

NCVDLS Annual Report

North Carolina Veterinary Diagnostic Laboratory System

Volume 3
10/31/2014

2013-2014



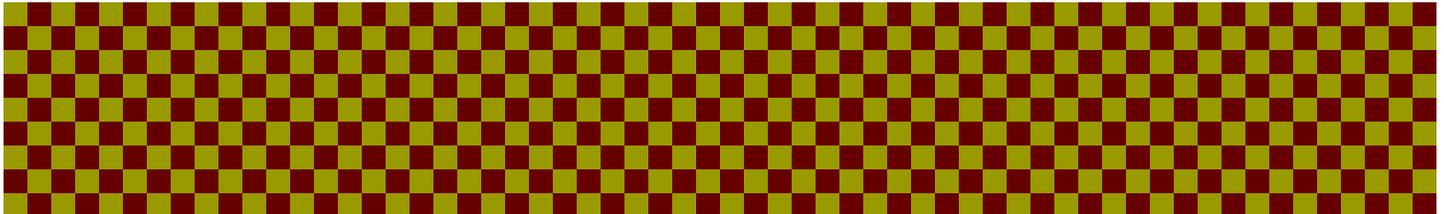
North Carolina Department of Agriculture
& Consumer Services
Veterinary Division

Steven W. Troxler, *Commissioner of Agriculture*
David Marshall, DVM, *State Veterinarian (Retired)*
Karen W. Post, DVM, MS, *Director of Laboratories*

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NCVDLS Facilities

Rollins Animal Disease
Diagnostic Laboratory
2101 Blue Ridge Road
Raleigh, NC 27607
(919) 733-3986

Northwestern Animal Disease
Diagnostic Laboratory
1689 N. Bridge St.
Elkin, NC 28621
(336) 526-2499

Western Animal Disease
Diagnostic Laboratory
785 Airport Road
Fletcher, NC 28732
(828) 684-8188

Griffin Animal Disease
Diagnostic Laboratory
401 Quarry Rd.
Monroe, NC 28112
(704) 289-6448

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NCVDLS Mission Statement

It is the mission of the North Carolina Veterinary Diagnostic Laboratory System to provide veterinarians, the animal industry, and the citizens of North Carolina with accurate and timely laboratory support services in order to diagnose, conduct surveillance, and assist in responding to and preventing animal disease. Both protection of public health and the food supply are Important components of this mission.



Message From the Director

On an annual basis, we assemble summaries of the activities within the North Carolina Veterinary Diagnostic Laboratory System (NCVDLS). The information contained within is for the period between July 1, 2013 and June 30, 2014. Data from all four laboratories comprising our system are included.

Services have been on the increase, with an escalation of 5.73% overall in laboratory accessions when compared to the previous fiscal year. We hope you find this information to be both interesting and useful. Our goal, as always, is to provide clients with accurate and timely service to meet our Mission, as stated above. Please do not hesitate to contact me about this annual report, if you have questions.

Respectfully yours,

Karen W. Post DVM, MS

Karen W. Post, DVM, MS
Diplomate ACVM

NCVDLS Facilities and Laboratory Personnel

Rollins Animal Disease Diagnostic Laboratory

1031 Mail Service Center
Raleigh, NC 27699-1031
Phone: (919)733-3986
Fax: (919)733-0454

Director of Laboratories

Karen W. Post, DVM, MS, D-ACVM

Assistant Director

Richard Mock, PhD

Administrative Staff

Cheryl Hearn	Administrative Officer I, Section Supervisor
Mechelle Johnson	Administrative Assistant I
Rebecca Boone	Processing Assistant IV
Megan Flowers	Medical Laboratory Assistant II
Phyllis Howard	Processing Assistant IV
Connie Howen	Processing Assistant IV
Paul Miller	Processing Assistant III
Cindy Orlosky	Processing Assistant V
Brandy Rodgers	Processing Assistant IV
Tamara Seago	Processing Assistant V
Dell Weaver	Medical Laboratory Assistant II

Bacteriology

Sandy Murphy, BS, M-ASCP	Medical Laboratory Supervisor I, Section Supervisor
Melissa Cox	Medical Laboratory Technologist I
Lee Goldbach, MS	Medical Laboratory Technologist I
Richard Koch	Medical Laboratory Technologist I
Elizabeth Ortiz, BS	Medical Laboratory Technologist II
Bill O'Shields	Medical Laboratory Assistant III
Jeri Smart, BS,	Medical Laboratory Technologist I
Sommer Souther, BS	Medical Laboratory Technician II
Amy Stein, BS	Medical Laboratory Technologist I
Laura Tweed	Medical Laboratory Technologist I

Building Maintenance

Stephen Szymczyk	Maintenance Mechanic V, Section Supervisor
Joey Stephenson	Maintenance Mechanic IV

Information Technology

Josh Shepherd	Business and Technology Applications Analyst, Section Supervisor
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Molecular Diagnostics

Beverly Wood, BS, MT-ASCP	Laboratory Medical Specialist, Section Supervisor
Jeannie Caldwell, BS	Medical Laboratory Technologist II
Chad Menard, BS	Medical Laboratory Technologist III
Diana Kuo, BS, MS	Medical Laboratory Technologist II
Melissa Waller, BS	Medical Laboratory Technologist II

Pathology Services Coordinator

James Trybus, DVM, D-ACVP

Avian Pathologist

Tahseen Abdul Aziz, DVM, MS, PhD, D-ACPV

Anatomic Pathologists

Allison Boone, DVM, D-ACVP
Steve Rushton, DVM, D-ACVP
Alison Tucker, MS, VMD, D-ACVP

Diagnosticians

Mahogany Caesar, MS, DVM
Jennifer Haugland, DVM
Stacy Robinson, DVM

Necropsy Assistant

Allie Wetzel, BS Medical Laboratory Technician II

Histopathology

Mary Baker, HT-ASCP Medical Laboratory Technologist III, Section Supervisor
Faye Coombs, HT-ASCP Medical Laboratory Technologist I
Judy Liverman Medical Laboratory Technician II
Cindy Nipper, HT-ACSP Medical Laboratory Technologist I

Immunohistochemistry

David Weil, BS, HT-ASCP Medical Laboratory Technologist I

Quality Assurance and Safety

Ghazala Jawad, MS Medical Laboratory Supervisor III, Quality Manager
Paul Hutter, BS Safety Officer III, Division Safety Officer

Serology

Kristen Crook, BS, PhD Medical Laboratory Technologist III, Section Supervisor
Brandon Brown, BS Medical Laboratory Technologist I
Kim Gooden Medical Laboratory Technologist I
Aisha Phipps, BS Medical Laboratory Technologist I

Virology

Chad Cecil, PhD. Medical Laboratory Supervisor III, Section Supervisor
Jonathan Fox, BS Medical Laboratory Technician II
Kim Howle, BA, MS Medical Laboratory Technologist III
Fuhing Lo, BS Medical Laboratory Technician II
Angie Murphy, BS Medical Laboratory Technologist II
HuiQing Tang, BS Medical Laboratory Technologist I

NCVDLS Branch Facilities

Griffin Animal Disease Diagnostic Laboratory

401 Quarry Road
Monroe, NC 28112
Phone: (704)289-6448
Fax: (704)283-9660

Kim Hagans, DVM	Resident Director
Reg Ridenhour, DVM	Veterinary Diagnostician
Sherry Casey	Processing Assistant IV
Kathy Harwood, AAS	Medical Laboratory Technologist I
Kristie Long	Medical Laboratory Technician II
Carrie Rowell, BS	Medical Laboratory Technician II
Jimmy Walters	Medical Laboratory Assistant II

Northwestern Animal Disease Diagnostic Laboratory

1689 N. Bridge St.
Elkin, NC 28621
Phone: (336)526-2499
Fax: (336)526-2603

Brad Barlow, DVM	Resident Director
Jessica Kees, DVM	Veterinary Diagnostician
Barbara Bright, BS	Medical Laboratory Technologist II
Marcella Galyean, AAS	Medical Laboratory Technician II
Brenda Howell	Processing Assistant IV
Nicholas Mosley	Veterinary Laboratory Assistant I

Western Animal Disease Diagnostic Laboratory

785 Airport Road
Fletcher, NC 28732
Phone: (828)684-8188
Fax: (828)687-3574

Richard Oliver, DVM	Resident Director
David Drum, DVM, MS	Veterinary Diagnostician
Darlene Ayers	Processing Assistant IV
Lia Barth, BS	Medical Laboratory Technician II
Wilson Smith	Medical Laboratory Assistant II
Mary Swanson, DVM	Medical Laboratory Technician II



SERVICE MILESTONES, 2013-2014

Dr. Richard Mock	5 Years	March, 2014
Dr. Alison Tucker	5 Years	September, 2013
Fuhing Lo	10 Years	June, 2014
Chad Menard	10 Years	December, 2013
Bill O'Shields	10 Years	August, 2013
Elizabeth Ortiz	10 Years	January, 2014
Joey Stephenson	10 Years	March, 2014
Sherry Casey	15 Years	March, 2014
Angie Murphy	15 Years	December, 2013
Dr. Reg Ridenhour	20 Years	December, 2013
Dell Weaver	20 Years	July, 2013
Lia Barth	25 Years	May, 2014
Brenda Howell	25 Years	July, 2013
Cindy Nipper	25 Years	December, 2013

RETIREMENTS

Jennifer Pruitt	Rollins Lab Serology	7/1/2013
Charlotte Dover	Rollins Lab Administration	8/1/2013
Sharon Graham	Rollins Lab Virology	11/1/2013
Denise House	Rollins Lab Virology	1/1/2014
Thomas Miller	Rollins Lab IT	5/1/2014
Earlene Allen	Rollins Lab Virology	6/1/2014

External Laboratory Advisory Committee Members

NAME	ADDRESS
Dr. Allen Cannedy Mixed Practice	Small Ruminant and Camelid Services 110 Merlot Drive Hillsborough, NC 27278
Dr. Eric Gonder Poultry – Turkeys	Butterball, LLC PO Box 10009 Goldsboro, NC 27532
Dr. Jennifer Haugland NCVDLS	Rollins Diagnostic Laboratory 1031 Mail Service Center Raleigh, NC 27699-1031
Dr. Richard Kirkman Large Animal	20416 US Hwy 64 West P O Box 350 Siler City, NC 27344
Dr. Shannon Jennings Poultry – Chickens & Turkeys	House of Raeford P O Box 699 Rose Hill, NC 28458
Dr. David Marshall State Veterinarian	NCDA&CS, Veterinary Division 1030 Mail Service Center Raleigh, NC 27699-1030
Dr. Richard Mock NCVDLS	Rollins Diagnostic Laboratory 1031 Mail Service Center Raleigh, NC 27699-1031
Dr. Karen Post NCVDLS	Rollins Diagnostic Laboratory 1031 Mail Service Center Raleigh, NC 27699-1031
Dr. Rick Sharpton Poultry – Chickens	Perdue, Inc. 1071 Vicksburg Dr. Winterville, NC 28590
Dr. Betsy Sigmon Small Animal	Creature Comforts Animal Hospital 3435 Kildaire Farm Road Cary, NC 27518
Dr. Chad Smith Corporate Swine	Goldsboro Milling Co. 938 Miller’s Chapel Road Goldsboro, NC 27532
Dr. Becky Tilley Poultry – Turkeys	Butterball, LLC PO Box 10009 Goldsboro, NC 27532

The NCVDLS established an External Laboratory Advisory Committee (ELAC) in 2005. Our initial purpose was to better serve our clients by uniting a diverse group of veterinarians and industry representatives to discuss the laboratory’s offered services, as well as legislation that directly affected our mission. We are appreciative of their time and advice.

General Funds, Funded Contracts and Cooperative Agreements
2013-2014 NCVDLs General Funds

Budget Summary	Total
Purchased Contractual Services 5321	\$124,583
Utility/Energy Services 5322	313,109
Repair Services 5323	152,966
Maintenance Agreements 5324	63,001
Rentals/Leases 5325	6,847
Travel & Other Employee Expenses 5327	43,964
Communications & Data 5328	100,852
Other Services 5329	12,531
General Admin Supplies 5331	35,606
Facility and Hardware Supplies 5332	31,664
Vehicle/Equipment Operating Supplies 5333	1,655
Clothing and Recreational Supplies 5335	3,755

Research/Development & Edu Supplies 5337	1,224,343
Other Materials & Supplies 5339	1,290
Equipment 5345	227,235
Art, Other Artifacts & Literature 5346	2,000
Intangible Assets (Computer software) 5347	35,171
Legal, Licenses & Permit Costs 5351	5,991
Unemployment Comp Payments 5352	\$0
Other Admin Expenses 5358	1,934
Other Expenses 5359	3,754
TOTAL	2,392,250
Personal Services 72% (Salaries, Benefits, etc.)	4,869,938
TOTAL	7,262,188

2013/2014 Recurring Cooperative or Blanket Purchase Agreements

USDA-APHIS-VS Blanket Purchase Agreement—\$24,440

- reimbursement for BSE Surveillance Sample Collection and Testing

USDA-APHIS-VS Blanket Purchase Agreement—\$6,480

- reimbursement for Scrapie Sample Collection and Testing

USDA-APHIS-VS Blanket Purchase Agreement—\$32,200

- reimbursement for Swine Influenza Sample Testing, Swine Influenza in feral swine, and PED

USDA-APHIS-VS Blanket Purchase Agreement—\$155,925

- Reimbursement for African Swine Fever and Food and Mouth Disease testing

USDA-APHIS-WS Blanket Purchase Agreement—\$6,000

- reimbursement for PED in wild birds

USDA-AHPIS-VS Classical Swine Fever Surveillance Cooperative Agreement—\$66,687

- reimbursement for surveillance and testing of Classical Swine Fever samples

USDA-NIFA Cooperative Agreement—\$166,000

- to aid the Food and Agriculture Defense Initiative for surveillance and early detection of animal diseases

2013-2014 Physical Improvements/New Equipment Purchases

Rollins Laboratory

- Bacteriology—Biomic automated susceptibility tests and standardized reading of bacterial identification strips
- Molecular Diagnostics—Nanodrop Spectrophotometer, Thermal cycler

Northwestern Laboratory

- New HVAC chiller
- Necropsy suite renovation
- New BioTek Microplate Reader for Serology section

Griffin Laboratory

- Front office/Reception painted and new countertops installed
- Cabinets repaired or replaced as needed throughout building
- New AC system installed for front half of building

Western Laboratory

- Upgrade to control system for the existing incinerator

Professional Development and Outreach

NAME	MEETING	CITY
Dr. Tahseen Abdul-Aziz	18th Congress of the World Veterinary Poultry Asssoc 2013 Annual USAHA/AAVLD Meeting	Nantes, France San Diego, CA
Dr. Mahogany Caesar	2013 Annual USAHA/AAVLD Meeting Convention for Veterinary Care - National Vet Meeting	San Diego, CA Washington, DC
Dr. David Drum	9th Annual Equine Encore Conference	Athens, GA
Dr. Kimberly Hagans	Emerald Coast Veterinary Conference	Destin, FL
Dr. Jennifer Haugland	North American Veterinary Conference	Orlando, FL
Dr. Jessica Kees	AVMA Certification	Ames, IA
Dr. Richard Mock	2013 Annual USAHA/AAVLD Meeting USA LIMS Symposium Participation in AAVLD Accreditation Committee Activities	San Diego, CA Lexington, KY Various locations
Dr. Richard Oliver	2013 Annual USAHA/AAVLD Meeting	San Diego, CA
Dr. Karen Post	2013 Annual USAHA/AAVLD Meeting Participation in AAVLD Accreditation Committee Activities	San Diego, CA Various locations
Dr. Reg Ridenhour	2013 Annual USAHA/AAVLD Meeting 2014 AVMA/AAAP Annual Convention	San Diego, CA Denver, CO
Dr. Stacy Robinson	2013 NC Veterinary Conference	Raleigh, NC
Dr. Steve Rushton	Southeastern Veterinary Pathology Conference	Tifton, GA
Dr. Alison Tucker	2013 Annual USAHA/AAVLD Meeting	San Diego, CA

PROFICIENCY TESTING

All four laboratories of the NCVDLs participate in proficiency testing from outside agencies. In addition to these external proficiency tests, laboratory sections participate in internal testing.

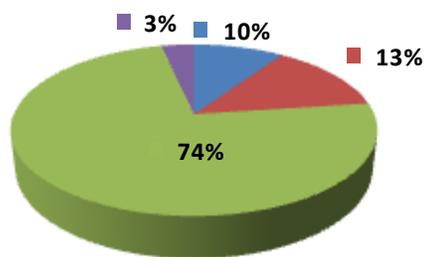
Blind Sample Tests are administered by section supervisors to random technologists. Samples have “dummy” accession numbers and are incorporated into the daily workload. When complete, test results are evaluated by section supervisors for accuracy and timeliness.

Round-Robin tests serve as interlaboratory comparisons between NCVDLs facilities.

External Proficiency Testing	Test	Laboratory Section	Administering Agency
Internal Bacteriology QA Survey	Bacterial culture identification	Rollins Lab Bacteriology	AAVLD
<i>Salmonella</i> Group D	Environmental culture	Rollins Lab Bacteriology	NPIP
Southern Bug Exchange Inter-Laboratory Comparison Program	Bacterial culture identification	Rollins Lab Bacteriology	Consortium of Southern VDLS
<i>Tylorella equigenitalis</i>	Bacterial identification	Rollins Lab Bacteriology	NVSL
Influenza	IHC Panel (Ring Test)	Rollins Lab IHC	AAVLD/NVSL
West Nile Virus Panel	Ring Test	Rollins Lab IHC	AAVLD/NVSL
Avian Influenza	Matrix Primer/ Probe Sets & H5 Primer/ Probe Sets	Rollins Lab Molecular	NAHLN
Avian Paramyxovirus -1	END/NDV for Matrix and Fusion Primer/ Probe Sets	Rollins Lab Molecular	NAHLN
Swine Influenza Virus	Rt-PCR	Rollins Lab Molecular	NAHLN
CSF/FMD	Rt-PCR	Rollins Lab Molecular	NAHLN
MG & MS PCR	PCR	Rollins Lab Molecular	NPIP
African Swine Fever & Rinderpest Virus	PCR	Rollins Lab Molecular	NAHLN
Brucellosis	STP, STT, BAPA, Rivanol	Rollins Lab Serology	NVSL
Anaplasmosis	c-ELISA	Rollins Lab Serology	NVSL
Johne's Disease	ELISA	Rollins Lab Serology	NVSL
Leptospirosis	MAT	Rollins Lab Serology	NVSL
MG & MS Serology	Plate, ELISA & HI	Rollins Lab Serology	NPIP
Avian Influenza	AGID	Rollins Lab Virology	NVSL
Bovine Leukosis Virus	ELISA	Rollins Lab Virology	NVSL
Pseudorabies	ELISA (G1 & GB), Latex	Rollins Lab Virology	NVSL
Bluetongue	ELISA	Rollins Lab Virology	NVSL
Equine Infectious Anemia	AGID	Rollins Lab Virology	NVSL
West Nile Virus Panel—Equine	IgM Capture ELISA	Rollins Lab Virology	NVSL
<i>Salmonella</i> Group D	Environmental culture	Griffin Lab Bacteriology	NPIP
MG & MS Serology	Plate, ELISA & HI	Griffin Lab Serology	NPIP
Avian Influenza	AGID	Griffin Lab Virology	NVSL
Brucellosis	BAPA	Western Lab Serology	NVSL
Equine Infectious Anemia	AGID	Western Lab Virology	NVSL
Avian Influenza	AGID	Northwestern Lab Serology	NVSL
MG & MS Serology	Plate, ELISA & HI	Northwestern Lab Serology	NPIP

NCVDLS 2013-2014 * Accession Information

Total Accessions for NCVDLS: 36,840



- Griffin Animal Disease Diagnostic Laboratory / 3,511
- Northwestern Animal Disease Diagnostic Laboratory / 4,914
- Rollins Animal Disease Diagnostic Laboratory / 27,146
- Western Animal Disease Diagnostic Laboratory / 1,269

Total Test Count by Animal Species

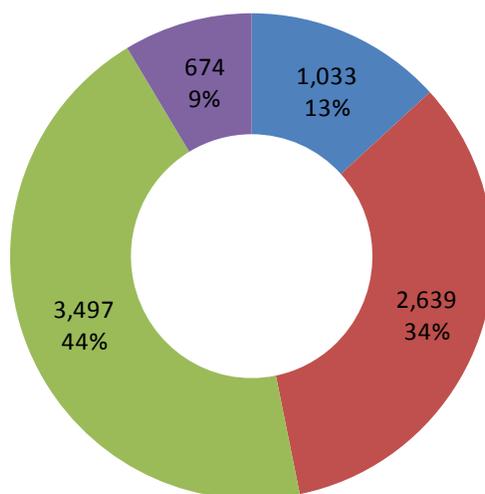
Avian	1,216,845	92.85%
Bovine	19,066	1.45%
Camelid	1,597	0.12%
Canine	26,955	2.06%
Caprine	6,493	0.50%
Equine	15,190	1.16%
Feline	7,042	0.54%
Fish	107	0.01%
Miscellaneous	2,103	0.16%
Ovine	1,334	0.10%
Porcine	13,819	1.05%
TOTAL	1,310,551	100.00%

Fiscal Year Comparison of Accessions

FY 12/13 to FY13/14

	2012-2013	2013-2014	% Increase
Rollins	25,239	27,146	7.02%
Western	1105	1,269	12.92%
Northwestern	4,755	4,914	3.24%
Griffin	3,629	3,511	-3.36%
Total	34,728	36,840	5.73%

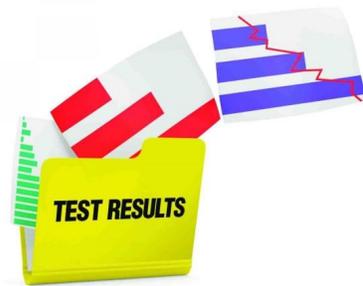
NCVDLS Necropsy Test Totals - 7,843



- Griffin Lab
- Northwestern Lab
- Rollins Lab
- Western Lab

NCVDLS Total Test Count and Accession Count Comparison

Year	Test Count	Accession Count
2011-2012	1,261,563	32,583
2012-2013	1,261,919	34,728
2013-2014	1,310,713	36,840



NCVDLS Test Count Comparison by Laboratory Discipline

Laboratory Discipline	2011-2012	2012-2013	2013-2014
Bacteriology	16,258	17,647	15,843
Cytology	1,263	1,440	1,601
Histopathology	38,189	40,940	43,017
Immunohistochemistry	576	690	594
Molecular Diagnostics	9,642	11,689	16,125
Mycology	263	245	233
Necropsy	8,463	7,337	7,844
Outsource	1,843	1,419	1,299
Parasitology	2,578	2,801	3,040
Serology	913,570	886,698	935,650
Virology	268,849	291,023	285,543
TOTAL	1,261,494	1,261,929	1,310,789

Accession Counts Comparison

Lab	2011-2012	2012-2013	2013-2014
Rollins Lab	23,885	25,239	27,146
Griffin Lab	3,156	3,629	3,511
Northwestern Lab	4,618	4,755	4,914
Western Lab	924	1,105	1,269
	32,583	34,728	36,840

Test Counts Comparison

Lab	2011-2012	2012-2013	2013-2014
Rollins Lab	533,173	516,266	511,654
Griffin Lab	171,836	184,920	210,484
Northwestern Lab	554,724	558,693	586,088
Western Lab	1,761	2,050	2,563
	1,261,494	1,261,929	1,310,789

Top Twenty-Five Tests	2013-2014	2012-2013
Mycoplasma gallisepticum (ELISA)	317,774	201,779
Mycoplasma synoviae (ELISA)	317,526	202,030
Avian Influenza (AGID)	137,912	130,950
Mycoplasma gallisepticum (Plate)	115,150	207,599
Mycoplasma synoviae (Plate)	115,098	207,844
Avian Influenza (ELISA)	80,209	80,853
Mycoplasma meleagridis (ELISA)	43,295	41,633
Histopathology H & E	40,982	38,816
Salmonella pullorum (Plate)	12,300	9,601
Equine Infectious Anemia (AGID)	10,868	9,426
Infectious Bursal Disease (ELISA)	10,374	10,954
REO (ELISA)	10,263	11,113
Infectious Bronchitis Virus (ELISA)	9,410	10,896
Avian Paramyxovirus-1 (APMV-1) (ELISA)	9,349	10,688
Avian Influenza Matrix RRT-PCR	6,994	5,109
Pseudorabies Virus gB (ELISA)	5,113	4,289
Brucella abortus (BAPA) (Plate)	4,821	6,440
Gross Exam Poultry	4,611	4,854
Salmonella pullorum (Tube)	3,439	3,679
Porcine Epidemic Diarrhea Virus (PCR)	3,207	8
Chicken Anemia Virus 1:10 (CAV) (ELISA)	3,165	4,137
NPIP Salmonella Culture	2,655	3,484
Antimicrobial Susceptibility	2,189	2,588
Avian Encephalomyelitis Virus (ELISA)	1,873	1,265
Mycoplasma gallisepticum PCR	1,718	1,532

