

The Poultry Informed Professional®



Published by the Department of Population Health, University of Georgia
 Editor: Dr Stephen Collett, Associate Professor
 Co-Editor: Dr Pedro Villegas, Professor
 Department of Population Health

Phone (706) 542-1904

Fax (706) 542-5630

e-mail: Ashley Moody at armoody@uga.edu

FROM THE DIAGNOSTIC LAB

Harmony Seahorn and Dr. Charles Hofacre, DVM, MAM, Ph.D.

Poultry Diagnostic and Research Center, University of Georgia, Athens, GA

We want to begin a new segment for each issue of the PIP from the PDRC Diagnostic Laboratory, called **FROM THE DIAGNOSTIC LAB**. This first segment will be the feature of this issue and focus on the use of the Whatman Indicating FTA™ Classic Cards for International sampling for molecular analysis (PCR, RT-PCR, Genotyping).

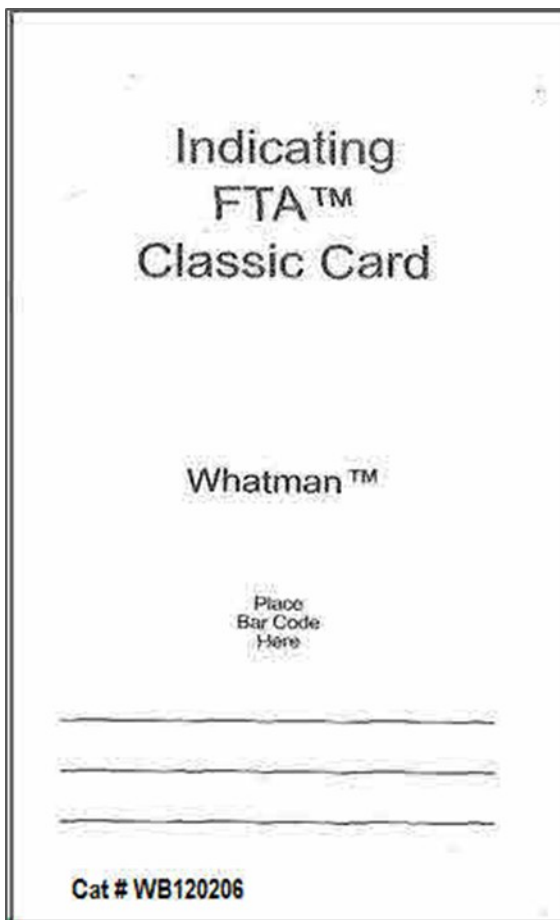
Contents

FROM THE DIAGNOSTIC LAB—NEW	1-5
Excerpts. "Broiler Hatchery" "Chicken and Eggs" and "Turkey Hatchery"	7
Broiler performance data (Company) Current & previous	8
Meetings, Seminars and Conventions	9

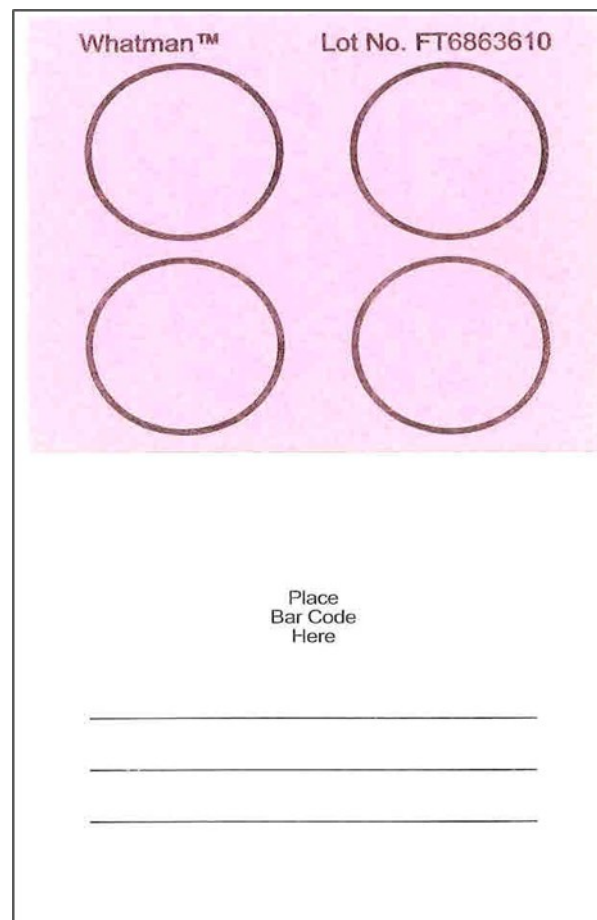
Broiler Live Production Cost	Average Company
Feed Cost/ton w/o color (\$)	347.43
Feed cost /lb meat (c)	30.81
Days to 4.6 lbs	39
Chick cost / lb (c)	5.22
Vac-Med cost/lb (c)	0.05
WB & ½ parts condemn. Cost/lb	0.19
% mortality	3.32
Sq.Ft. @ placement	0.83
Lbs/sq. ft.	7.47
Downtime (days)	18

Data for week ending October 15th, 2011

The number of tests for molecular analysis of poultry samples requested by international clients continues to increase. This increase is mainly due to the switch in the procedure of inactivation and transport of potential pathogens from phenol-treated material to FTA™-collected specimens. The FTA™ card allows for compliance with federal regulations for import of avian pathogens from international sources, while reducing the cost of shipping samples by eliminating hazardous materials such as phenol. Nucleotide sequencing of PCR products allows 1) characterization of the bacteria or viruses detected, 2) study of the epidemiology of these diseases in foreign countries and 3) differentiation between vaccines and field strains.



FTA™ Classic Card (front)



FTA™ Sample circles

There are many viruses and bacterial pathogens we can identify from samples applied to the FTA™ cards as can be seen in these tables.

Molecular Diagnostic Tests

PCR

Adenovirus (Groups 1-3)
Avian Leukosis Virus
Chicken Anemia Virus
Inf. Laryngotracheitis Virus
Marek's disease virus
Mycoplasma
Reticuloendotheliosis virus
Salmonella

RT-PCR

Astroviruses (turkey and chicken)
Avian metapneumovirus (TRT, SHS)
Avian encephalomyelitis virus
Avian influenza virus
Infectious bronchitis virus
Inf. Bursal Disease Virus
Newcastle Disease Virus
Reovirus
Rotavirus

SEQUENCING

All but Salmonella

Common Genotypes of International FTA™-Samples

Adenovirus	FAV EU genotypes 4, 5, 9, 10
IBDV	Vaccines, Var A, E, vv-strains, wild types
IBV	Mass, Ark-like, CA99-like, variants, etc.
ILT	Vaccines ,TCO, CEO, wild types
MG	Ts-11, F strain, 6/85, wild types
MS	H vaccine, wild types
NDV	Vaccines, Lentogenic, Velogenic
Salmonella	Enteritidis, Thyphimurium, unknown, etc.

Sample Collection Recommendations

For FTA card impressions the samples listed are recommended for optimal testing. Avoid sampling from dead birds if possible as the nucleic acid is of poor quality and test results will be compromised.

For samples where scrapings are indicated, use scalpel blade to scrape the epithelial lining of the tissue and apply to a circle on the FTA card.

Use gloves when handling samples and FTA cards. Do not touch the application circles (Pink area) of the cards with bare hands.

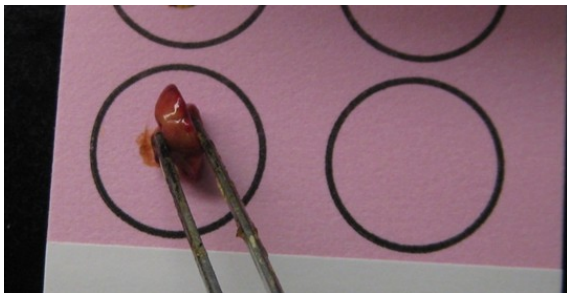
For sampling between houses, flocks, farms, always try to use sterile utensils. Ethanol can be used to disinfect utensils between sampling if respiratory testing will be requested.

Use one of the following methods to apply your samples to the FTA cards:

****Be sure to clearly label circles with tissue identity or number ID.****

Method 1 – For tissue impressions

1. For tracheas – it is best to harvest the trachea and cut lengthwise. Using a sterile scalpel blade, scrape the length of trachea and apply to FTA card. This will yield more target sample for respiratory testing.
2. For other tissues – cut the bursa and invert so that the bursal follicles are exposed. Apply bursal impression by pressing inverted bursa onto FTA card and making smear.



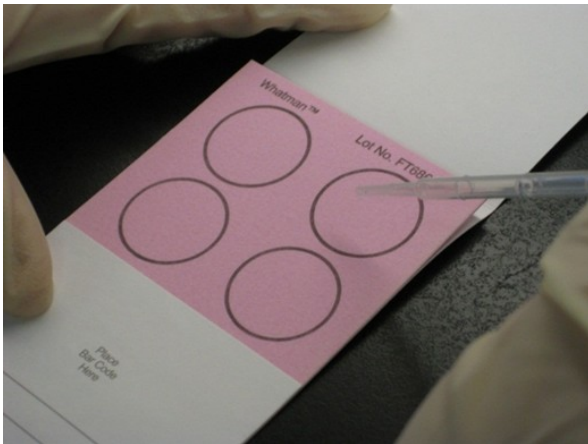
Sample being applied to card



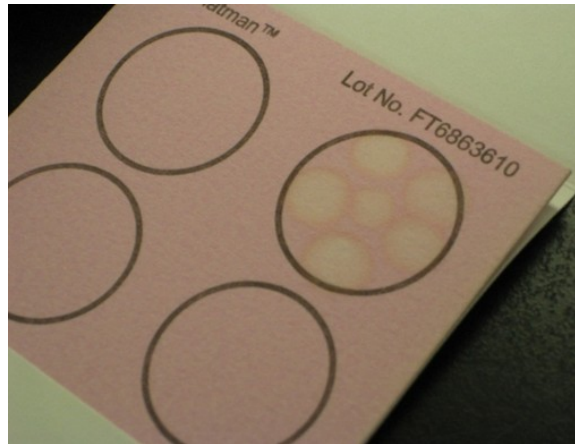
Card with sample for submission

Method 2 – For liquid samples

1. Apply 5-50 microliters of liquid sample (allantoic fluid, plasma, etc.) or samples in suspension (cell culture, blood etc.) onto the active circle of the FTA paper. You can apply samples from several birds to one circle if you want samples to be pooled. For best results, do not add samples from more than 5 birds to one circle. Testing sensitivity may be reduced.
2. Allow samples to dry on the cards for 45-60 minutes at ambient temperature. Avoid moisture and high temperatures. Store cards at room temperature or in the refrigerator or freezer in a moisture-free environment (ziplock or whirl pak bags).



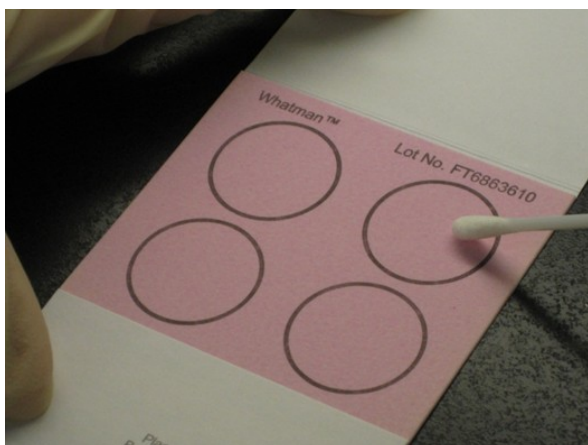
Liquid sample being applied to card



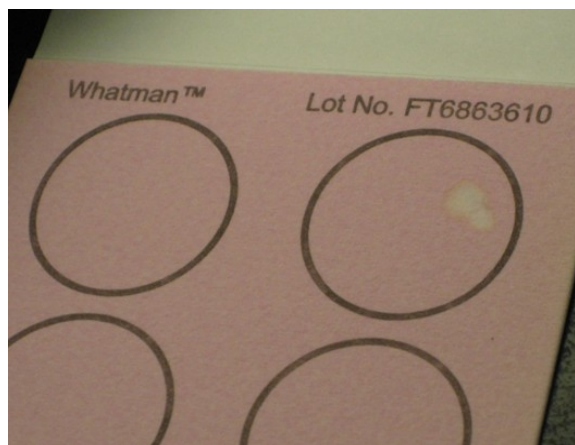
Card with liquid sample applied

Method 3 – Swab samples

Transfer contents of swabs (from tracheas or other organs) by pressing onto the FTA paper.



Sample being applied with swab



Card after sample applied with swab

Recommended samples

- ◇ **Infectious bronchitis –**
For acute respiratory disease: Tracheal scrapings and cecal tonsil contents (use separate circles on FTA card)
For renal disease: kidney impressions and tracheal scrapings
- ◇ **Infectious laryngotracheitis -**
Tracheal and eyelid scrapings
- ◇ **Newcastle disease-**
For respiratory disease: tracheal scrapings
For neurologic disease: tracheal scrapings, brain impressions
- ◇ **Infectious bursal disease-**
Bursal impressions
- ◇ **Viral arthritis-**
Synovial fluid, liver, heart impressions
If tendon has not ruptured, an impression can also be included
- ◇ **Malabsorption Syndrome-**
Gut scrapings of the duodenum, ileum and/or jejunum (can pool scrapings from these locations)
- ◇ **Swollen head syndrome/Turkey rhinotracheitis (avian pneumovirus)-**
Turbinate impressions/ scrapings, tracheal scrapings taken at the first sign of disease, timing of sample collection is critical for detecting pneumovirus.
- ◇ **Inclusion body hepatitis/Avian adenovirus-**
Liver impressions from affected birds
- ◇ **Enteric diseases/Astrovirus/Rotavirus-**
Gut scrapings of the duodenum, ileum and /or jejunum (can pool scrapings from these locations)
- ◇ **CAV-**
Thymi impressions, bone marrow
- ◇ **Salmonella**
Apply suspect culture with loop or swabs
- ◇ **Mycoplasma**
Tracheal swab or tracheal impression/scrapings

PLEASE NOTE: An import permit is required in order to ship FTA cards into the U.S. Please visit our website to download the permit, other documents, and contact info at: <http://www.avian.uga.edu/diagnostic/dxlab.php>

Excerpts from the latest USDA National Agricultural Statistics Service (NASS) “Broiler Hatchery,” “Chicken and Eggs” and “Turkey Hatchery” Report and Economic Research Service (ERS) “Livestock, Dairy and Poultry Situation Outlook”

Chickens and Eggs

Released October 21, 2011, by NASS, Agricultural Statistics Board, USDA

September Egg Production Down Slightly

U.S. egg production totaled 7.51 billion during September 2011, down slightly from last year. Production included 6.49 billion table eggs, and 1.02 billion hatching eggs, of which 952 million were broiler-type and 68 million were egg-type. The total number of layers during September 2011 averaged 336 million, down 1 percent from last year. September egg production per 100 layers was 2,236 eggs, up 1 percent from September 2010.

All layers in the U.S. on October 1, 2011, totaled 335 million, down slightly from last year. The 335 million layers consisted of 281 million layers producing table or market type eggs, 51.2 million layers producing broiler-type hatching eggs, and 2.95 million layers producing egg-type hatching eggs. Rate of lay per day on October 1, 2011, averaged 74.6 eggs per 100 layers, up 1 percent from October 1, 2010.

Egg-Type Chicks Hatched Up Slightly

Egg-type chicks hatched during September 2011 totaled 40.3 million, up slightly from September 2010. Eggs in incubators totaled 36.5 million on October 1, 2011, down 8 percent from a year ago. Domestic placements of egg-type pullet chicks for future hatchery supply flocks by leading breeders totaled 274 thousand during September 2011, up 9 percent from September 2010.

Broiler-Type Chicks Hatched Down 5 Percent

Broiler-type chicks hatched during September 2011 totaled 721 million, down 5 percent from September 2010. Eggs in incubators totaled 572 million on October 1, 2011, down 8 percent from a year earlier. Leading breeders placed 6.66 million broiler-type pullet chicks for future domestic hatchery supply flocks during September 2011, down 7 percent from September 2010.

Broiler Hatchery

Released November 2, 2011, by NASS, Agricultural Statistics Board, USDA

Broiler-Type Eggs Set In 19 Selected States Down 7 Percent

Commercial hatcheries in the 19-State weekly program set 186 million eggs in incubators during the week ending October 29, 2011. This was down 7 percent from the eggs set the

corresponding week a year earlier. Average hatchability for chicks hatched during the week was 84 percent. Average hatchability is calculated by dividing chicks hatched during the week by eggs set three weeks earlier.

Broiler-Type Chicks Placed Down 8 Percent

Broiler growers in the 19-State weekly program placed 153 million chicks for meat production during the week ending October 29, 2011. Placements were down 8 percent from the comparable week a year earlier. Cumulative placements from January 2, 2011 through October 29, 2011 were 7.16 billion, down 2 percent from the same period a year earlier.

Turkey Hatchery

Released October 14, 2011, by the NASS, Agricultural Statistics Board, USDA

Eggs in Incubators on October 1 Up 5 Percent from Last Year

Turkey eggs in incubators on October 1, 2011, in the United States totaled 27.5 million, up 5 percent from October 1, 2010. Eggs in incubators were down 2 percent from the September 1, 2011 total of 28.1 million eggs. **Please note that regional estimates have been discontinued:** NASS will no longer publish regional *Turkey Hatchery* estimates. Only estimates at the United States level will be published due to the limited number of hatcheries involved.

Poults Hatched During September Up 8 Percent from Last Year

Turkey poults hatched during September 2011, in the United States totaled 23.8 million, up 8 percent from September 2010. Poults hatched were down slightly from the August 2011 total of 23.9 million poults.

Net Poults Placed During September Up 8 Percent from Last Year

The 23.5 million net poults placed during September 2011 in the United States were up 8 percent from the number placed during the same month a year earlier. Net placements were down 2 percent from the August 2011 total of 23.9 million.

Current Month Charts

Broiler Performance Data Live Production Cost	Region					Average Company
	SW	Midwest	Southeast	Mid-Atlantic	S-Central	
Feed Cost/ton w/o color (\$)	343.26	327.43	352.44	354.34	346.79	347.43
Feed cost /lb meat (c)	30.42	28.82	30.55	32.41	31.26	30.81
Days to 4.6 lbs	40	39	39	38	39	39
Chick cost / lb (c)	4.89	5.13	5.58	4.68	5.27	5.22
Vac-Med cost/lb (c)	0.06	0.02	0.06	0.04	0.04	0.05
WB & ½ parts condemn. Cost/lb	0.18	0.20	0.14	0.18	0.19	0.19
% mortality	3.23	3.38	3.01	3.45	3.28	3.32
Sq.Ft. @ placement	.080	0.82	0.84	0.87	0.85	0.83
Lbs/sq. ft.	7.79	7.32	7.04	7.79	7.74	7.47
Downtime (days)	20	16	18	20	17	18

Broiler Whole Bird Condemnation	Region					Average Company
	SW	Midwest	Southeast	Mid-Atlantic	S-Central	
% Septox	0.140	0.181	0.091	0.114	0.086	0.119
% Airsac	0.025	0.030	0.026	0.044	0.026	0.032
% I.P.	0.011	0.008	0.005	0.025	0.024	0.017
% Leukosis	0.001	0.000	0.000	0.002	0.002	0.001
% Bruises	0.002	0.001	0.002	0.002	0.002	0.002
% Other	0.015	0.002	0.013	0.005	0.007	0.009
% Total	0.193	0.222	0.137	0.193	0.148	0.180
% ½ parts condemns	0.208	0.271	0.197	0.202	0.314	0.250

Data for week ending October 15th, 2011

Previous Month Charts

Broiler Performance Data Live Production Cost	Region					Average Company
	SW	Midwest	Southeast	Mid-Atlantic	S-Central	
Feed Cost/ton w/o color (\$)	342.38	331.12	354.53	353.82	347.07	348.24
Feed cost /lb meat (c)	30.16	29.09	30.69	32.32	31.26	30.78
Days to 4.6 lbs	40	39	39	38	39	39
Chick cost / lb (c)	5.01	5.07	5.64	4.94	5.32	5.30
Vac-Med cost/lb (c)	0.05	0.04	0.05	0.03	0.04	0.05
WB & ½ parts condemn. Cost/lb	0.17	0.18	0.13	0.16	0.18	0.17
% mortality	3.07	3.38	3.11	3.37	2.97	3.12
Sq.Ft. @ placement	0.79	0.81	0.84	0.89	0.85	0.83
Lbs/sq. ft.	7.82	7.44	7.10	7.71	7.71	7.51
Downtime (days)	17	14	16	19	17	17

Broile Whole Bird Condemnation	Region					Average Company
	SW	Midwest	Southeast	Mid-Atlantic	S-Central	
% Septox	0.134	0.167	0.079	0.109	0.086	0.108
% Airsac	0.38	0.029	0.017	0.035	0.023	0.027
% I.P.	0.011	0.0009	0.004	0.0012	0.021	0.013
% Leukosis	0.001	0.000	0.002	0.005	0.001	0.002
% Bruises	0.002	0.001	0.001	0.002	0.002	0.001
% Other	0.013	0.002	0.009	0.006	0.006	0.008
% Total	0.199	0.208	0.112	0.167	0.138	0.160
% ½ parts condemns	0.195	0.254	0.177	0.204	0.298	0.243

Data for week ending Sept. 24th, 2011

Meetings, Seminars and Conventions

2011 November

November 4-6, 2011. 16th Annual North Carolina Veterinary Conference. This event will be held at the Raleigh Convention Center in Raleigh, NC. Register now at www.ncveterinaryconference.com

November 9, 2011. Grain Forecast and Economic Outlook Conference. To be held at the Airport Hilton Hotel in Atlanta, GA. For more info, please go to http://www.poultryegginstitute.org/educationprograms/docs/gfeoc_brochure.pdf

November 15-16, 2011. Poultry Wastewater Operator Training Programme. Now offered by the U.S. Poultry and Egg Association to introduce students to the regulatory structure governing poultry plant effluents. This event will be held at the Perdue Training Center, Salisbury, MD. <http://www.poultryegg.org/environment/>

2012 January

January 23-24, 2012. Southern Conference on Avian Diseases (SCAD). This meeting will be held together with the Southern Poultry Science Society at the International Scientific Forum in Atlanta, GA. For more info, please contact Dr. Mark Jackwood at mjackwoo@uga.edu.

January 24-26, 2012. International Poultry Scientific Forum/Feed Expo. Located at the Georgia World Congress Center in Atlanta, GA. Please visit <http://www.ipe11.org/> for more info.

2012 March

March 14-15, 2011. 41st Annual Midwest Poultry Federation Convention 2012. To be held at the Saint Paul River Centre in Saint Paul, Minnesota. For more info: <http://midwestpoultry.com/>

2012 April

April 1-4, 2011. 61st Western Poultry Disease Conference and ACPV Workshop. DoubleTree Paradise Valley Resort by Hilton Hotel in Scottsdale, Arizona. For more info, please visit <http://www.cevs.ucdavis.edu/confreg/index.cfm?confid=551>

2012 July

July 9-12, 2012. Poultry Science Association Annual Meeting. To be held at the Georgia Center in Athens, GA. For more info, please visit <http://www.poultryscience.org/index.asp?autotry=true&Ulnotkn=true>

2012 August

August 4-7, 2012. AAAP/AVMA Annual Meeting. To be held in San Diego, CA, at the San Diego Convention Center. Abstracts will be accepted from October 1 - December 1, 2011. Please visit <https://www.avmaconvention.org/avma12/public/enter.aspx>

2012 October

October 17-24, 2012. 116th USAHA Annual Meeting. The U.S. Animal Health Association will be holding this event at the Greensboro Sheraton Hotel in Greensboro, North Carolina. Please visit <http://www.aavld.org/annual-meeting>



The University of Georgia is committed to the principle of affirmative action and shall not discriminate against otherwise qualified persons on the basis of race, color, religion, national origin, sex, age, physical or mental handicap, disability, or veteran's status in its recruitment, admissions, employment, facility and program accessibility, or services.

Reminder

All previous issues of the Poultry Informed Professional are archived on our website www.avian.uga.edu under the Online Documents and The Poultry Informed Professional links.