0)	54.8	(3.4)
Traps and sticky tape	42.1	(3.3)	30.7	(3.2)
Cats	37.3	(3.4)	37.1	(3.4)
Dogs	53.3	(3.4)	52.0	(3.4)
Professional exterminator	6.2	(1.7)	9.3	(2.1)
Other	1.7	(0.6)	3.3	(1.3)
Any	97.4	(1.0)	90.7	(2.1)

B. Health and Health Care

1. Veterinary services

Overall, 18.2 percent of premises had used the services of veterinarian in the previous 12 months.

a. Percentage of premises that used veterinary services for any bird(s) for any reason in the previous 12 months, by region:

Percent Premises

Region

West		South Central		Northeast		Southeast		All	
Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
15.1	(3.9)	19.0	(3.2)	8.7	(3.1)	19.4	(2.4)	18.2	(1.9)

For large flocks, more than 4 out of 10 premises (42.0 percent) used the services of veterinarian in the previous 12 months.

b. Percentage of premises that used veterinary services for any bird(s) for any reason in the previous 12 months, by flock size:

Percent Premises

Flock Size (Number of Birds)

Small (1 to 99)		Medium (100 to 499)		Large (500 or More)	
Percent	Standard Error	Percent	Standard Error	Percent	Standard Error
16.0	(3.3)	16.7	(2.4)	42.0	(8.4)

2. Medication

Nearly all premises (91.6 percent) obtained some medication in the previous 12 months. The most common source of medication was farm or feed store, followed by mail order or Internet.

a. Percentage of premises by source of birds' medication in the previous 12 months and by region:

Percent Premises

	Region									
	West		**South Central**		**Northeast**		**Southeast**		**All**	
Source	**Pct.**	**Std. Error**	**Pct.**	**Std. Error**	**Pct.**	**Std. Error**	**Pct.**	**Std. Error**	**Pct.**	**Std. Error**
Mail order or Internet	52.0	(5.3)	44.6	(4.0)	52.9	(5.6)	57.7	(3.0)	50.1	(2.4)
Farm or feed store	84.4	(3.8)	88.0	(2.6)	79.0	(4.6)	84.7	(2.1)	86.1	(1.6)
Make own	25.4	(4.5)	17.0	(3.0)	7.8	(2.8)	16.4	(2.3)	17.1	(1.8)
Veterinarian	18.6	(4.1)	13.6	(2.7)	23.1	(4.8)	18.7	(2.3)	16.3	(1.7)
Other suppliers	10.5	(3.0)	4.7	(1.7)	9.7	(3.3)	10.2	(1.8)	7.3	(1.1)
None	9.3	(3.0)	8.0	(2.2)	10.0	(3.4)	8.6	(1.6)	8.4	(1.3)

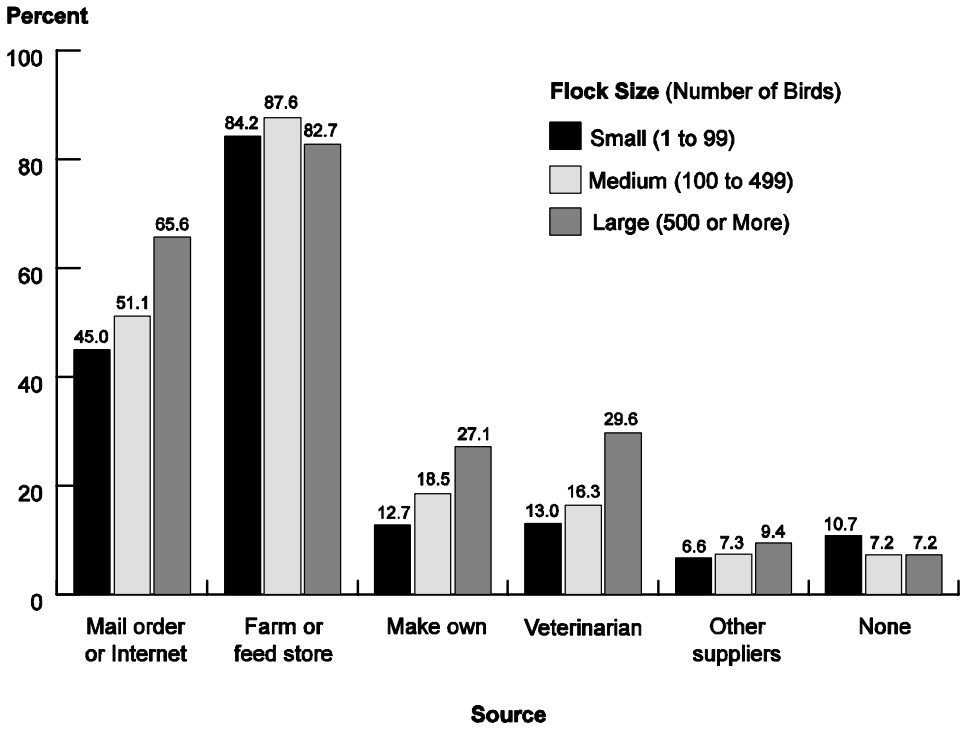
Obtaining medication via mail order or Internet increased as flock size increased.

b. Percentage of premises by source of birds' medication in the previous 12 months and by flock size:

Percent Premises

	Flock Size (Number of Birds)					
	Small (1 to 99)		**Mediium** (100 to 499)		**Large** (500 or More)	
Source	**Percent**	**Std. Error**	**Percent**	**Std. Error**	**Percent**	**Std. Error**
Mail order or Internet	45.0	(4.1)	51.1	(3.1)	65.6	(8.5)
Farm or feed store	84.2	(3.0)	87.6	(1.9)	82.7	(6.6)
Make own	12.7	(2.7)	18.5	(2.5)	27.1	(7.3)
Veterinarian	13.0	(2.8)	16.3	(2.2)	29.6	(6.8)
Other suppliers	6.6	(2.1)	7.3	(1.3)	9.4	(4.1)
None	10.7	(2.5)	7.2	(1.5)	7.2	(4.6)

Percentage of Premises by Source of Birds' Medication in the Previous 12 Months and by Flock Size



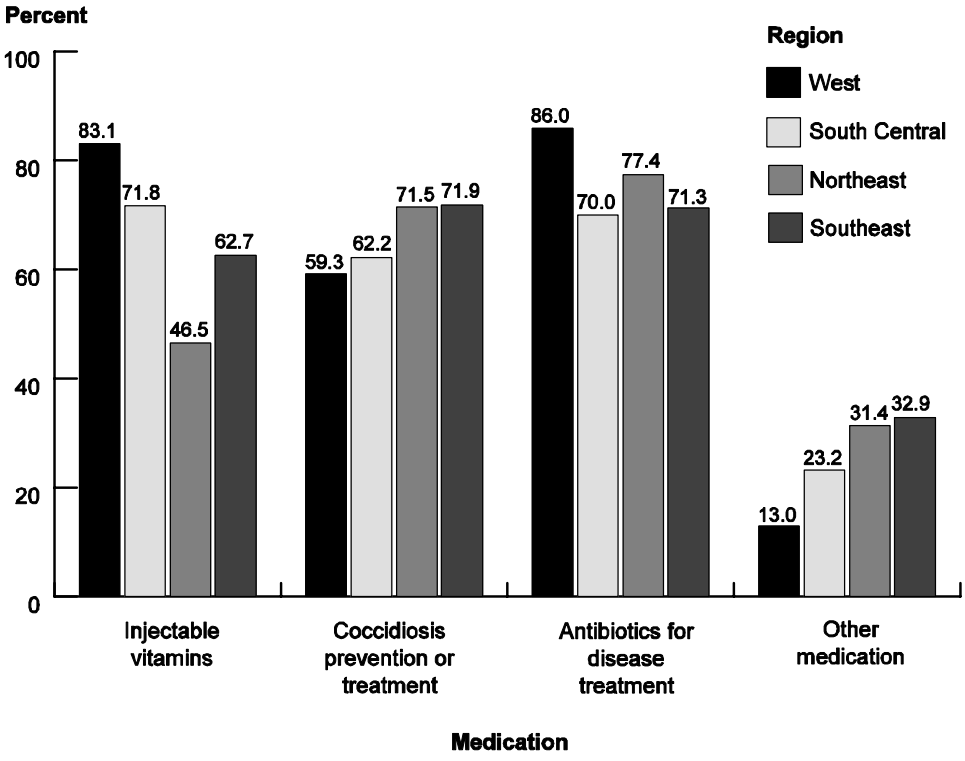
Use of injectable vitamins ranged from 46.5 percent of premises in the Northeast region to 83.1 percent of premises in the West region. Coccidiosis prevention or treatment increased as flock size increased (table d). Other medication consisted mainly of dewormers and oral vitamins.

c. Percentage of premises that administered medication to the flock in the previous 12 months, by medication and by region:

Percent Premises

	Region									
	West		South Central		Northeast		Southeast		All	
Medication	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
Injectable vitamins	83.1	(3.8)	71.8	(3.6)	46.5	(5.9)	62.7	(3.0)	68.4	(2.2)
Coccidiosis prevention or treatment	59.3	(5.2)	62.2	(3.9)	71.5	(5.2)	71.9	(2.7)	65.7	(2.3)
Antibiotics for disease treatment	86.0	(3.7)	70.0	(3.7)	77.4	(4.7)	71.3	(2.7)	72.3	(2.2)
Other medication	13.0	(3.3)	23.2	(3.4)	31.4	(5.5)	32.9	(2.9)	25.9	(2.1)

Percentage of Premises that Administered Medication to the Flock in the Previous 12 Months, by Medication and by Region



d. Percentage of premises that administered medication to the flock in the previous 12 months, by medication and by flock size:

Percent Premises

	Flock Size (Number of Birds)					
	Small (1 to 99)		**Medium** (100 to 499)		**Large** (500 or More)	
Medication	**Pct.**	**Std. Error**	**Pct.**	**Std. Error**	**Pct.**	**Std. Error**
Injectable vitamins	71.0	(3.6)	66.1	(3.0)	72.0	(7.6)
Coccidiosis prevention or treatment	50.2	(4.2)	72.0	(2.8)	89.4	(3.8)
Antibiotics for disease treatment	69.1	(3.9)	73.9	(2.8)	73.4	(7.6)
Other medication	22.4	(3.4)	28.5	(2.8)	24.9	(7.4)

3. Vaccinations

Over half of all premises (58.6 percent) vaccinated birds, ranging from 44.8 percent of premises in the Northeast region to 68.0 percent in the West region. Over three-fourths of large premises (78.3 percent) vaccinated birds.

a. Percentage of premises that vaccinated any birds in the previous 12 months, by region:

Percent Premises

Region

West		South Central		Northeast		Southeast		All	
Pct.	**Std. Error**	**Pct.**	**Std. Error**	**Pct.**	**Std. Error**	**Pct.**	**Std. Error**	**Pct.**	**Std. Error**
68.0	(4.9)	64.2	(3.9)	44.8	(5.5)	49.5	(3.0)	58.6	(2.3)

b. Percentage of premises that vaccinated any birds in the previous 12 months, by flock size:

Percent Premises

Flock Size (Number of Birds)

Small (1 to 99)		Medium (100 to 499)		Large (500 or More)	
Percent	**Standard Error**	**Percent**	**Standard Error**	**Percent**	**Standard Error**
54.4	(4.1)	58.6	(3.0)	78.3	(6.8)

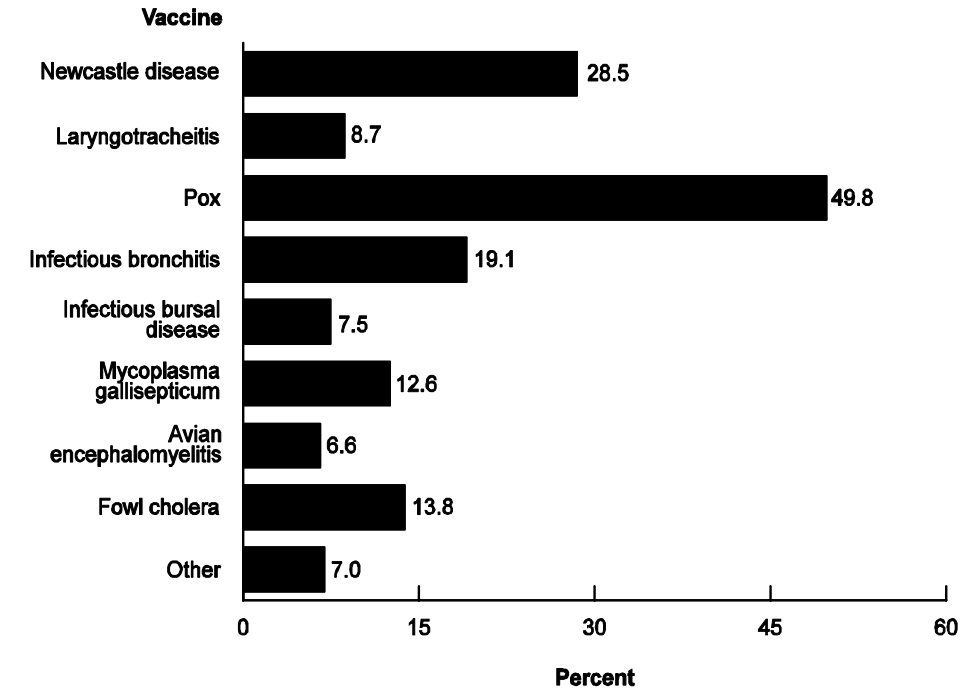
Half of all premises (49.8 percent) vaccinated birds against pox, ranging from 34.3 percent of premises in the Northeast region to 56.0 percent in the South Central region.

c. Percentage of premises that vaccinated any birds against the following diseases in the previous 12 months, by region:

Percent Premises

	Region									
	West		South Central		Northeast		Southeast		All	
Vaccine	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
Newcastle disease	31.7	(4.9)	31.0	(3.9)	28.6	(5.2)	23.8	(2.6)	28.5	(2.2)
Laryngotracheitis	14.2	(3.7)	8.9	(2.4)	3.5	(2.1)	7.6	(1.7)	8.7	(1.4)
Pox	44.5	(5.1)	56.0	(4.2)	34.3	(5.7)	44.3	(3.0)	49.8	(2.4)
Infectious bronchitis	22.9	(4.5)	19.9	(3.3)	25.0	(5.2)	15.6	(2.3)	19.1	(2.0)
Infectious bursal disease	16.4	(4.0)	5.9	(2.0)	3.5	(2.4)	7.9	(1.9)	7.5	(1.3)
Mycoplasma gallisepticum	18.1	(4.1)	8.9	(2.2)	16.0	(4.4)	16.0	(2.3)	12.6	(1.4)
Avian encephalomyelitis	9.8	(3.2)	6.3	(2.0)	6.6	(3.0)	6.2	(1.7)	6.6	(1.2)
Fowl cholera	16.3	(3.9)	14.5	(2.9)	8.6	(3.6)	13.0	(2.2)	13.8	(1.7)
Other	7.3	(2.8)	5.1	(1.8)	11.3	(3.8)	9.1	(1.8)	7.0	(1.2)

Percentage of Premises that Vaccinated Any Birds Against the Following Diseases in the Previous 12 Months



About two-thirds of large flocks (63.0 percent) were vaccinated against pox, and nearly half of large flocks (46.5 percent) were vaccinated against Newcastle disease. The most common “other” disease vaccinated against was coryza.

d. Percentage of premises that vaccinated any birds against the following diseases in the previous 12 months, by flock size:

	Percent Premises					
	Flock Size (Number of Birds)					
	Small (1 to 99)		**Medium** (100 to 499)		**Large** (500 or More)	
Vaccine	**Pct.**	**Std. Error**	**Pct.**	**Std. Error**	**Pct.**	**Std. Error**
Newcastle disease	31.0	(4.1)	24.4	(2.7)	46.5	(8.6)
Laryngotracheitis	13.4	(3.0)	5.9	(1.5)	8.8	(5.2)
Pox	52.7	(4.3)	46.1	(3.2)	63.0	(8.3)
Infectious bronchitis	22.2	(3.7)	16.2	(2.3)	25.1	(7.8)
Infectious bursal disease	11.0	(2.7)	4.0	(1.1)	17.8	(6.8)
Mycoplasma gallisepticum	12.3	(2.8)	11.4	(1.7)	21.3	(6.6)
Avian encephalomyelitis	9.5	(2.5)	4.7	(1.4)	8.7	(5.2)
Fowl cholera	16.5	(3.2)	12.3	(2.1)	14.2	(5.9)
Other	4.3	(1.8)	7.9	(1.5)	11.9	(5.7)

Injection was the most common route used to administer vaccine for Newcastle disease (66.8 percent of premises).

e. For premises that vaccinated against Newcastle disease in the previous 12 months, percentage of premises by route vaccine was administered:

Percent Premises			
Route			
Drinking Water		**Injection**	
Percent	**Standard Error**	**Percent**	**Standard Error**
49.0	(4.8)	66.8	(4.4)

Photo: courtesy of UGBA

Drinking water was the most common route used for laryngotracheitis vaccination.

f. For premises that vaccinated against laryngotracheitis, percentage of premises by route vaccine was administered:

Percent Premises					
Route					
Eyedropper		Spray		Drinking Water	
Percent	Standard Error	Percent	Standard Error	Percent	Standard Error
29.3	(7.6)	27.1	(8.1)	68.6	(8.1)

The majority of premises that vaccinated birds reported that they hatched chicks (96.1 percent of premises). For premises that vaccinated any birds, 55.1 percent vaccinated chicks against Marek's disease, and 41.0 percent hatched eggs but did not vaccinate chicks. Overall, 31.2 percent of all premises vaccinated chicks against Marek's disease.

g. For premises that vaccinated any birds, percentage of premises that vaccinated chicks against Marek's disease:

Percent Premises					
Yes		No		Did Not hatch chicks	
Percent	Standard Error	Percent	Standard Error	Percent	Standard Error
55.1	(3.3)	41.0	(3.3)	3.9	(1.4)

h. Percentage of all premises that vaccinated chicks against Marek's disease:

Percent Premises	Standard Error
31.2	(2.3)

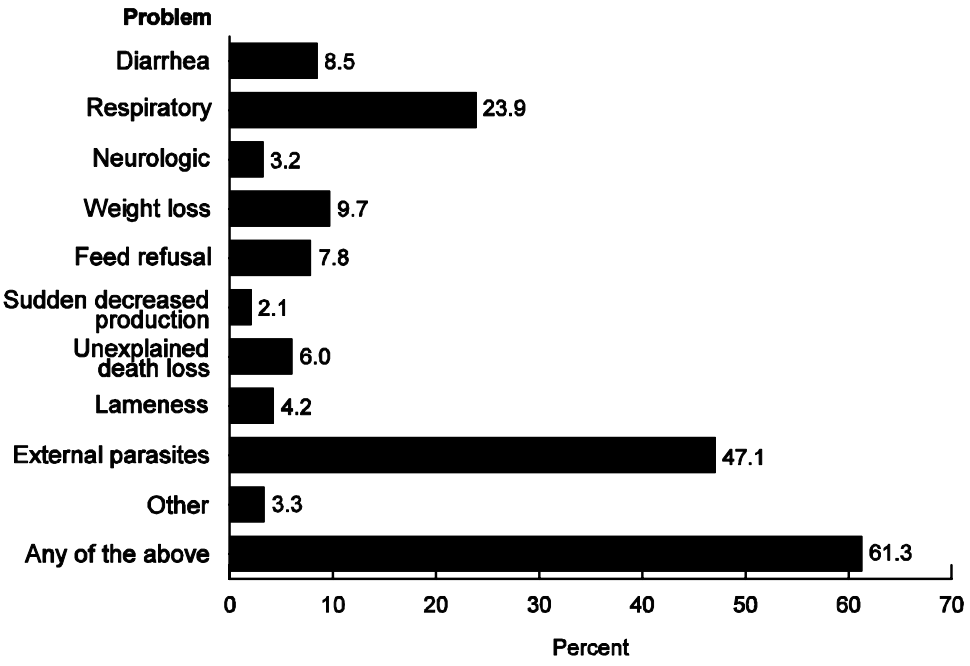
4. Bird health

About half of premises (47.1 percent) reported problems in their flocks with external parasites, and about one in four (23.9 percent) reported respiratory problems.

a. Percentage of premises that had the following flock health problems in the previous 3 months, by region:

	Percent Premises				
	Region				
	West	South Central	Northeast	Southeast	All
Problem	Pct. (Std. Error)	Pct. (Std. Error)	Pct. (Std. Error)	Pct. (Std. Error)	Pct. (Std. Error)
Diarrhea	14.6 (3.7)	9.8 (2.4)	0.7 (0.6)	6.1 (1.3)	8.5 (1.4)
Respiratory (nasal/eye discharge, cough/sneeze, swollen sinuses)	26.7 (4.7)	26.5 (3.6)	13.2 (4.0)	21.1 (2.4)	23.9 (2.1)
Neurologic (lack of coordination, weakness)	5.0 (2.4)	3.0 (1.4)	0.7 (0.6)	3.3 (0.9)	3.2 (0.8)
Weight loss	6.8 (2.6)	11.8 (2.6)	3.6 (2.0)	8.3 (1.6)	9.7 (1.5)
Feed refusal/depression (droopy birds)	7.9 (2.8)	9.2 (2.3)	5.7 (2.7)	6.0 (1.4)	7.8 (1.3)
Sudden decreased production not related to molting (reduced egg laying, hatching rate, no weight gain)	0.6 (0.5)	2.7 (1.3)	0.0 (--)	1.9 (0.7)	2.1 (0.7)
Unexplained death loss	5.6 (2.4)	6.1 (2.0)	8.6 (3.2)	5.4 (1.4)	6.0 (1.2)
Lameness	6.9 (2.7)	4.1 (1.6)	3.9 (2.0)	3.6 (1.0)	4.2 (0.9)
External parasites (mites, lice, etc.)	49.9 (5.3)	48.3 (4.0)	59.8 (5.3)	42.1 (2.9)	47.1 (2.4)
Other	1.9 (1.4)	3.3 (1.4)	2.2 (1.0)	4.0 (1.2)	3.3 (0.8)
Any of the above	61.1 (5.2)	64.4 (3.9)	67.3 (5.0)	55.4 (3.0)	61.3 (2.3)

Percentage of Premises that had Flock Health Problems in the Previous 3 Months, by Type of Problem



b. Percentage of premises that had the following flock health problems in the previous 3 months, by flock size:

	Percent Premises					
	Flock Size (Number of Birds)					
	Small (1 to 99)		**Medium** (100 to 499)		**Large** (500 or More)	
Problem	**Percent**	**Std. Error**	**Percent**	**Std. Error**	**Percent**	**Std. Error**
Diarrhea	4.2	(1.6)	10.8	(2.1)	11.0	(5.0)
Respiratory (nasal/eye discharge, cough/sneeze, swollen sinuses)	19.5	(3.4)	26.0	(2.8)	29.2	(7.5)
Neurologic (lack of coordination, weakness)	0.6	(0.4)	3.5	(1.1)	12.5	(6.1)
Weight loss	7.2	(2.3)	11.2	(2.1)	10.5	(4.9)
Feed refusal/depression (droopy birds)	7.8	(2.5)	7.7	(1.7)	7.9	(4.7)
Sudden decreased production not related to molting (reduced egg laying, hatching rate, no weight gain)	3.6	(1.7)	0.5	(0.3)	7.1	(4.6)
Unexplained death loss	4.3	(1.6)	6.9	(1.6)	5.8	(4.5)
Lameness	1.6	(1.0)	4.7	(1.4)	12.3	(5.2)
External parasites (mites, lice, etc.)	38.1	(4.0)	51.0	(3.1)	59.3	(8.1)
Other	1.7	(0.7)	3.8	(1.2)	7.0	(4.6)
Any of the above	50.9	(4.2)	66.6	(2.9)	70.1	(7.4)

5. Health resources

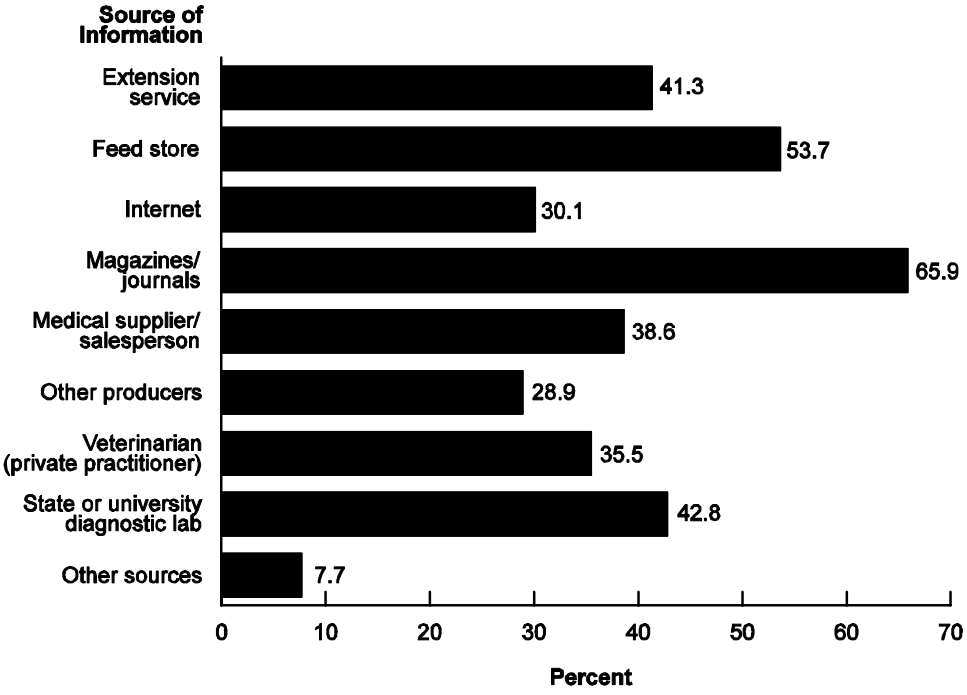
Two-thirds of premises (65.9 percent) ranked magazines and journals as very important sources of bird health information, and 53.7 percent ranked feed stores as very important. The importance of extension services and diagnostic labs as information sources increased as flock size increased (table b).

a. Percentage of premises by level of importance of the following sources of bird health information:

Percent Premises

	Importance of Source						
	Very Important		Somewhat Important		Not Important		
Information Source	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Total
Extension service	41.3	(2.4)	29.3	(2.1)	29.4	(2.2)	100.0
Feed store	53.7	(2.4)	29.8	(2.2)	16.5	(1.8)	100.0
Internet	30.1	(2.3)	30.5	(2.3)	39.4	(2.4)	100.0
Magazines/journals	65.9	(2.3)	26.4	(2.1)	7.7	(1.4)	100.0
Medical supplier/ salesperson	38.6	(2.4)	28.5	(2.1)	32.9	(2.3)	100.0
Other producers	28.9	(2.3)	34.9	(2.3)	36.2	(2.4)	100.0
Veterinarian (private practitioner)	35.5	(2.4)	29.9	(2.2)	34.6	(2.3)	100.0
State or university diagnostic lab	42.8	(2.4)	29.2	(2.2)	28.0	(2.2)	100.0
Other sources	7.7	(1.3)	8.7	(1.3)	83.6	(1.8)	100.0

Percentage of Premises that Ranked the Following Sources of Bird Health Information as Very Important



b. Percentage of premises that ranked the following sources of bird health information as very important, by flock size:

	Percent Premises					
	Flock Size (Number of Birds)					
	Small (1 to 99)		**Medium** (100 to 499)		**Large** (500 or More)	
Information Source	**Percent**	**Std. Error**	**Percent**	**Std. Error**	**Percent**	**Std. Error**
Extension service	39.1	(4.1)	39.2	(3.1)	65.4	(7.6)
Feed store	56.6	(4.1)	52.3	(3.1)	50.1	(8.5)
Internet	27.9	(3.9)	30.4	(2.9)	37.6	(8.0)
Magazines/journals	64.9	(4.0)	66.6	(2.9)	64.9	(8.6)
Medical supplier/ salesperson	40.8	(4.1)	35.6	(3.0)	49.7	(8.5)
Other producers	24.9	(3.8)	31.1	(3.0)	31.4	(8.0)
Veterinarian (private practitioner)	38.3	(4.1)	33.3	(3.0)	38.7	(8.3)
State or university diagnostic labs	39.0	(4.1)	42.6	(3.1)	61.2	(8.3)
Other sources	6.7	(2.0)	8.1	(1.8)	8.8	(4.9)

The majority of premises reported that veterinary care, vaccinations, and medications were readily available. However, veterinary care was more difficult to access than vaccinations and medications. Overall, 17.4 percent of premises ranked access to veterinary care as low (score 1 or 2 on a scale of 1 to 5), while 5.9 percent and 2.7 percent of premises ranked the availability of vaccinations and medications as low, respectively. The availability of products/ services increased as flock size increased (table e).

c. On a scale of 1 to 5, with 1 being not available and 5 being readily available, percentage of premises by availability of products/services for birds (whether or not they were used):

	Percent Premises					
	Product/Service					
	Veterinary Care		Vaccinations		Medications	
Score	Percent	Std. Error	Percent	Std. Error	Percent	Std. Error
1 Not available	8.4	(1.3)	1.3	(0.5)	0.2	(0.1)
2	9.0	(1.4)	4.6	(1.1)	2.5	(0.8)
3	15.0	(1.7)	10.5	(1.5)	6.8	(1.2)
4	9.8	(1.5)	12.0	(1.5)	12.0	(1.6)
5 Readily available	57.8	(2.4)	71.6	(2.2)	78.5	(2.0)
Total	100.0		100.0		100.0	

d. Percentage of premises where availability of products/services for birds was low (score 1 or 2), by region:

	Percent Premises									
	Region									
	West		South Central		Northeast		Southeast		All	
Product/Services	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
Veterinary care	22.3	(4.3)	16.4	(3.0)	17.5	(3.9)	17.7	(2.4)	17.4	(1.8)
Vaccinations	2.9	(1.6)	6.3	(2.0)	8.6	(3.0)	5.7	(1.4)	5.9	(1.2)
Medications	1.2	(1.0)	2.7	(1.3)	3.0	(1.6)	2.9	(0.9)	2.7	(0.8)

e. Percentage of premises where availability of products/services for birds was low (score 1 or 2), by flock size:

	Percent Premises					
	Flock Size (Number of Birds)					
	Small (1 to 99)		Medium (100 to 499)		Large (500 or More)	
Product/Service	Percent	Std. Error	Percent	Std. Error	Percent	Std. Error
Veterinary care	20.8	(3.4)	16.2	(2.3)	11.5	(6.1)
Vaccinations	8.2	(2.4)	5.4	(1.4)	0.0	(--)
Medications	3.2	(1.5)	2.5	(1.0)	1.3	(1.2)

C. Biosecurity

1. Dedicated footwear and clothing

About half of premises (52.2 percent) had some type of footwear-related requirement for people entering the bird area. The percentage of premises with footwear requirements increased as flock size increased (table b).

a. Percentage of premises by primary type of footwear-related precautions required for anyone going into bird areas, and by region:

	Percent Premises									
	Region									
	West		South Central		Northeast		Southeast		All	
Precaution	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
Boots or shoes worn only in bird area	20.6	(4.3)	12.1	(2.6)	17.5	(4.0)	22.0	(2.6)	16.4	(1.7)
Disposable boot or shoe covers	5.1	(2.4)	9.8	(2.5)	4.4	(2.4)	5.6	(1.5)	7.7	(1.4)
Use of footbath before or after entry	18.5	(4.1)	14.0	(2.8)	6.7	(3.1)	14.7	(2.1)	14.3	(1.7)
Scrub boots/shoes before or after entry	7.3	(2.8)	12.6	(2.7)	5.6	(2.7)	4.9	(1.1)	9.1	(1.5)
Combination of above	2.6	(1.7)	3.1	(1.4)	7.0	(3.3)	7.4	(1.5)	4.7	(0.9)
No requirements	45.9	(5.1)	48.4	(4.1)	58.8	(5.7)	45.4	(3.0)	47.8	(2.4)
Total	100.0		100.0		100.0		100.0		100.0	

b. Percentage of premises by primary type of footwear-related precautions required for anyone going into the bird areas, and by flock size:

	Percent Premises					
	Flock Size (Number of Birds)					
	Small (1 to 99)		Medium (100 to 499)		Large (500 or More)	
Precaution	Percent	Std. Error	Percent	Std. Error	Percent	Std. Error
Boots or shoes worn only in bird area	16.8	(3.0)	16.4	(2.2)	16.3	(5.6)
Disposable boot or shoe covers	6.9	(2.2)	9.3	(2.0)	0.0	(--)
Use of footbath before or after entry	12.0	(2.7)	13.4	(2.1)	29.1	(7.8)
Scrub boots/shoes before or after entry	12.0	(3.0)	7.9	(1.8)	4.5	(4.3)
Combination of above	1.7	(0.8)	5.3	(1.3)	13.7	(5.4)
No requirements	50.6	(4.2)	47.7	(3.2)	36.4	(8.2)
Total	100.0		100.0		100.0	

Most premises never required dedicated clothing to be worn in bird areas. Requirements were similar across regions and flock sizes.

c. Percentage of premises that required dedicated clothing be worn before entering the bird areas, by frequency and by region:

	Percent Premises									
	Region									
	West		South Central		Northeast		Southeast		All	
Frequency	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
Always	5.9	(2.5)	7.1	(2.1)	7.5	(3.1)	6.3	(1.5)	6.7	(1.2)
Sometimes	17.2	(4.1)	16.2	(3.0)	18.5	(4.6)	17.0	(2.3)	16.7	(1.8)
Never	76.9	(4.6)	76.7	(3.5)	74.0	(5.2)	76.7	(2.6)	76.6	(2.1)
Total	100.0		100.0		100.0		100.0		100.0	

d. Percentage of premises that required dedicated clothing be worn before entering bird areas, by frequency and by flock size:

Percent Premises

Flock Size (Number or Birds)

Frequency	Small (1 to 99) Percent	Small (1 to 99) Std. Error	Medium (100 to 499) Percent	Medium (100 to 499) Std. Error	Large (500 or More) Percent	Large (500 or More) Std. Error
Always	6.8	(2.1)	6.6	(1.6)	7.6	(4.8)
Sometimes	12.7	(2.7)	18.6	(2.5)	19.9	(6.2)
Never	80.5	(3.3)	74.8	(2.8)	72.5	(7.3)
Total	100.0		100.0		100.0	

2. Hand washing

On 58.1 percent of premises, hand washing was always or sometimes required before handling poultry.

a. Percentage of premises that required hand washing ***before*** handling poultry, by frequency and by region:

Percent Premises

Region

Frequency	West Pct.	West Std. Error	South Central Pct.	South Central Std. Error	Northeast Pct.	Northeast Std. Error	Southeast Pct.	Southeast Std. Error	All Pct.	All Std. Error
Always	21.9	(4.4)	27.5	(3.7)	21.4	(4.6)	26.1	(2.8)	26.2	(2.2)
Sometimes	30.5	(4.9)	33.2	(3.9)	41.4	(5.9)	28.5	(2.8)	31.9	(2.3)
Never	47.6	(5.3)	39.3	(4.0)	37.2	(5.8)	45.4	(3.1)	41.9	(2.4)
Total	100.0		100.0		100.0		100.0		100.0	

On 71.8 percent of premises, hand washing was always or sometimes required after handling poultry.

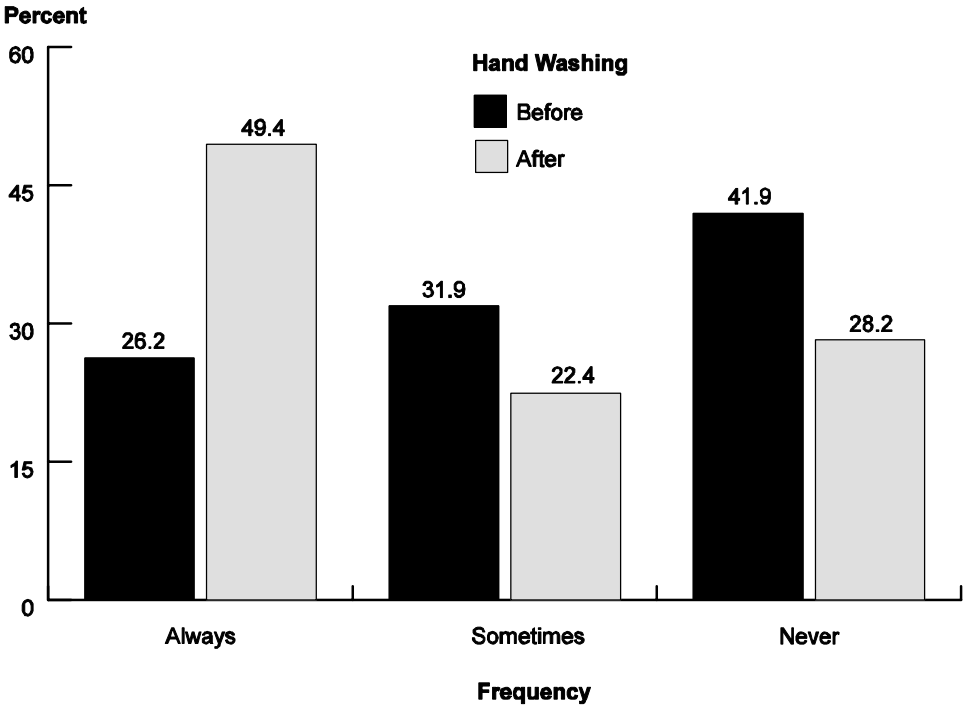
b. Percentage of premises that required hand washing ***after*** handling poultry, by frequency and by region:

Percent Premises

Region

	West		South Central		Northeast		Southeast		All	
Frequency	**Pct.**	**Std. Error**	**Pct.**	**Std. Error**	**Pct.**	**Std. Error**	**Pct.**	**Std. Error**	**Pct.**	**Std. Error**
Always	47.0	(5.3)	55.3	(4.1)	38.6	(5.8)	42.9	(3.1)	49.4	(2.4)
Sometimes	21.4	(4.2)	20.3	(3.3)	29.2	(5.0)	24.9	(2.6)	22.4	(2.0)
Never	31.6	(4.8)	24.4	(3.5)	32.2	(5.5)	32.2	(2.8)	28.2	(2.1)
Total	100.0		100.0		100.0		100.0		100.0	

Percentage of Premises that Required Hand Washing Before and After Handling Poultry, by Frequency



3. Visitors

Visitors were sometimes or always allowed in bird areas on 46.3 percent of premises, and 61.8 percent of those premises asked visitors about contact with other birds before being allowed in bird areas (table c).

a. Percentage of premises where visitors such as neighbors, repairmen, meter readers, etc., were allowed in bird areas, by frequency and by region:

Percent Premises

	Region									
	West		**South Central**		**Northeast**		**Southeast**		**All**	
Frequency	**Pct.**	**Std. Error**	**Pct.**	**Std. Error**	**Pct.**	**Std. Error**	**Pct.**	**Std. Error**	**Pct.**	**Std. Error**
Always	9.0	(3.1)	5.4	(1.8)	8.9	(3.3)	6.5	(1.6)	6.3	(1.1)
Sometimes	29.7	(4.7)	37.4	(3.9)	44.1	(5.7)	46.3	(3.0)	40.0	(2.3)
Never	61.3	(5.1)	57.2	(4.0)	47.0	(5.8)	47.2	(3.0)	53.7	(2.4)
Total	100.0		100.0		100.0		100.0		100.0	

b. Percentage of premises where visitors such as neighbors, repairmen, meter readers, etc., were allowed in the poultry area, by frequency and by flock size:

Percent Premises

	Flock Size (Number or Birds)					
	Small (1 to 99)		**Medium** 100 to 499		**Large** 500 or More	
Frequency	**Percent**	**Standard Error**	**Percent**	**Standard Error**	**Percent**	**Standard Error**
Always	7.1	(2.2)	5.3	(1.3)	8.5	(4.8)
Sometimes	37.7	(4.0)	41.7	(3.0)	38.0	(7.8)
Never	55.2	(4.1)	53.0	(3.1)	53.5	(8.3)
Total	100.0		100.0		100.0	

c. For premises where visitors were allowed in bird areas, percentage of premises that asked visitors about contact with other birds before allowing entrance, by frequency:

Percent Premises						
How Frequently Asked						
Always		Sometimes		Never		
Percent	Standard Error	Percent	Standard Error	Percent	Standard Error	Total
21.5	(2.9)	40.3	(3.5)	38.2	(3.5)	100.0

4. Ponds and bird feeders

Ponds that attract wild waterfowl were present on 16.0 percent of all premises, ranging from 12.0 percent of premises in the West region to 24.4 percent in the Northeast region.

a. Percentage of premises with a pond on the property that attracts wild waterfowl, by region:

Percent Premises									
Region									
West		South Central		Northeast		Southeast		All	
Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
12.0	(3.5)	14.8	(2.8)	24.4	(4.4)	17.5	(2.2)	16.0	(1.7)

Wild bird feeders on premises were more common in the Northeast and Southeast regions than in the West and South Central regions.

b. Percentage of premises with a wild bird feeder, by region:

Percent Premises									
Region									
West		South Central		Northeast		Southeast		All	
Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
9.3	(2.8)	9.7	(2.4)	27.1	(4.7)	23.8	(2.6)	15.3	(1.6)

D. Bird Movement

1. Bird introductions

Fertilized eggs for hatching were brought onto 9.6 percent of premises in the previous 12 months.

a. Percentage of premises that brought fertilized eggs for hatching onto the premises in the previous 12 months, by region:

Percent Premises

Region									
West		South Central		Northeast		Southeast		All	
Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
17.9	(4.0)	9.5	(2.4)	6.6	(2.5)	7.9	(1.7)	9.6	(1.4)

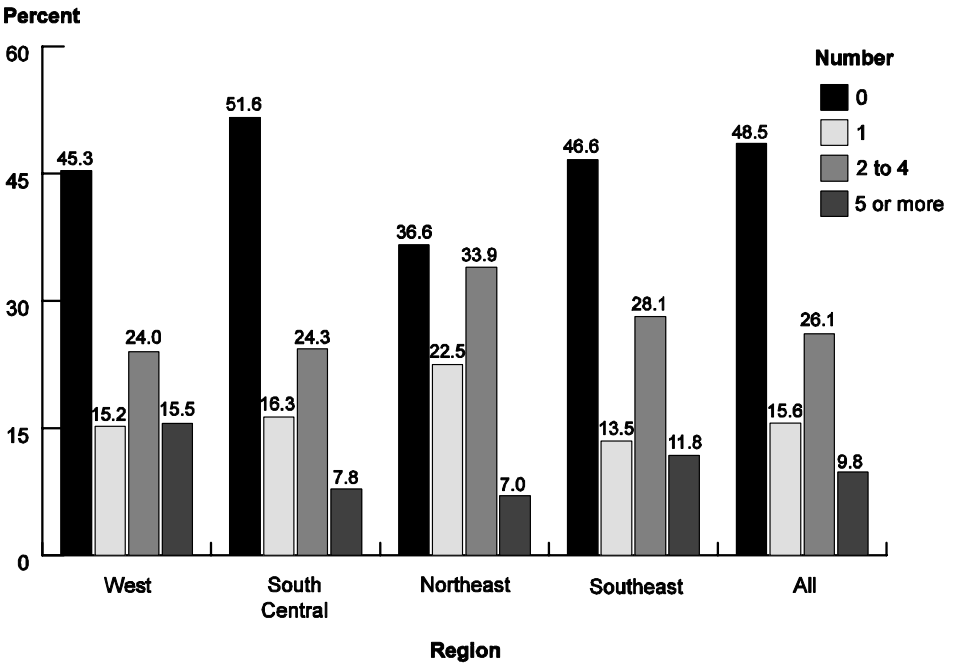
Just over half of premises (51.5 percent) introduced new birds into the flock one or more times during the previous 12 months, and 9.8 percent introduced new birds five or more times.

b. Percentage of premises by number of times in the previous 12 months that new birds were introduced into the flock, by region:

Percent Premises

	Region									
	West		South Central		Northeast		Southeast		All	
Number	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
0	45.3	(5.2)	51.6	(4.1)	36.6	(5.7)	46.6	(3.0)	48.5	(2.4)
1	15.2	(3.8)	16.3	(3.0)	22.5	(4.9)	13.5	(2.0)	15.6	(1.7)
2 to 4	24.0	(4.6)	24.3	(3.5)	33.9	(5.6)	28.1	(2.6)	26.1	(2.1)
5 or more	15.5	(3.8)	7.8	(2.2)	7.0	(2.9)	11.8	(2.0)	9.8	(1.4)
Total	100.0		100.0		100.0		100.0		100.0	

Percentage of Premises by Number of Times in the Previous 12 Months that New Birds Were Introduced into the Flock, by Region



c. Percentage of premises by number of times in the previous 12 months that new birds were introduced into the flock, by flock size:

Percent Premises

Flock Size (Number of Birds)

	Small (1 to 99)		**Medium** (100 to 499)		**Large** (500 or More)	
Number	**Percent**	**Std. Error**	**Percent**	**Std. Error**	**Percent**	**Std. Error**
0	50.2	(4.2)	45.7	(3.2)	60.0	(7.9)
1	16.9	(3.0)	15.9	(2.4)	8.0	(3.2)
2 to 4	24.6	(3.6)	27.7	(2.8)	21.4	(6.2)
5 or more	8.3	(2.4)	10.7	(1.8)	10.6	(5.2)
Total	100.0		100.0		100.0	

Most premises that introduced new birds in the previous 12 months introduced adult birds into the flock (85.0 percent of premises), while only 15.7 percent introduced day-old chicks.

d. For premises that introduced new birds in the previous 12 months, percentage of premises by age group of new birds:

Percent Premises					
Age Group					
Day-Old Chicks		Young Stock (Not of Reproductive Age)		Adult Birds (Reproductive Age)	
Percent	Standard Error	Percent	Standard Error	Percent	Standard Error
15.7	(2.4)	41.7	(3.2)	85.0	(2.4)

Only 3.5 percent of premises that introduced new birds in the previous 12 months placed the new birds directly into the flock without a separation or quarantine period. The remainder either quarantined new arrivals (66.9 percent of premises) or had no other birds at the time of introduction (29.6 percent of premises).

e. For premises that introduced new birds in the previous 12 months, percentage of premises by whether new birds were separated or quarantined from the rest of the flock:

Separated New Birds	Percent Premises	Standard Error
Yes	66.9	(3.1)
No	3.5	(1.2)
No other birds present upon arrival	29.6	(3.0)
Total	100.0	

New birds were quarantined for 7 to 20 days on 48.0 percent of premises, while 44.5 percent of premises quarantined birds for 21 days or longer.

f. For premises that separated or quarantined new birds, percentage of premises by number days separated or quarantined:

Number of Days	Percent Premises	Standard Error
1 to 6	7.5	(2.4)
7 to 20	48.0	(4.0)
21 to 30	30.4	(3.5)
31 or more	14.1	(3.1)
Total	100.0	

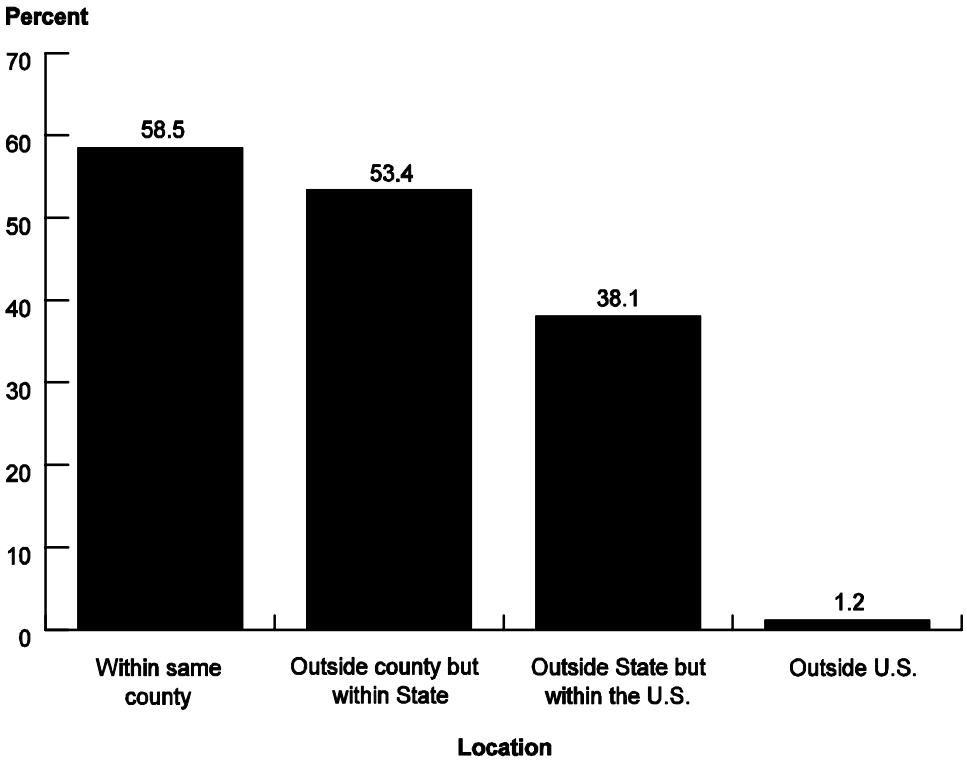
Photo: courtesy of UGBA

For premises that introduced new birds in the previous 12 months, 58.5 percent obtained new birds from within their county, and 53.4 percent obtained new birds outside their county but within their State. Very few premises with new birds (1.2 percent) obtained the birds from outside the United States.

g. For premises that introduced new birds in the previous 12 months, percentage of premises by source location of new birds:

Location	Percent Premises	Standard Error
Within same county	58.5	(3.1)
Outside county but within State	53.4	(3.2)
Outside State but within the United States	38.1	(3.1)
Outside United States	1.2	(0.7)

For Premises that Introduced New Birds in the Previous 12 Months, Percentage of Premises by Source Location of New Birds



Health certificates accompanied all or some new birds on 31.0 percent of premises that received new birds.

h. For premises that introduced new birds in the previous 12 months, percentage of premises by proportion of new birds accompanied by a health certificate:

Proportion	Percent Premises	Standard Error
All	14.1	(2.3)
Some	16.9	(2.5)
None	69.0	(3.0)
Total	100.0	

Private individuals such as neighbors and friends were the most common source of new birds (92.9 percent of premises), while 12.4 percent of premises with new additions obtained the birds via mail order or the Internet.

i. For premises that introduced new birds in the previous 12 months, percentage of premises by source of new birds:

Source	Percent Premises	Standard Error
Local commercial hatchery	2.1	(1.0)
Poultry wholesaler or dealer	4.2	(1.3)
Private individual (e.g., neighbor)	92.9	(1.7)
Feed or farm store	2.3	(0.9)
Fair or show	8.0	(1.9)
Flea or farmer’s market	2.2	(1.0)
Auction market	2.5	(1.0)
Mail order or Internet	12.4	(2.0)
Other	2.8	(1.1)

For premises that introduced new birds, 70.1 percent destroyed the bedding material that arrived with new birds. Of those premises that did not destroy bedding, 21.9 percent reused the bedding for birds.

j. For premises that introduced new birds in the previous 12 months, percentage of premises that destroyed (e.g., burned) bedding material that arrived with new birds:

Percent Premises	Standard Error
70.1	(3.1)

k. For premises that did not destroy bedding, percentage of premises that reused the bedding for birds:

Percent Premises	Standard Error
21.9	(5.8)

2. Sales

Overall, 70.9 percent of premises had sold or gave away live birds in the previous 12 months. The percentage of premises that sold or gave away birds increased as flock size increased.

a. Percentage of premises that sold or gave away any live birds in the previous 12 months, by region:

Percent Premises									
Region									
West		South Central		Northeast		Southeast		All	
Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
76.6	(4.5)	65.6	(3.9)	73.6	(4.6)	77.2	(2.6)	70.9	(2.2)

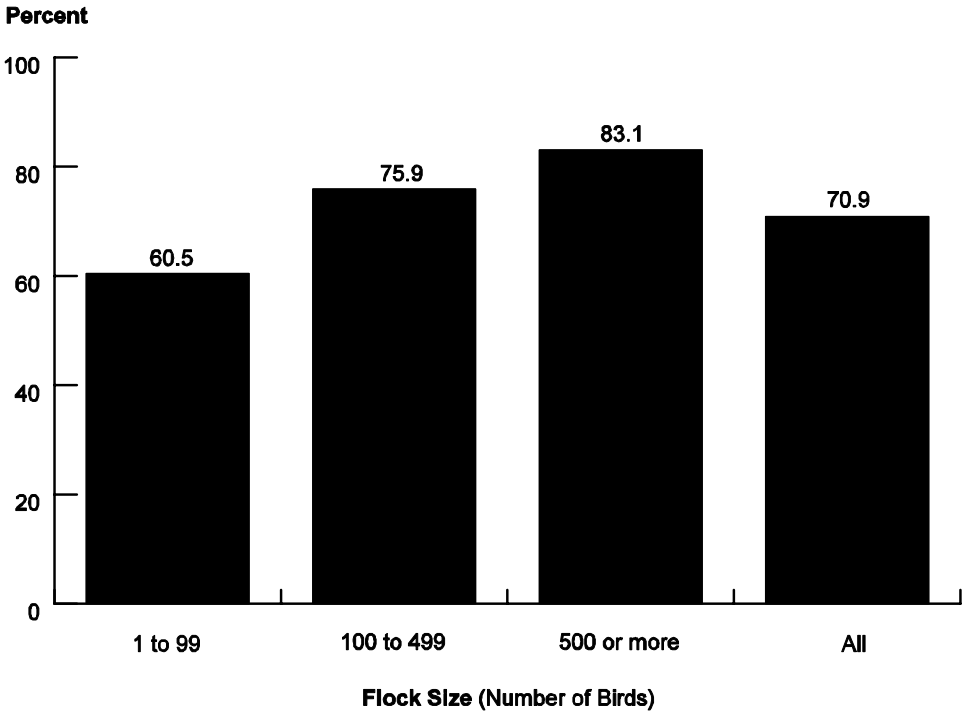
b. Percentage of premises that sold or gave away any live birds in the previous 12 months, by flock size:

Percent Premises

Flock Size (Number of Birds)

Small (1 to 99)		**Medium** (100 to 499)		**Large** (500 or More)	
Percent	**Standard Error**	**Percent**	**Standard Error**	**Percent**	**Standard Error**
60.5	(4.2)	75.9	(2.7)	83.1	(7.3)

Percentage of Premises that Sold or Gave Away Any Live Birds in the Previous 12 months, by Flock Size



The most common means by which birds were sold or given away was to a private individual such as a neighbor or friend (93.3 percent of premises). Mail order or the Internet was used by 12.6 percent of premises that sold or gave away live birds.

c. For premises that sold or gave away any live birds in the previous 12 months, percentage of premises by means birds were sold or given away:

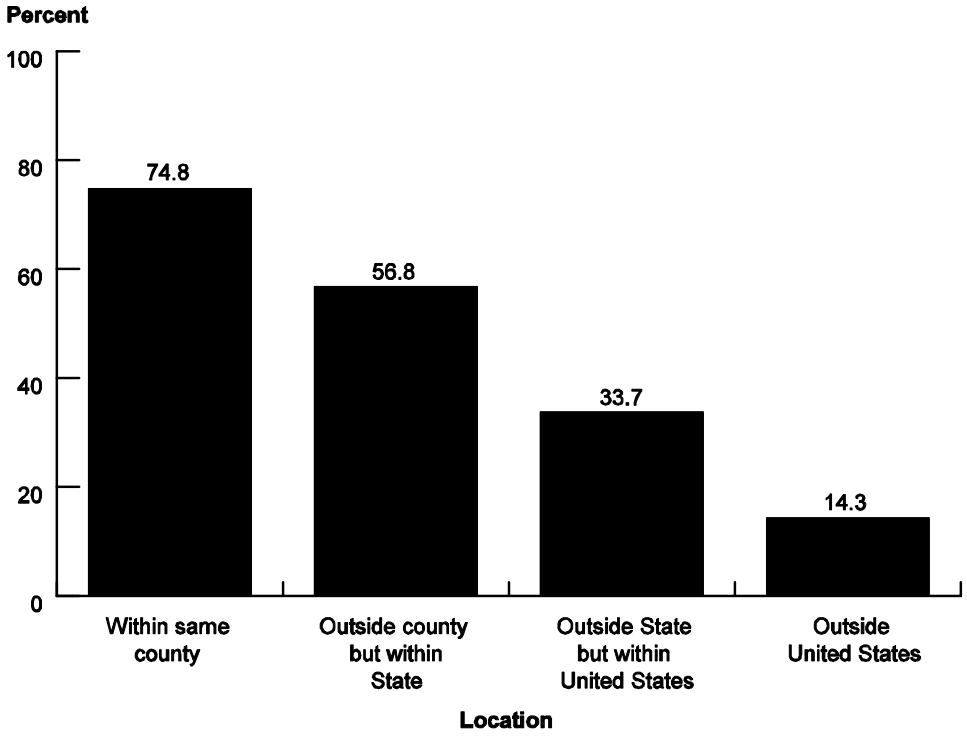
Means	Percent Premises	Standard Error
Poultry wholesaler or dealer	4.8	(1.2)
Private individual (e.g., neighbor)	93.3	(1.4)
Feed or farm store	3.8	(1.0)
Fair or show	5.6	(1.2)
Live bird market	2.8	(0.8)
Flea or farmer's market	3.0	(0.7)
Auction market	4.6	(1.0)
Mail order or Internet	12.6	(1.9)
Other	1.6	(0.7)

For premises that sold or gave away any live birds in the previous 12 months, 74.8 percent did so within their county, and 56.8 percent did so outside their own county but within their State. Interstate sales occurred on one-third of premises (33.7 percent). Although obtaining birds from outside the United States was very rare (1.2 percent of premises that obtained birds, table 1g), international sales occurred on 14.3 percent of premises that sold birds.

d. For premises that sold or gave away any live birds in the previous 12 months, percentage of premises by destination of birds sold or given away:

Destination	Percent Premises	Standard Error
Within same county	74.8	(2.4)
Outside county but within State	56.8	(2.8)
Outside State but within United States	33.7	(2.5)
Outside United States	14.3	(1.9)

For Premises that Sold or Gave Away Any Live Birds in the Previous 12 Months, Percentage of Premises by Destination of Birds Sold or Given Away



3. Contact with other premises with birds

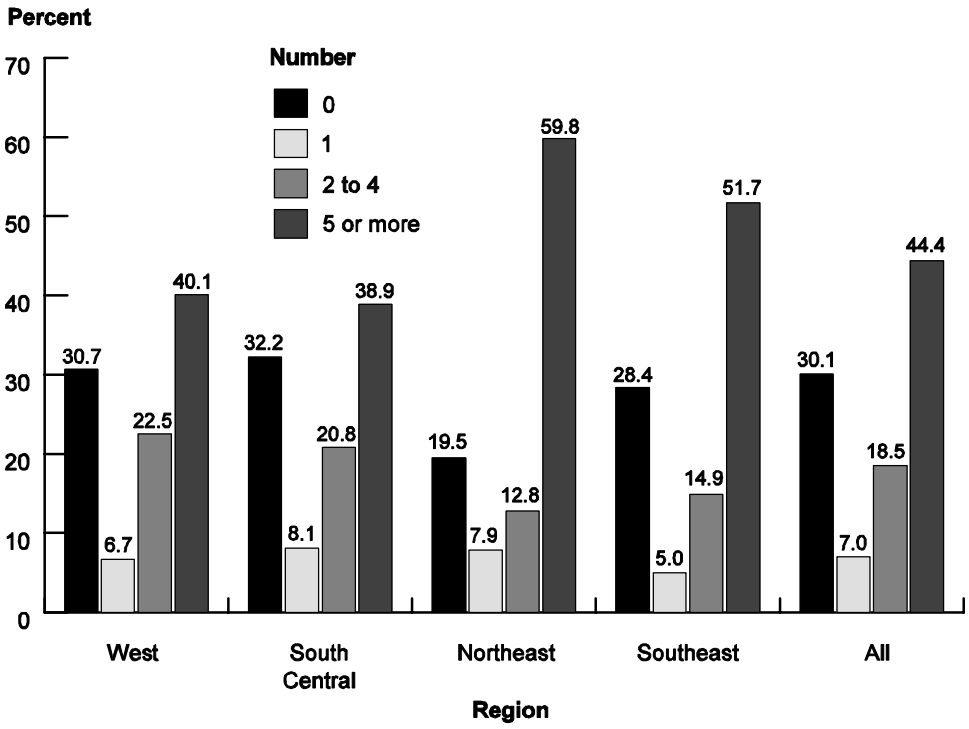
Two-thirds of premises (69.9 percent) took birds to locations where other birds were present and returned them to the flock in the previous 12 months. Nearly half of premises (44.4 percent) did so five or more times. Movement of birds was more frequent in the Northeast region.

a. Percentage of premises by number of times in the previous 12 months birds were taken to a location where other birds were present (fair, show, etc.) and returned to the flock, and by region:

Percent Premises

	Region									
	West		South Central		Northeast		Southeast		All	
Number	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
0	30.7	(4.9)	32.2	(3.8)	19.5	(4.7)	28.4	(2.8)	30.1	(2.2)
1	6.7	(2.7)	8.1	(2.2)	7.9	(2.9)	5.0	(1.2)	7.0	(1.3)
2 to 4	22.5	(4.4)	20.8	(3.3)	12.8	(4.3)	14.9	(2.1)	18.5	(1.9)
5 or more	40.1	(5.0)	38.9	(3.9)	59.8	(5.9)	51.7	(3.1)	44.4	(2.4)
Total	100.0		100.0		100.0		100.0		100.0	

Percentage of Premises by Number of Times in the Previous 12 Months Birds Were Taken to a Location Where Other Birds Were Present and Returned to the Flock, and by Region



Medium and large flocks moved and returned birds more frequently than small flocks.

b. Percentage of premises by number of times in the previous 12 months birds were taken to a location where other birds were present (fair, show, etc.) and returned to the flock, and by flock size:

Percent Premises

Flock Size (Number or Birds)

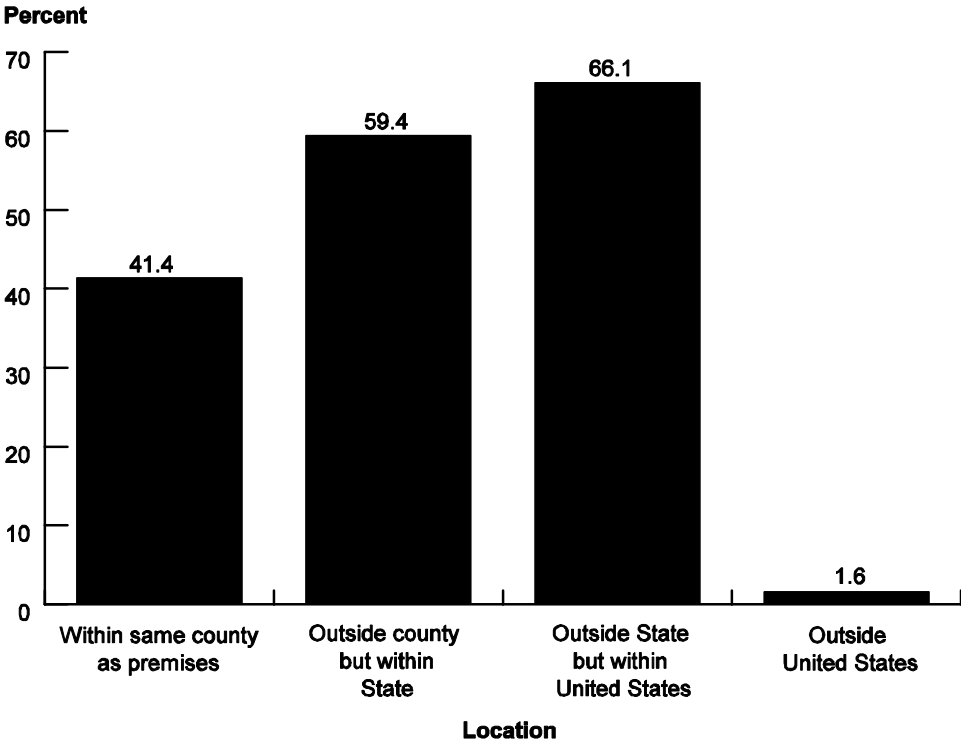
	Small (1 to 99)		**Medium** (100 to 499)		**Large** (500 or More)	
Number	**Percent**	**Std. Error**	**Percent**	**Std. Error**	**Percent**	**Std. Error**
0	42.3	(4.2)	22.9	(2.7)	27.3	(7.6)
1	9.0	(2.5)	6.2	(1.5)	1.3	(1.2)
2 to 4	20.9	(3.5)	17.6	(2.4)	15.7	(6.5)
5 or more	27.8	(3.6)	53.3	(3.1)	55.7	(8.4)
Total	100.0		100.0		100.0	

Two-thirds of premises (66.1 percent) moved birds to another State and returned them to the flock. International movement was rare (1.6 percent of premises).

c. For premises that took birds to another location and returned them to the flock in the previous 12 months, percentage of premises by location birds were taken:

Location	Percent Premises	Standard Error
Within same county as premises	41.4	(2.6)
Outside county but within State	59.4	(2.8)
Outside State but within United States	66.1	(2.3)
Outside United States	1.6	(0.7)

For Premises that Took Birds to Another Location and Returned Them to the Flock in the Previous 12 Months, Percentage of Premises by Location Birds were Taken



Birds were sometimes or always isolated upon returning to the home flock on 69.7 percent of premises that moved and returned birds.

d. For premises that took birds to another location and returned them to the flock in the previous 12 months, percentage of premises that isolated the birds before placing them with other birds on the premises, by frequency of isolation:

Frequency	Percent Premises	Standard Error
Always	41.4	(2.8)
Sometimes	28.3	(2.5)
Never	28.2	(2.6)
No other birds on premises	2.1	(0.8)
Total	100.0	

Overall, 71.2 percent of respondents visited a location such as a market or feed store where birds were present in the previous 3 months. This percentage was similar across regions and flock sizes.

e. Percentage of premises where respondent visited a location that had live birds (e.g., market, feed store with birds, fair, or neighbor’s premises) in the previous 3 months, by region:

Percent Premises									
Region									
West		South Central		Northeast		Southeast		All	
Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
74.6	(4.6)	69.1	(3.7)	65.7	(5.1)	74.6	(2.7)	71.2	(2.2)

f. Percentage of premises where respondent visited a location that had live birds (e.g., market, feed store with birds, fair, or neighbor's premises) in the previous 3 months, by flock size:

Percent Premises					
Flock Size (Number of Birds)					
Small (1 to 99)		**Medium** (100 to 499)		**Large** (500 or More)	
Percent	**Standard Error**	**Percent**	**Standard Error**	**Percent**	**Standard Error**
67.6	(4.0)	73.4	(2.8)	70.8	(8.3)

Most respondents who visited a location with live birds (71.9 percent), washed their hands before re-entering their own bird area. One-third of respondents (32.4 percent) showered before re-entering their bird area. Other precautions included scrubbing boots.

g. For premises where respondent visited a location that had live birds in the previous 3 months, percentage of premises where the following biosecurity measures were taken by respondent before re-entering their own bird area:

Biosecurity Measure	Percent Premises	Standard Error
Change clothes	36.9	(2.8)
Change boots or shoes (or foot covers)	42.1	(2.8)
Wash hands	71.9	(2.5)
Shower	32.4	(2.7)
Other precautions	11.4	(1.7)

4. Bird transportation

Most premises (85.4 percent) transported birds by vehicle at some time during the previous 12 months.

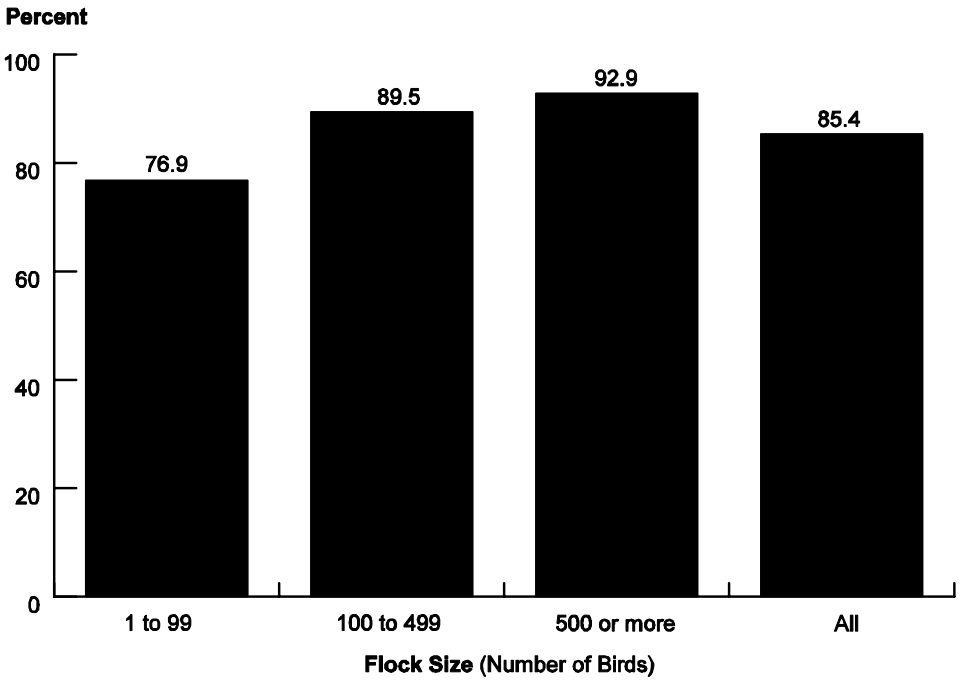
a. Percentage of premises that transported birds for any reason (using their own vehicle or one under their control) in the previous 12 months, by flock size:

Percent Premises

Flock Size (Number of Birds)

Small (1 to 99)		**Medium** (100 to 499)		**Large** (500 or More)		**All**	
Percent	**Standard Error**	**Percent**	**Standard Error**	**Percent**	**Standard Error**	**Percent**	**Standard Error**
76.9	(3.7)	89.5	(1.9)	92.9	(4.6)	85.4	(1.8)

Percentage of Premises that Transported Birds for Any Reason (Using Their Own Vehicle or One Under Their Control) in the Previous 12 Months, by Flock Size



Only 9.4 percent of premises that transported birds by vehicle observed feathers or droppings escape the vehicle while en route.

b. For premises that transported birds by vehicle, percentage of premises that observed feathers, droppings, or feather-down escape the vehicle while en route:

Percent Premises	Standard Error
9.4	(1.6)

Over one-third of premises that transported birds by vehicle (38.8 percent) averaged 150 or more miles per trip.

c. For premises that transported birds by vehicle, percentage of premises by average miles traveled per trip:

Miles	Percent Premises	Standard Error
1 to 5	5.3	(1.2)
6 to 149	55.9	(2.6)
150 or more	38.8	(2.6)
Total	100.0	

Half of premises (50.2 percent) had taken an overnight trip.

d. For premises that transported birds by vehicle, percentage of premises that had taken birds on any overnight trips:

Percent Premises	Standard Error
50.2	(2.6)

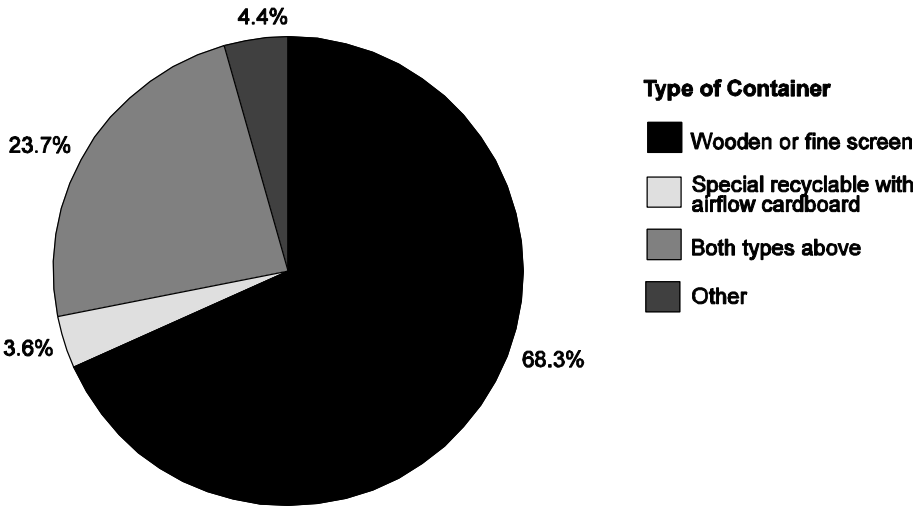
Photo: courtesy of UGBA

Nearly all premises that transported birds by vehicle used wooden or fine-screen containers (92.0 percent), either exclusively (68.3 percent of premises) or in addition to special recyclable containers with airflow cardboard (23.7 percent of premises).

e. For premises that transported birds by vehicle, percentage of premises by type of travel containers (shipping crates) used:

Travel Container	Percent Premises	Standard Error
Wooden or fine screen only	68.3	(2.4)
Special recyclable with airflow cardboard only	3.6	(1.0)
Both types above	23.7	(2.2)
Other	4.4	(1.0)
Total	100.0	

For Premises that Transported Birds by Vehicle, Percentage of Premises by Type of Travel Containers (Shipping Crates) Used



Transportation by air was uncommon (15.1 percent of premises, overall), although over half of large flocks (56.2 percent) had transported birds by air in the previous 12 months.

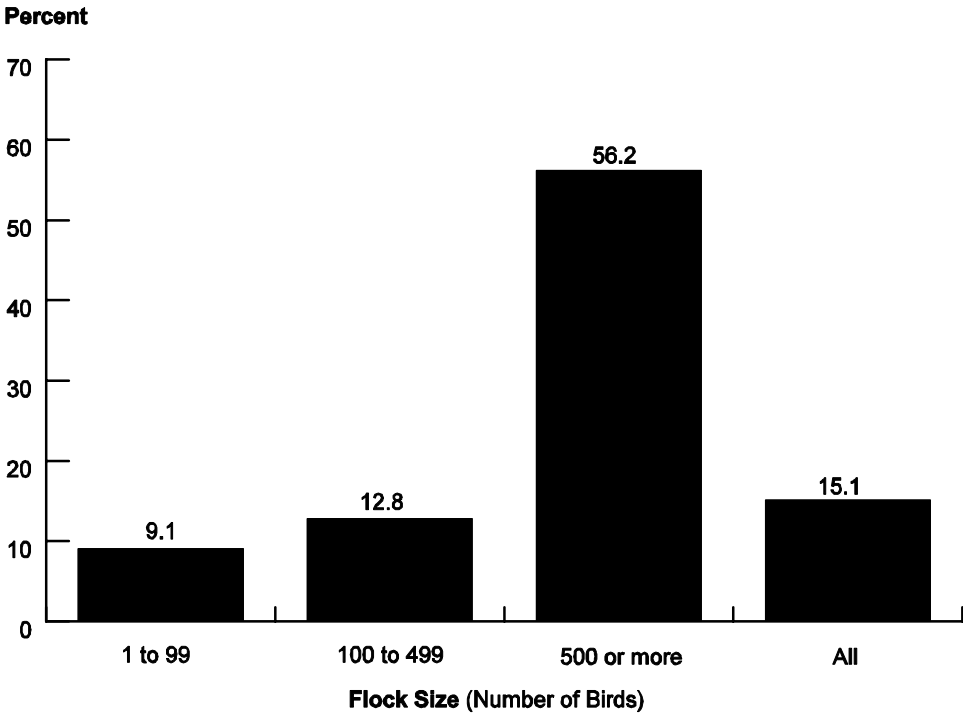
f. Percentage of premises that transported any birds by air (including U.S. Mail), by flock size:

Percent Premises

Flock Size (Number of Birds)

Small (1 to 99)		**Medium** (100 to 499)		**Large** (500 or More)		**All**	
Pct.	**Std. Error**	**Pct.**	**Std. Error**	**Pct.**	**Std. Error**	**Pct.**	**Std. Error**
9.1	(2.2)	12.8	(1.8)	56.2	(8.4)	15.1	(1.6)

Percentage of Premises that Transported Any Birds by Air (Including U.S. Mail), by Flock Size



g. For premises that transported birds by air, percentage of premises by frequency new (never used) shipping crates were used:

Frequency	Percent Premises	Standard Error
Always	80.8	(4.8)
Often	11.1	(3.7)
Sometimes	7.0	(3.4)
Rarely/never	1.1	(1.1)
Total	100.0	

Reusing the crates used for birds delivered to the premises was uncommon (17.6 percent of premises that transported by air). Most premises that reused crates (80.2 percent) disinfected them before reuse.

h. For premises that transported birds by air, percentage of premises that reused the crates used to deliver birds to the premises:

Percent Premises	Standard Error
17.6	(4.7)

i. For premises that transported birds by air and reused shipping crates, percentage of premises that disinfected the crates before reusing:

Percent Premises	Standard Error
80.2	(10.3)

E. Carcass and Litter Disposal

1. Dead birds

On 82.1 percent of premises, at least one bird died during the previous 12 months (excluding birds slaughtered for human consumption). All premises with 500 or more birds had at least one bird death (table b).

a. Percentage of premises where any birds died in the previous 12 months (excluding birds slaughtered for human consumption), by region:

Percent Premises									
Region									
West		South Central		Northeast		Southeast		All	
Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
78.2	(4.7)	79.2	(3.5)	82.6	(5.1)	87.5	(2.2)	82.1	(2.0)

b. Percentage of premises where any birds died in the previous 12 months (excluding birds slaughtered for human consumption), by flock size:

Percent Premises

Flock Size (Number of Birds)

Small (1 to 99)		Medium (100 to 499)		Large (500 or More)	
Percent	**Standard Error**	**Percent**	**Standard Error**	**Percent**	**Standard Error**
72.3	(4.1)	86.6	(2.3)	100.0	(--)

Overall, 8.6 percent of birds died in the previous 12 months (excluding birds slaughtered for human consumption). Although more large flocks had at least one death compared to small flocks (table b), the percentage of birds that died decreased as flock size increased.

c. Percentage of birds that died[1] in the previous 12 months (excluding birds slaughtered for human consumption), by region:

Percent Birds

Region

West		South Central		Northeast		Southeast		All	
Pct.	**Std. Error**	**Pct.**	**Std. Error**	**Pct.**	**Std. Error**	**Pct.**	**Std. Error**	**Pct.**	**Std. Error**
7.6	(1.2)	8.7	(1.7)	11.2	(1.5)	8.3	(0.9)	8.6	(0.9)

[1]As a percentage of inventory on day survey completed

d. Percentage of birds that died[1] in the previous 12 months (excluding birds slaughtered for human consumption), by flock size:

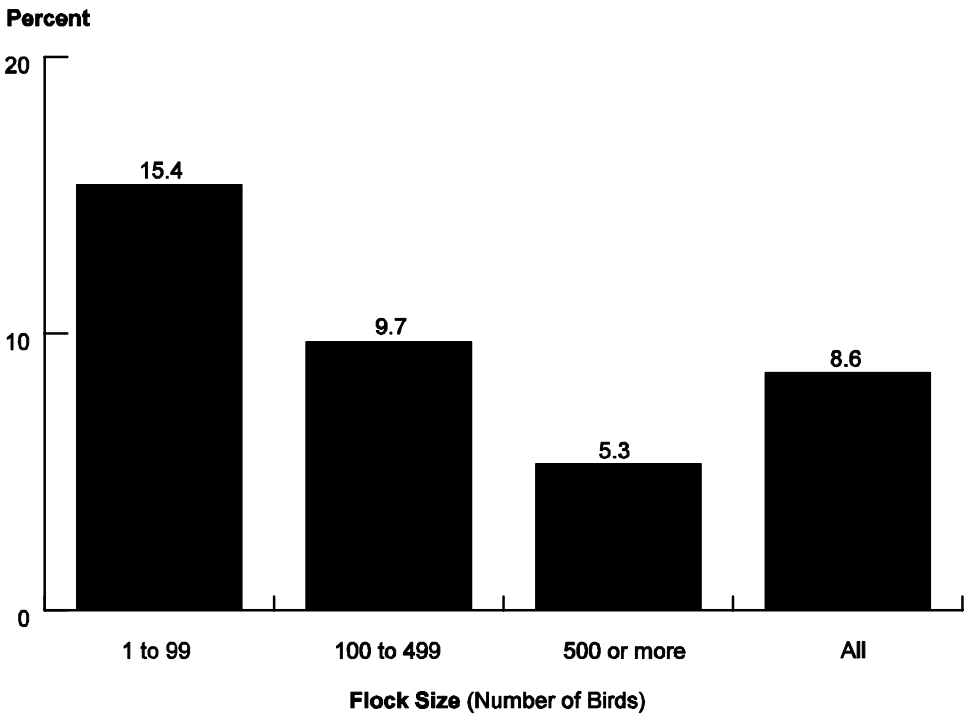
Percent Birds

Flock Size (Number of Birds)

Small (1 to 99)		Medium (100 to 499)		Large (500 or More)	
Percent	**Standard Error**	**Percent**	**Standard Error**	**Percent**	**Standard Error**
15.4	(1.6)	9.7	(0.8)	5.3	(1.7)

[1]As a percentage of inventory on day survey completed

Percentage of Birds that Died[1] in the Previous 12 Months (Excluding Birds Slaughtered For Human Consumption), by Flock Size



[1]As a percentage of inventory on day survey completed

Incineration was the most common method of dead bird disposal (43.5 percent of premises), ranging from 32.3 percent of premises in the Southeast region to 51.7 percent of premises in the South Central region. Burial on the premises was the most common method used in the Southeast region (37.8 percent).

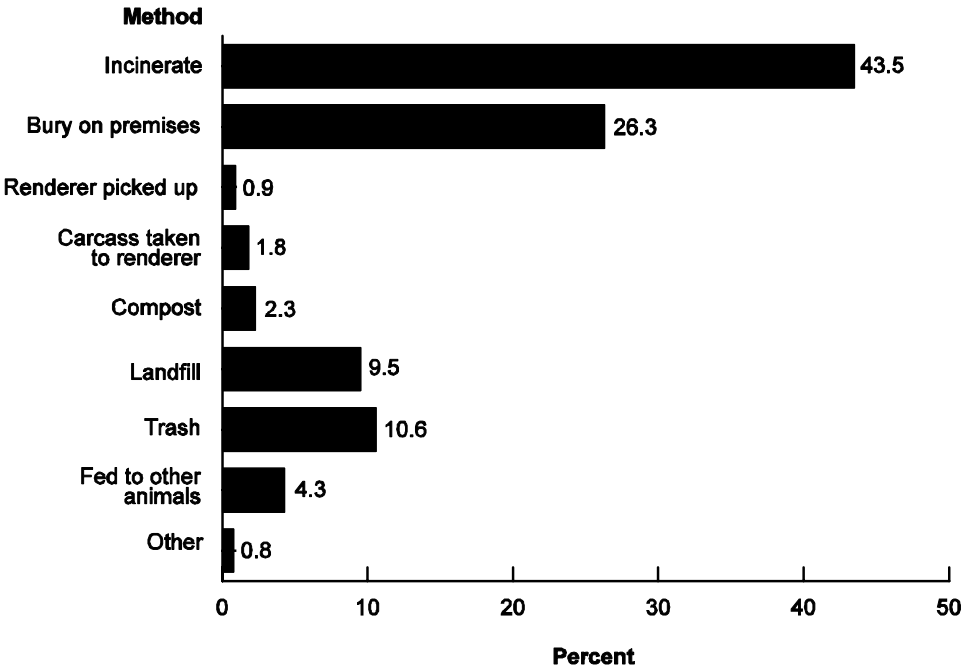
e. For premises where any birds died in the previous 12 months, percentage of premises by ***primary*** method of dead bird disposal and by region:

Percent Premises

Region

	West		South Central		Northeast		Southeast		All	
Method	**Pct.**	**Std. Error**	**Pct.**	**Std. Error**	**Pct.**	**Std. Error**	**Pct.**	**Std. Error**	**Pct.**	**Std. Error**
Incinerate	39.1	(5.7)	51.7	(4.4)	43.7	(6.1)	32.3	(3.0)	43.5	(2.6)
Bury on premises	27.9	(5.4)	18.7	(3.5)	21.4	(4.7)	37.8	(3.0)	26.3	(2.1)
Renderer picked up	0.0	(--)	0.0	(--)	1.7	(1.6)	2.4	(1.1)	0.9	(0.4)
Carcass taken to renderer	0.0	(--)	3.4	(1.6)	0.0	(--)	0.3	(0.3)	1.8	(0.8)
Compost	4.1	(2.2)	2.9	(1.5)	0.0	(--)	1.4	(0.7)	2.3	(0.8)
Landfill	9.8	(3.6)	9.2	(2.6)	18.5	(4.9)	8.4	(1.7)	9.5	(1.5)
Trash	15.1	(4.3)	9.6	(2.6)	8.4	(3.6)	11.3	(2.1)	10.6	(1.6)
Fed to other animals	1.7	(1.6)	3.7	(1.7)	6.3	(3.0)	5.5	(1.4)	4.3	(1.0)
Other	2.3	(1.6)	0.8	(0.8)	0.0	(--)	0.6	(0.4)	0.8	(0.5)
Total	100.0		100.0		100.0		100.0		100.0	

For Premises Where Any Birds Died in the Previous 12 Months, Percentage of Premises by Primary Method of Dead Bird Disposal



Large flocks were less likely to take birds to a landfill than small or medium flocks.

f. For premises where any birds died in the previous 12 months, percentage of premises by ***primary*** method of dead bird disposal and by flock size:

	Percent Premises					
	Flock Size (Number of Birds)					
	Small (1 to 99)		**Medium** (100 to 499)		**Large** (500 or More)	
Method	**Percent**	**Std. Error**	**Percent**	**Std. Error**	**Percent**	**Std. Error**
Incinerate	37.8	(4.8)	46.4	(3.3)	42.5	(8.5)
Bury on premises	27.1	(4.0)	24.7	(2.6)	34.7	(8.0)
Renderer picked up	0.7	(0.5)	1.2	(0.6)	0.0	(--)
Carcass taken to renderer	0.0	(--)	2.3	(1.2)	4.7	(4.5)
Compost	1.2	(0.7)	2.1	(1.0)	7.4	(4.8)
Landfill	10.0	(3.0)	10.5	(2.0)	1.0	(0.9)
Trash	14.4	(3.3)	9.4	(2.0)	5.0	(2.4)
Fed to other animals	7.2	(2.3)	2.8	(0.9)	4.7	(4.5)
Other	1.6	(1.4)	0.6	(0.3)	0.0	(--)
Total	100.0		100.0		100.0	

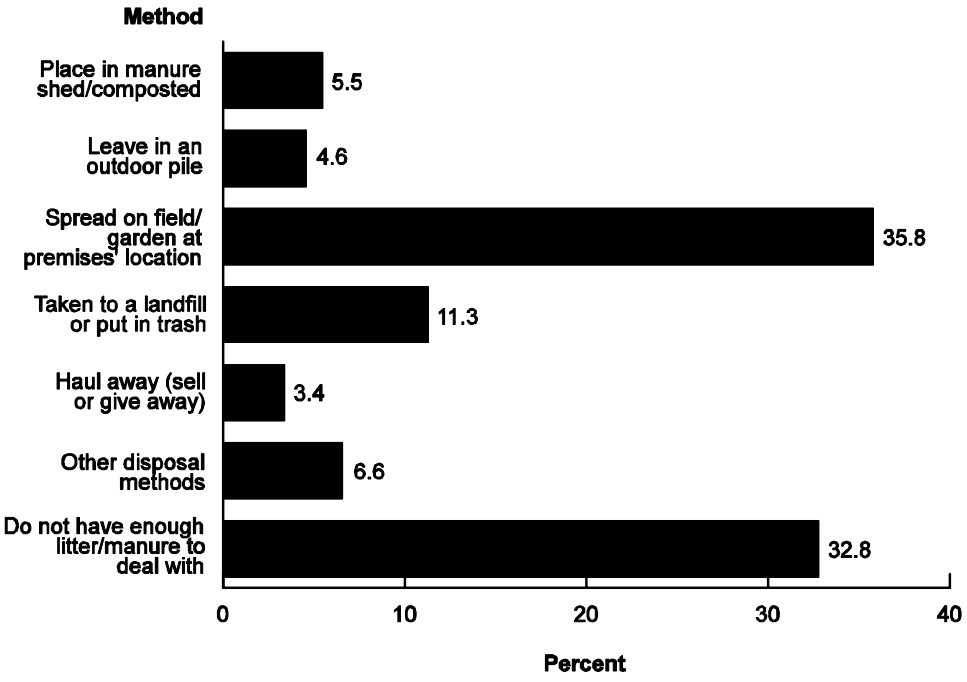
2. Litter

The most common disposal method for litter and manure was to spread on fields or gardens (35.8 percent of premises), ranging from 30.8 percent of premises in the South Central region to 57.7 percent of premises in the Northeast region. About one-third of premises (32.8 percent) did not have enough litter or manure to deal with. This percentage was similar across size groups (table b).

a. Percentage of premises by method that best describes how premises disposed of used poultry litter and manure, and by region:

	Percent Premises									
	Region									
	West		South Central		Northeast		Southeast		All	
Method	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
Place in manure shed/composted	7.1	(2.8)	3.5	(1.5)	6.6	(2.6)	8.0	(1.7)	5.5	(1.0)
Leave in an outdoor pile	5.2	(2.3)	4.3	(1.7)	8.4	(2.8)	4.2	(1.3)	4.6	(1.0)
Spread on field/garden at premises' location	45.5	(5.2)	30.8	(3.8)	57.7	(5.9)	36.9	(2.9)	35.8	(2.3)
Taken to a landfill or put in trash	10.9	(3.4)	16.5	(3.0)	0.0	(--)	5.4	(1.5)	11.3	(1.7)
Haul away (sell or give away)	2.4	(1.4)	3.4	(1.4)	7.3	(3.1)	2.9	(1.0)	3.4	(0.8)
Other disposal methods	5.7	(2.4)	8.8	(2.3)	2.2	(1.5)	4.1	(1.3)	6.6	(1.3)
Do not have enough litter/manure to deal with	23.2	(4.5)	32.7	(3.8)	17.8	(4.6)	38.5	(3.0)	32.8	(2.3)
Total	100.0		100.0		100.0		100.0		100.0	

Percentage of Premises by Method that Best Describes How Premises Disposed of Used Poultry Litter and Manure



b. Percentage of premises by method that best describes how premises disposed of used poultry litter and manure, and by flock size:

	Percent Premises					
	Flock Size (Number of Birds)					
	Small (1 to 99)		**Medium** (100 to 499)		**Large** (500 or More)	
Method	**Percent**	**Std. Error**	**Percent**	**Std. Error**	**Percent**	**Std. Error**
Place in manure shed/composted	5.1	(1.8)	5.4	(1.4)	8.0	(3.2)
Leave in an outdoor pile	2.8	(1.3)	6.1	(1.5)	1.6	(1.5)
Spread on field/garden at premises location	32.5	(4.0)	36.4	(2.9)	42.9	(8.3)
Taken to a landfill or put in trash	16.7	(3.5)	9.5	(2.0)	2.6	(2.5)
Haul away (sell or give away)	0.7	(0.4)	4.5	(1.3)	6.1	(4.6)
Other disposal methods	5.8	(2.0)	7.4	(1.8)	4.6	(4.4)
Do not have enough litter/manure to deal with	36.4	(4.1)	30.7	(2.9)	34.2	(8.3)
Total	100.0		100.0		100.0	

F. Producer Characteristics

1. Reason for having birds

The most common reason for having birds was for fun/hobby, which ranked very high for 75.9 percent of premises. In addition, 65.3 percent of premises ranked family tradition and lifestyle as very high reasons for having birds. “Other” reasons included love of birds, teaching children, and the right to own birds.

a. Percentage of premises by reason premises had birds and by level of importance[1] of those reasons:

Percent Premises

	Importance								
	Low (1 to 3)		Moderate (4 to 6)		High (7 to 9)		Very High (10)		
Reason	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Total
Family tradition	9.4	(1.5)	8.5	(1.4)	16.8	(1.8)	65.3	(2.3)	100.0
Fun/hobby	3.6	(1.0)	3.3	(0.9)	17.2	(1.9)	75.9	(2.1)	100.0
Extra income	41.4	(2.4)	22.6	(2.1)	12.7	(1.7)	23.3	(2.1)	100.0
Food	64.1	(2.4)	18.5	(1.9)	8.9	(1.5)	8.5	(1.4)	100.0
Lifestyle/ambiance	4.7	(0.9)	8.3	(1.4)	21.7	(2.0)	65.3	(2.3)	100.0
Clubs/social interactions (4H, avian organizations)	40.4	(2.5)	19.3	(1.9)	15.9	(1.8)	24.4	(2.1)	100.0
Other reasons to have birds	70.8	(2.3)	0.9	(0.4)	2.0	(0.7)	26.3	(2.2)	100.0

[1] On a scale of 1 to 10 with 1 being least important and 10 being most important

Reasons for having birds were ranked high or very high by a similar percentage of respondents across regions.

b. Percentage of premises that rated the following reasons for having birds as high or very high (score of 7 to 10), by region:

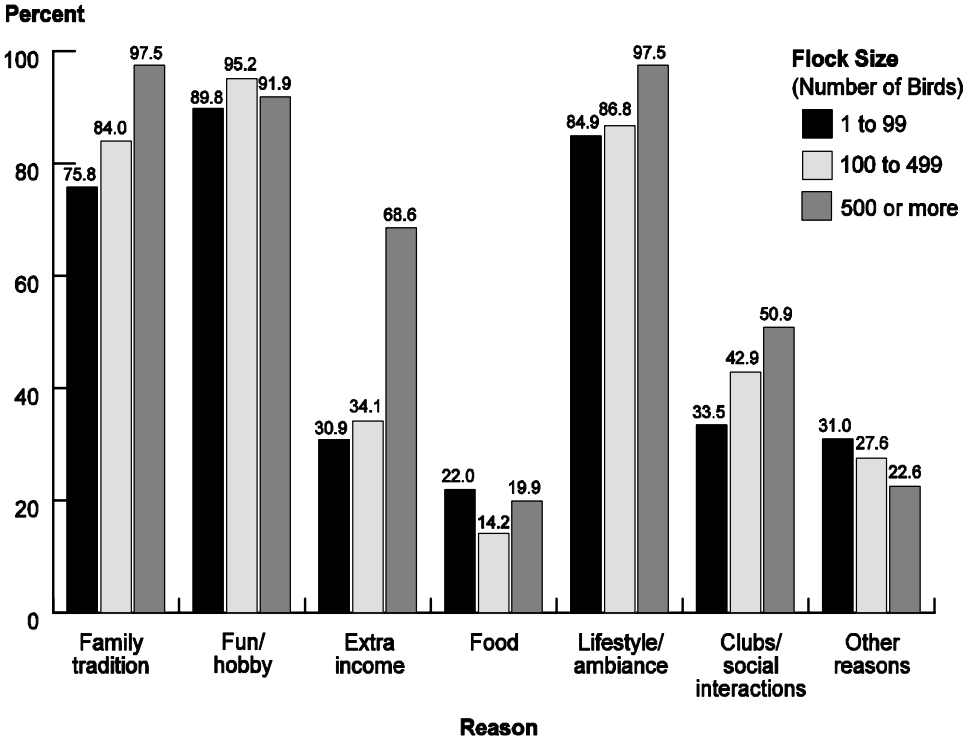
	Percent Premises									
	Region									
	West		South Central		Northeast		Southeast		All	
Reason	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
Family tradition	79.7	(4.4)	80.1	(3.3)	88.7	(4.0)	84.8	(2.2)	82.1	(1.9)
Fun/hobby	92.7	(2.8)	90.7	(2.4)	96.8	(2.1)	96.3	(1.1)	93.1	(1.3)
Extra income	33.2	(5.2)	38.5	(4.1)	16.7	(4.4)	36.3	(3.1)	36.0	(2.4)
Food	16.1	(4.0)	19.9	(3.5)	13.5	(3.7)	14.8	(2.2)	17.4	(1.9)
Lifestyle/ambiance	86.9	(3.8)	86.4	(2.9)	86.8	(4.1)	88.1	(1.9)	87.0	(1.7)
Clubs/social interactions (4H, avian organizations)	44.4	(5.5)	37.8	(4.2)	41.0	(5.9)	42.7	(3.1)	40.3	(2.4)
Other reasons to have birds	26.0	(4.7)	29.0	(3.9)	19.8	(4.5)	29.6	(2.8)	28.3	(2.2)

Family tradition, extra income, and clubs/social interaction increased in importance as flock size increased.

c. Percentage of premises that rated the following reasons for having birds as high or very high (score of 7 to 10), by flock size:

	Percent Premises					
	Flock Size (Number of Birds)					
	Small (1 to 99)		**Medium** (100 to 499)		**Large** (500 or More)	
Reason	**Percent**	**Std. Error**	**Percent**	**Std. Error**	**Percent**	**Std. Error**
Family tradition	75.8	(3.8)	84.0	(2.3)	97.5	(1.7)
Fun/hobby	89.8	(2.8)	95.2	(1.5)	91.9	(5.1)
Extra income	30.9	(4.2)	34.1	(3.1)	68.6	(7.8)
Food	22.0	(3.8)	14.2	(2.3)	19.9	(7.2)
Lifestyle/ambiance	84.9	(3.3)	86.8	(2.1)	97.5	(1.7)
Clubs/social interactions (4H, avian organizations)	33.5	(4.2)	42.9	(3.2)	50.9	(8.5)
Other reasons to have birds	31.0	(4.1)	27.6	(2.9)	22.6	(6.6)

Percentage of Premises that Rated the Following Reasons for Having Birds as High or Very High, by Flock Size



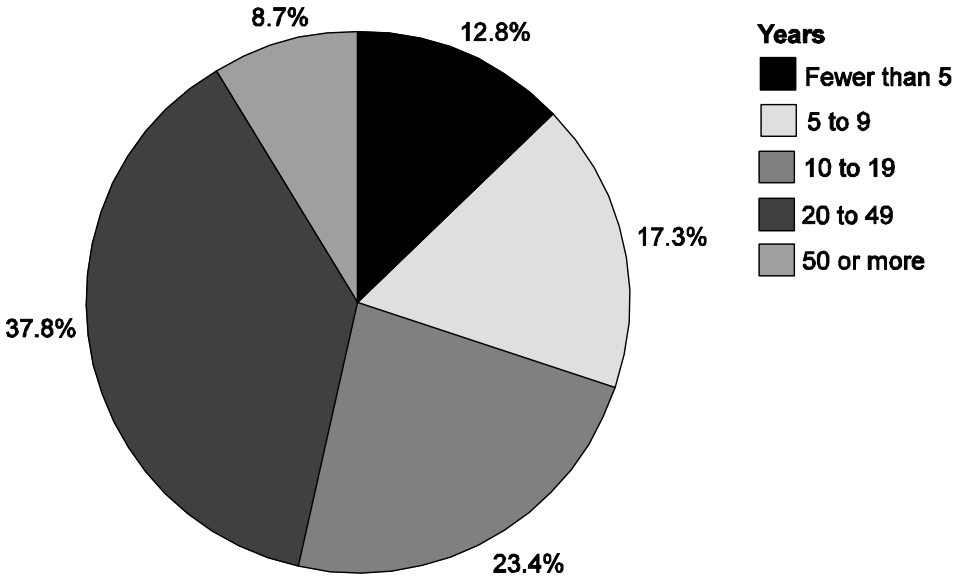
2. Duration of bird ownership

Birds had been family-raised on the premises for 20 or more years on 46.5 percent of premises and for 50 or more years on 8.7 percent of premises, indicating a long tradition of having birds in these families. Family members had raised birds on the premises for 20 or more years on 67.5 percent of premises in the Northeast region.

a. Percentage of premises by number of years birds had been raised by the family on that premises, and by region:

	Percent Premises				
	Region				
	West	South Central	Northeast	Southeast	All
Number of Years	Pct. Std. Error	Pct. Std. Error	Pct. Std. Error	Pct. Std. Error	Pct. Std. Error
Fewer than 5	8.3 (2.9)	14.2 (2.8)	5.5 (3.0)	13.2 (2.0)	12.8 (1.6)
5 to 9	14.3 (3.6)	20.6 (3.3)	6.3 (2.9)	14.7 (2.0)	17.3 (1.9)
10 to 19	28.7 (4.8)	23.8 (3.5)	20.7 (4.3)	21.6 (2.5)	23.4 (2.0)
20 to 49	42.5 (5.1)	35.2 (3.8)	54.6 (5.4)	37.8 (2.9)	37.8 (2.3)
50 or more	6.2 (2.5)	6.2 (2.0)	12.9 (3.8)	12.7 (2.1)	8.7 (1.3)
Total	100.0	100.0	100.0	100.0	100.0

Percentage of Premises by Number of Years Birds Had Been Raised by the Family on That Premises



3. Employment in commercial poultry industry

Overall, less than 1 percent of premises had someone in the household that worked for a commercial poultry operation.

a. Percentage of premises where someone in the household worked for a commercial poultry production or processing facility, by region:

Percent Premises

Region

West		South Central		Northeast		Southeast		All	
Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
1.3	(1.3)	0.7	(0.7)	1.8	(1.7)	0.6	(0.4)	0.8	(0.4)

b. Percentage of premises where someone in the household worked for a commercial poultry production or processing facility, by flock size:

Percent Premises

Flock Size (Number of Birds)

Small (1 to 99)		Medium (100 to 499)		Large (500 or More)	
Percent	Standard Error	Percent	Standard Error	Percent	Standard Error
1.7	(1.1)	0.2	(0.2)	1.4	(1.3)

4. UGBA affiliates

The survey for this report was mailed to members of UGBA State affiliates and to members of State associations not affiliated with UGBA. Overall, 87.0 percent of respondents were UGBA State affiliate members, ranging from 79.0 percent of respondents in the South Central region to 96.7 percent in the Southeast region.

a. Percentage of premises where producer belonged to UGBA State affiliate, by region:

Percent Premises									
Region									
West		South Central		Northeast		Southeast		All	
Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
93.0	(2.7)	79.0	(3.3)	92.8	(2.9)	96.7	(1.1)	87.0	(1.8)

b. Percentage of premises where producer belonged to UGBA State affiliate, by flock size:

Percent Premises					
Flock Size (Number of Birds)					
Small (1 to 99)		Medium (100 to 499)		Large (500 or More)	
Percent	Standard Error	Percent	Standard Error	Percent	Standard Error
81.7	(3.5)	88.3	(2.3)	100.0	(--)

UGBA members had been invited recently to complete a similar survey by another organization, but only 1.8 percent of respondents indicated they had done so.

c. Percentage of premises that had completed a similar survey by another organization in the previous 6 months:

Percent Premises	Standard Error
1.8	(0.7)

Section II: Methodology

A. Needs Assessment

NAHMS develops study objectives by exploring existing literature and contacting industry members and other stakeholders about their informational needs and priorities during a needs assessment phase. For Poultry ’04, the following activities were conducted:

- A focus group consisting of industry, State, Federal, and university representatives met at the World Poultry Exposition in Atlanta, Georgia, in January 2002.
- A needs assessment questionnaire was distributed to poultry veterinarians via the presidents of the egg layer, broiler, and turkey veterinary groups. This questionnaire was also distributed to State and Federal veterinarians, and laboratory and research personnel.
- Discussions were held with each of the poultry veterinary groups at the American Association of Avian Pathologists meeting in Denver, Colorado, in July 2002.
- Additional discussions occurred at the United States Animal Health Association Transmissible Diseases of Poultry Committee. This committee recommended that Poultry ’04 focus its efforts addressing bird health, movement, and biosecurity practices of nontraditional poultry industries.

B. Sampling and Estimation

1. Mailing list

The entire mailing list for all State affiliates of the UGBA was selected (approximately 10,000 names). Articles appeared in several gamefowl magazines promoting the study, and a presentation was made at the UGBA annual meeting in Biloxi, Mississippi, in August 2004.

2. Population inferences

Inferences cover the population of UGBA members (and members of State associations not affiliated with UGBA) in the United States. All respondent data were statistically weighted for nonresponse to reflect the population from which they were selected. The number of surveys mailed to each State, or cluster of small States, minus the number of undeliverable surveys returned was used as the initial number of “good surveys” mailed out. Because individuals could belong to more than one affiliate organization, they may have been on more than one list. Therefore, this number was reduced to account for the number of duplicate surveys, calculated as the number undeliverable surveys returned that were duplicate addresses, to come up with the number of good surveys mailed out. This number was divided by the number of complete surveys returned to create the weight.

C. Data Collection

Surveys were mailed out in November 2004. Completed surveys returned by March 10, 2005, were entered into a SAS data set and summarized for this report.

D. Data Analysis

1. Validation and estimation

Data were entered into a SAS data set. Validation checks were performed to identify numeric extremes, improper categorical responses, skip patterns not followed, and relational checks. Weighted point estimates were generated using SUDAAN software, which accounts for sampling methodology and clustering.

2. Response rate

An estimated 8,882 unique surveys were mailed out, with 628 usable surveys returned (7.1 percent). Response rate ranged from 3 percent in Texas to 25 percent in Colorado.

Number of surveys mailed out, returned undeliverable, duplicate addresses (for undeliverables), and completed surveys:

Mailed out	10,759
- Undeliverable	1,179
= Delivered	9,580
Duplicate undeliverable	86 (7.3%)
Estimated unique delivered (nonduplicate)	8,882
Returned Completed surveys	628 (7.1%)

Appendix I: Sample Profile

1. Number of respondents, by region:

Number of Respondents				
Region				
West	**South Central**	**Northeast**	**Southeast**	**Total**
90	167	81	290	628

2. Number of respondents, by flock size:

Number of Respondents					
Flock Size (Number of Birds)					
0	**1 to 99**	**100 to 499**	**500 or More**	**Missing**	**Total**
13	200	362	47	6	628

Appendix II: U.S. Poultry Statistics—2004[1, 2]

Region	State	Broiler Production (1,000 head)	Eggs Produced (Million)	Turkeys Raised (1,000 head)
West	*California	**	5,380	15,700
	*Colorado	**	1,105	**
	*Washington	**	1,332	**
	Total	**	7,817	15,700
South Central	*Arkansas	1,241,500	3,565	28,500
	*Missouri	**	1,865	21,500
	*Oklahoma	243,800	**	**
	*Texas	620,700	4,825	**
	Total	2,106,000	10,255	50,000
North Central	Iowa	**	11,613	9,000
	Minnesota	46,300	2,930	46,500
	Nebraska	4,300	3,174	**
	North Dakota	**	**	1,000
	South Dakota	**	**	4,500
	Total	50,600	17,717	61,000
Northeast	*Delaware	240,700	**	**
	*Illinois	**	1,044	2,900
	Indiana	**	6,256	13,300
	*Maryland	284,600	**	**
	*Michigan	**	2,009	5,000
	New York	2,600	1,163	**
	*Ohio	41,600	7,355	5,800
	*Pennsylvania	133,500	6,585	12,000
	*Virginia	263,000	**	19,700
	*West Virginia	86,400	**	3,200
	Wisconsin	33,800	1,206	**
	Total	1,086,200	25,618	61,900
Southeast	*Alabama	1,052,000	2,099	**
	*Florida	78,500	3,068	**
	*Georgia	1,298,900	5,038	**
	*Kentucky	290,800	1,231	**
	*Mississippi	827,800	1,606	**
	*North Carolina	720,200	2,522	39,000
	*South Carolina	204,500	1,351	12,000
	*Tennessee	195,900	**	**
	Total	4,668,600	16,915	51,000
Total		7,911,400	78,322	239,600
Other States		829,250	10,809	24,607
Total U.S. (50 States)		8,740,650	89,131	264,207

*Participated in the Gamefowl component of the Poultry '04 study
**State estimates less than 1 million head (1billion eggs) combined in "Other States" category.
[1]Source: NASS April 2005 Poultry Production and Value, 2004 Summary
[2] Top commercial poultry producing States; statistics for noncommercial poultry not available

Appendix III: Poultry ‘04 Study Objectives and Related Outputs

Objectives: Provide a basic understanding of bird health, management, and movement practices of nontraditional poultry industries, such as live bird markets, gamefowl, and backyard flocks.

- Part I: Reference of Health and Management of Backyard/Small Production Flocks in the United States, 2004, August 2005
- **Part II: Reference of Health and Management of Gamefowl Breeder Flocks in the United States, 2004, August 2005**
- Part III: Reference of Management Practices in Live Poultry Markets in the United States, 2004, spring 2006
- Part IV: Reference of Health and Management of Backyard/Small Production Flocks and Gamefowl Breeder Flocks in the United States, 2004
- Highlights: Health and Management of Backyard/Small Production Flocks in the United States, 2004, Info Sheet, summer 2005
- Highlights: Health and Management of Gamefowl Breeder Flocks in the United States, 2004, summer 2005
- Highlights: Management Practices in Live Poultry Markets in the United States, 2004, spring 2006