

# **Backyard and Small Production Flocks Disease Survey Report**

Julie Helm, DVM

October 20, 2014

USAHA Committee on Transmissible Diseases of Poultry  
& Other Avian Species

# Purpose of the Survey

- Very little information on backyard poultry flock populations and disease status across the U.S.
- Survey started in 2012
- Survey designed to get more information on disease status of backyard poultry using State & University Diagnostic Laboratories.

# Survey

- Informal survey to obtain disease information from backyard and small production (<1,000 birds) flocks across the U.S.
- Diagnostic cases from August 2013 to July 2014.
- One case may contain multiple significant disease or conditions (diagnosis) categories.
- Birds may not originate from that state.
- 19 laboratories in 17 states participated in the survey.
- Information compiled from 1,628 diagnoses.

# Survey Results by Diagnostic Lab Location

State	2014	2013	2012
AL	X		
AR	X	X	X
CA		X	
CO			X
DE	X		X
GA	X		
IL	X		
KS	X		
LA	X		
ME		X	X
MD	X	X	
MI			X
MN	X		
MO	X		X
NC			X
NJ	X	X	X
NY	X	X	X
PA	X	X	X
SC	X	X	X
TX	X		X
VA	X		
WV		X	
WY	X		
Total	17	9	12

# Example of Survey

Disease Category	Specific Disease	Number of Cases of each Disease Category in each Type of Poultry Species					
		Chicken	Turkey	Game Bird	Duck	Pigeon	Other
<b>Viral (non-neoplastic)</b>	Fowl Pox						
	Infectious Bronchitis						
	Infectious Bursal Disease						
	Infectious Laryngotracheitis						
	Newcastle Disease						
	Other:						
	Other:						
<b>Viral (neoplastic)</b>	Hemangioma						
	Lymphoid leukosis						
	Marek's						
	Ovarian adenocarcinoma						
	Other:						
	Other:						
<b>Bacterial</b>	Clostridial Diseases						
	Colibacillosis						
	Fowl Cholera						
	Infectious Coryza						
	MG						
	MS						
	Salmonella (serogroup)						
	Staphylococcosis						
	Other:						
	Other:						
	Other:						

# Top 10 Diseases / Conditions

Disease / Condition	Number of Total Diagnoses	% of Total Diagnoses
1. Mycoplasma	252	16%
2. Coccidia	175	11%
3. Nematodes	156	10%
4. E. Coli	120	7%
5. Marek's Disease	102	6%
6. Salmonella	61	4%
7. Adenocarcinoma	56	3%
8. Ascites	52	3%
9. Candida	39	2%
10. Staph / Cestodes	38 & 38	2%
11. Infectious Laryngotracheitis (ILT)	35	2%

# Diagnosis Summary

Diagnosis Category	2014	2013	2012
Bacterial	608 (37%)	241 (23%)	217 (35%)
Parasitic	459 (28%)	267 (26%)	243 (39%)
Neoplastic	188 (12%)	249 (24%)	56 (9%)
Viral (Non-neoplastic)	144 (9%)	80 (8%)	45 (7%)
Metabolic	82 (5%)	63 (6%)	***
Other	60 (4%)	71 (7%)	18 (3%)
Fungal	57 (4%)	39 (4%)	21 (3%)
Nutritional	30 (2%)	24 (2%)	23 (4%)
Total	1,628	1,034	623

\*\*\*Included in "Other" Category

# Diagnosis Category by Avian Group

Diagnosis	Chicken	Gamebird	Turkey	Pigeon	Duck	Other
Bacterial	467 (38%)	31 (21%)	75 (56%)	14 (33%)	13 (36%)	8 (29%)
Parasitic	344 (28%)	51 (35%)	45 (33%)	11 (26%)	4 (11%)	4 (14%)
Neoplastic	180 (15%)				1 (3%)	2 (7%)
Viral	99 (8%)	18 (12%)	9 (7%)	13 (31%)		5 (18%)
Metabolic	72 (6%)				9 (25%)	1 (4%)
Fungal	38 (3%)	13 (9%)	2 (1%)	3 (7%)		1 (4%)
Other	28 (28%)	14 (10%)	2 (1%)	1 (2%)	9 (25%)	6 (21%)
Nutritional	12 (1%)	15 (10%)	2 (1%)			1 (4%)
% of Total Diagnoses	75%	9%	8%	3%	3%	2%



# Top Bacterial Diseases

Bacteria	Number of Total Diagnoses	% of Total Diagnoses	Comments
Mycoplasma	252	16%	MS > MG; Chickens 15%
E. Coli	120	7%	
Salmonella	61	4%	Chicken > Turkey > GB
Staphylococcus	38	2%	Ch > Pigeon > Duck
Avibacterium	33	2%	Chicken
Pasteurella	32	2%	Ch > T > O > Duck
Clostridia	28	2%	Ch > GB > Turkey
Mixed Bacteria	22	1%	Chicken
Others ....		< 1%	

# Fungal Diseases

Fungal	Number of Total Diagnoses	% of Total Diagnoses	Comment
Candida	39	2%	Ch > GB > O > P
Aspergillus	18	1%	Ch > P > T

# Metabolic Diseases / Conditions

Metabolic	Number of Total Diagnoses	% of Total Diagnoses	Comment
Ascites	52	3%	Chickens
Fatty Liver Hemorrhagic Syndrome	20	1%	Chickens
Amyloidosis	9	1%	Ducks
Hepatopathy	1	< 1%	Other

# Top Nutritional Conditions

Nutritional	Number	% of Total Diagnosis	Comment
Rickets	14	1%	GB > Chicken
Vitamin D Deficiency	5	<1%	Chicken
Vitamin A Deficiency	4	<1%	Gamebird
Calcium Deficiency	3	<1%	Gamebird
Osteoporosis	2	<1%	Chicken
Vitamin E Deficiency	2	<1%	Chicken

# Top “Other” Diseases / Conditions

Other	Number	% of Total Diagnosis	Comment
Unk. or No Diagnosis	14	1%	
Toxicosis	11	1%	Duck/GB > Chicken
Trauma	10	1%	Ch > D > GB > O
Impaction	5	< 1%	
Gout	4	< 1%	Ch > GB
Hatchery Management	3	< 1%	Pigeon
Emaciation	2	< 1%	
Sinusitis	2	< 1%	
Anthracosis	1	< 1%	Turkey
Choke	1	< 1%	Chicken
Encephalocele	1	< 1%	Chicken

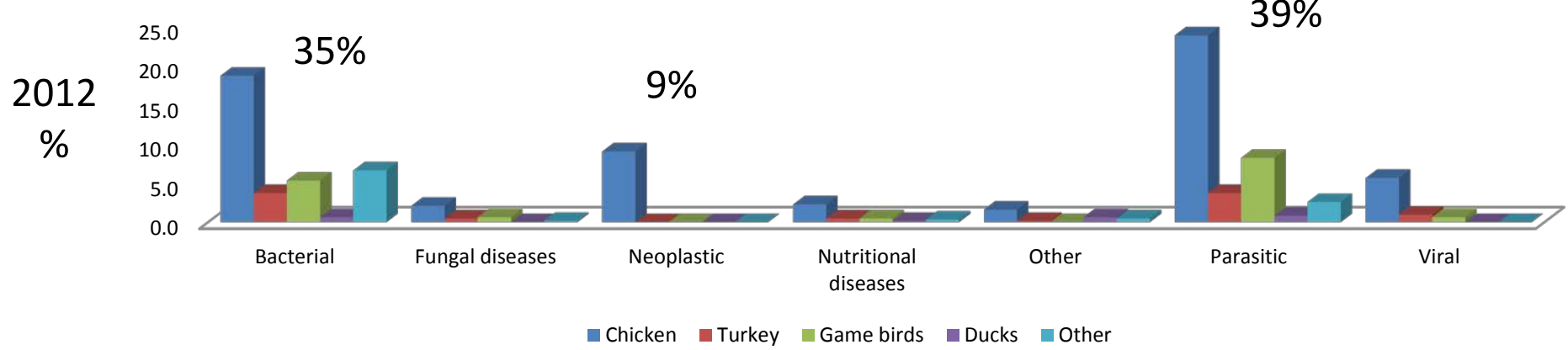
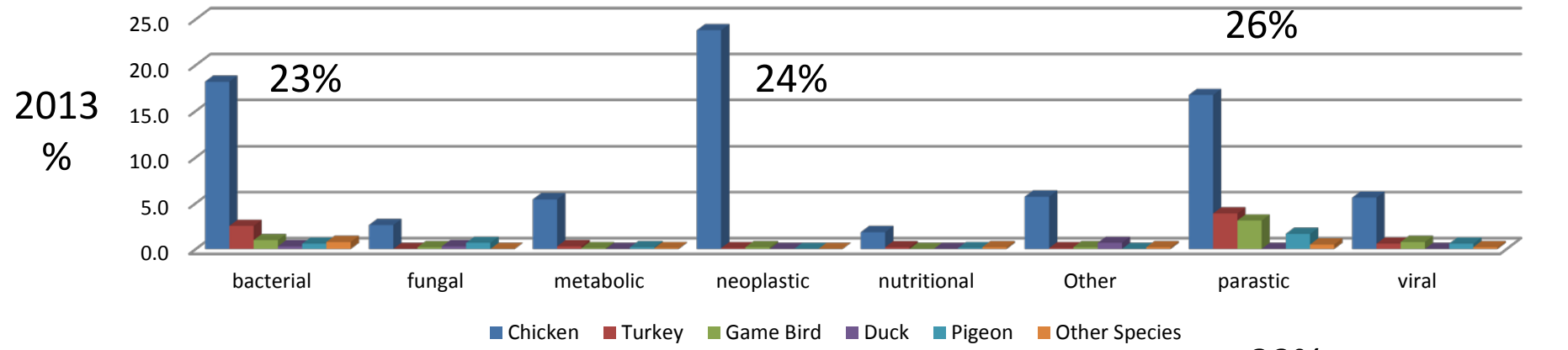
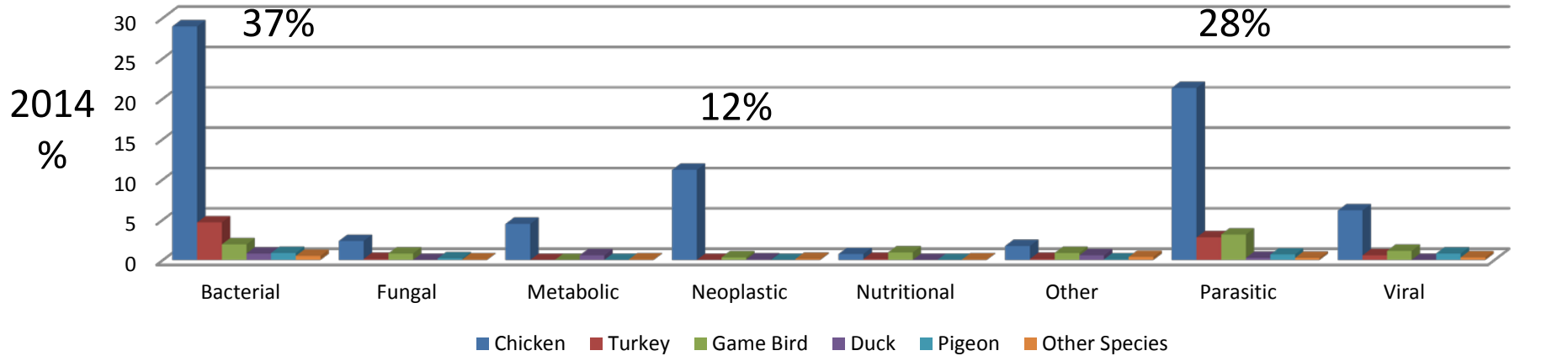
# Top Parasitic Diseases

Parasites	Number	% of Total Diagnosis	Comment
Coccidia	175	11%	Chicken > Pigeon > Other > GB/Turkey
Nematodes	156	10%	Chicken > GB > T
Cestodes	38	2%	Chicken > GB
Mites	30	2%	Chicken > Turkey
Lice	29	2%	Chicken > Turkey
Histomonas	21	1%	Turkey > Chicken > GB > Other
Trematodes	4	< 1%	Duck
Gnats	2	< 1%	Chicken
Toxoplasma	2	< 1%	Chicken
Sticktight Fleas	1	< 1%	Chicken
Trichomonas	1	< 1%	Pigeon

# Top Non-Neoplastic Viral Diseases

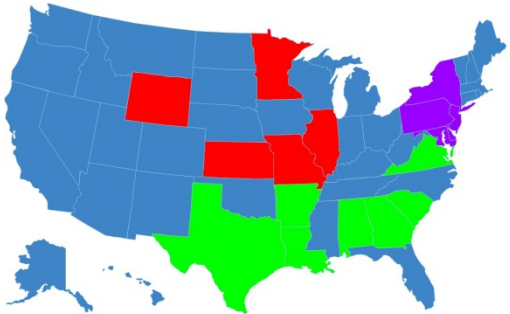
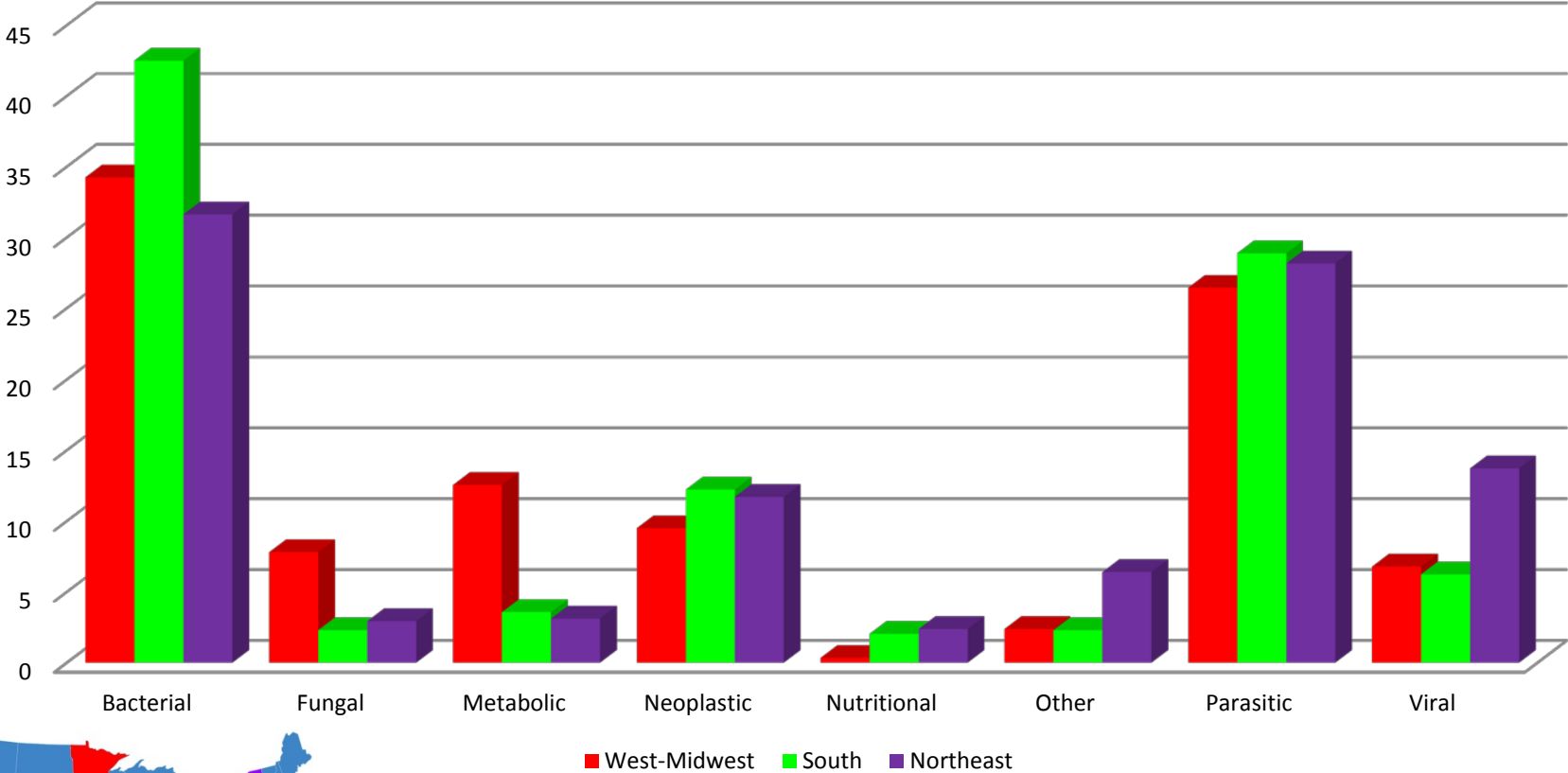
Viral	Number	% of Total Diagnosis	Comment
Infectious Laryngotracheitis (ILT)	35	2%	Chicken
Pox	32	2%	Ch > GB > T
Infectious Bronchitis (IB)	26	2%	Chicken
Pigeon PMV	13	1%	Pigeon
Avian Influenza	13	1%	Chicken > Other
Avian Reovirus	5	< 1%	Chicken
Infectious Bursal Disease (IBD)	5	< 1%	Chicken
Quail Bronchitis	5	< 1%	Gamebird
Chick Anemia Virus	4	< 1%	Chicken
Marble Spleen Disease	3	< 1%	Gamebird
Newcastle (APMV-1)	2	< 1%	Gamebird
West Nile Virus	1	< 1%	Other

# % Incidence of Total Diagnosis by Avian Group





# % Incidence Diagnosis Categories by Area (West-Midwest, South, Northeast - 2014)



# Many Thanks to

- AL Laboratory System – Dr. David Pugh
- AR State Lab – Dr. Brandon Doss
- DE – Lasher Laboratory – Dr. Dan Bautista
- GA Poultry Lab Network – Dr. Louise Zavala
- UGA Poultry Diagnostic Research Center – Chris Lobsinger
- IL Department of AG, Animal Diagnostic Lab – Dr. James Benson
- KS State Veterinary Diagnostic Lab – Dr. Gary Anderson
- LSU Animal Diagnostic Lab – Dr. Nobuko Wakamatsu
- MD State Lab -- Dr. Claudia Osorio
- UMN Veterinary Diagnostic Lab – Dr. Rob Porter
- MO Department of AG, Veterinary Diagnostic Labs – Dr. Daniel Shaw
- NJ State Lab -- Lisa deLambert
- NY – Cornell University – Dr. Jarra Jagne
- PA -Penn State Lab – Dr. Eva Wallner-Pendleton
- PA – Univ. of Penn, New Bolton Center – Dr. Donna Kelly
- SC – Clemson Veterinary Diagnostic Center – Dr. Julie Helm
- TX Veterinary Medical Diagnostic Lab – JC Essler
- VA Department of Ag, Animal Diagnostic Lab System – Dr. “Reddy” Bommineni
- WY State Veterinary Lab – Dr. Will Laegreid