



The Poultry Informed Professional

Published by the Department of Avian Medicine, University of Georgia
 Editor: Charles Hofacre, Associate Professor, Department of Avian Medicine

Phone (706) 542-5645 Fax (706) 542-5630
 e-mail: sclanton@arches.uga.edu

INFECTIOUS BRONCHITIS VIRUS VARIANTS: WHAT ARE THEY, AND SHOULD YOU WORRY ABOUT THEM?

Mark W. Jackwood
 Professor
 Department of Avian Medicine
 University of Georgia
 Athens, GA 30602

Little or no cross protection between serotypes.

Infectious bronchitis (IB) is a highly contagious, acute upper respiratory tract disease in chickens. Clinical signs of the disease are coughing, sneezing, tracheal rales, gasping and nasal discharge. Mortality may occur in very young birds, whereas decreased weight gain and feed conversion are usually observed in older birds. A drop in egg production and egg quality are observed when layers are infected. The clinical signs can become extremely severe when secondary invaders such as E. coli complicate the disease.

Infectious bronchitis virus (IBV) is classified as a coronavirus and isolates of the virus have been grouped into different serotypes using antibodies. The serotype grouping of IBV isolates is important because it is well known that little or no cross protection between serotypes occurs in chickens. Thus, it is extremely important to identify the serotype of the virus causing disease so that birds can be properly vaccinated.

Broiler Performance Data (Region) Live Production Cost					
	SW	Midwest	Southeast	Mid-Atlantic	S-Central
Feed cost/ton w/o color (\$)	126.84	117.86	132.36	131.28	131.65
Feed cost/lb meat (¢)	11.85	11.22	12.46	12.90	12.22
Days to 4.6 lbs	45	44	43	44	43
Med. cost/ton (¢)	N/A	N/A	N/A	N/A	N/A
Chick cost/lb (¢)	4.06	3.81	3.82	3.66	4.01
Vac-Med cost/lb (¢)	0.05	0.02	0.08	0.07	0.11
WB & 1/2 parts condemn. cost/lb	0.24	0.19	0.22	0.25	0.21
% mortality	5.01	3.61	3.61	5.13	3.65
Sq. Ft. @ placement	0.76	0.75	0.80	0.76	0.77
Lbs./Sq. Ft.	6.50	6.97	6.85	7.49	6.73
Down time (days)	14	13	13	14	16

Data for week ending 5/12/01 N/A =Not Available

Continued on Page 2

Contents

Infectious Bronchitis Virus Variants... Pages 1-2

Broiler Performance Data (Region) Page 1

Broiler Performance Data (Company) Page 2

Broiler Whole Bird Condemns (Region) Page 2

Broiler Whole Bird Condemns (Company) Page 3

Excerpts. "Broiler Hatchery" "Chicken and Eggs" and "Turkey Hatchery, ... Pages 4

Meetings, Seminars and Conventions Pages 5-6

Variant or new viruses readily occur.

One characteristic of this virus that makes it extremely difficult to control is its ability to rapidly change and adapt to the host. When that occurs, well-characterized viruses that we refer to as serotypes, become what are known as variant viruses. By definition, variant viruses are any "new" isolate of IBV that hasn't been previously identified and grouped with antibodies. Changes that occur in IBV can result in a variant virus, and usually occur in the gene that codes for the spike protein. The spike protein is located on the outside of the virus particle, and neutralizing and serotype specific antibodies are directed against the outer portion of that protein.

IBV variants are circulating in healthy chickens all the time.

With the advent of molecular based diagnostic tests for IBV we now have the ability to specifically identify variant viruses. IBV can be detected and the serotype identified with a polymerase chain reaction (PCR) based diagnostic test that uses restriction enzymes (enzymes that cut the PCR product) to generate a restriction fragment length pattern (RFLP) unique to each different serotype and variant of the virus. What we have learned using that technique is that many different IBV variants are circulating in perfectly healthy chickens all the time.

Changes in the spike protein gene that result in a variant virus do not appear to correlate with pathogenicity. In other words, non-pathogenic variant IB viruses can and do exist. Consequently, pathogenicity studies are necessary to verify that a newly identified variant virus is capable of causing disease.

*Samples can be submitted for PCR analysis by contacting the Department of Avian Medicine Diagnostic Laboratory.
Phone: 706-542-5657
Email: pdrdxlb@arches.uga.edu
or
sthayer@arches.uga.edu
An import permit and instructions for submitting samples from outside the U.S. can be obtained at the above phone or email.*

**Broiler Performance Data (Company)
Live Production Cost**

	Average Co.	Top 25%	Top 5 Cos.
Feed cost/ton w/o color (\$)	130.22	123.06	N/A
Feed cost/lb meat (¢)	12.24	11.52	N/A
Days to 4.6 lbs	44	44	N/A
Med. cost/ton (¢)	N/A	N/A	N/A
Chick cost/lb (¢)	4.01	3.64	N/A
Vac-Med cost/lb (¢)	0.07	0.04	N/A
WB & 1/2 parts condemn. cost/lb	0.25	0.18	N/A
% mortality	4.52	3.78	N/A
Sq. Ft. @ placement	0.77	0.76	N/A
Lbs./Sq. Ft.	6.75	6.83	N/A
Down time (days)	15	14	N/A

Data for week ending 5/15/01

N/A =Not Available

Broiler Whole Bird Condemnation (Region)

	SW	Mid-West	S. East	Mid-Atlantic	S. Central
% Septox	0.330	0.353	0.253	0.325	0.144
% Airsac	0.141	0.075	0.117	0.185	0.263
% I.P.	0.048	0.033	0.119	0.076	0.082
% Leukosis	0.004	0.003	0.008	0.031	0.003
% Bruise	0.007	0.005	0.012	0.010	0.012
% Other	0.024	0.006	0.015	0.017	0.017
% Total	0.555	0.474	0.524	0.644	0.520
% 1/2 parts condemnations	0.498	0.509	0.485	0.441	0.517

Data for week ending 5/15/01

REMINDER

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

Broiler Whole Bird Condemnation (Company)

	Average Co.	Top 25%	Top 5 Co.'s
% Septox	0.286	0.236	N/A
% Airsac	0.174	0.150	N/A
% I.P.	0.085	0.081	N/A
% Leukosis	0.019	0.006	N/A
% Bruise	0.011	0.016	N/A
% Other	0.019	0.005	N/A
% Total	0.593	0.495	N/A
% 1/2 parts condemnations	0.528	0.321	N/A

Data for week ending 5/15/01 N/A =Not Available



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.

The Poultry Informed Professional Newsletter is published with support from Bayer Corporation

Excerpts from the latest USDA National Agricultural Statistics Service (NASS) "Broiler Hatchery," "Chicken and Eggs" and "Turkey Hatchery" Reports

time in the weekly program for broiler eggs set in incubators and broiler chicks placed for meat production. The four additional States are Kentucky, Louisiana, Missouri, and Oklahoma. Data collection and weekly estimates began with the week ending April 7, 2001. Commercial hatcheries for the 19-States set a total of 207 million eggs in incubators during the week ending May 19, 2001. Broiler growers in the 19-States placed 167 million chicks for meat production during the week ending May 19, 2001.

April Egg Production Up 1 Percent

U.S. egg production totaled 7.09 billion during April 2001, up 1 percent from last year. Production included 6.01 billion table eggs and 1.08 billion hatching eggs, of which 1.01 billion were broiler-type and 66.0 million were egg-type. The total number of layers during April 2001 averaged 337 million, up 2 percent from the total average number of layers during April 2000. April egg production per 100 layers was 2,106 eggs, down 1 percent from 2,130 eggs in April 2000. April 2001 contained 21 weekdays and four Saturdays, compared to 20 weekdays and 5 Saturdays in April 2000.

All layers in the U.S. on May 1, 2001, totaled 337 million, up 3 percent from a year ago. The 337 million layers consisted of 277 million layers producing table or commercial type eggs, 56.9 million layers producing broiler-type hatching eggs, and 2.96 million layers producing egg-type hatching eggs. Rate of lay per day on May 1, 2001, averaged 69.4 eggs per 100 layers, down 2 percent from the 70.6 eggs a year ago.

Laying flocks in the 30 major egg producing States produced 6.65 billion eggs during April 2001, up 1 percent from April 2000. The average number of layers during April, at 316 million, was up 2 percent from a year earlier.

Egg-Type Chicks Hatched Up 14 Percent

Egg-type chicks hatched during April totaled 42 million, up 14 percent from April 2000. Eggs in incubators totaled 37.0 million on May 1, 2001, up 1 percent from a year ago. Domestic placements of egg-type pullet chicks for future hatchery supply flocks by leading breeders totaled 293,000 during April 2001, down 5 percent from April 2000.report.

Broiler Hatch Down Slightly

The April 2001 hatch of broiler-type chicks, at 745 million, was down slightly from April of the previous year. There were 635 million eggs in incubators on May 1, 2001, down 1 percent from a year earlier.

Leading breeders placed 6.40 million broiler-type pullet chicks for future domestic hatchery supply flocks during April 2001, down 5 percent from April 2000.

Turkey Eggs in Incubators on May 1 Up 2 Percent From Last Year

Turkey eggs in incubators on May 1, 2001, in the United States totaled 32.3 million, up 2 percent from May 1 a year ago. Eggs in incubators were down 2 percent from the April 1 total of 32.9 million. Regional changes from the previous year were: East North Central, up 8 percent; West North Central, up 11 percent; North and South Atlantic, down 2 percent; South Central, down 7 percent; and West, down 12 percent.

Poults Placed During April Up 4 Percent From Last Year

The 26.2 million poults placed during April 2001 in the United States were up 4 percent from the number placed during the same month a year ago. Placements were up slightly from the March 2001 total of 26.1 million. Regional changes from the previous year were: East North Central, up 14 percent; West North Central, up 15 percent; North and South Atlantic, down 1 percent; South Central, down 9 percent; and West, down 9 percent.

Meetings, Seminars and Conventions

2001 June

June 7-10: *Georgia Veterinary Medical Association Annual Meeting*, Jekyll Island, GA. Contact: GVMA, 3050 Holcomb Bridge Rd., Norcross, GA 30071-1362. Phone: 770-416-1633; Fax: 770-416-9095.

June 8-9: *APF Poultry Festival*, Arlington Hotel, Hot Springs, Ark. Contact: Judy Kimbrell, Poultry Federation, P.O. Box 1446, Little Rock, Ark. 72203. Phone: 501-375-8131.

June 27-29: *73rd Annual Conference on Avian Diseases*, Theme of meeting, "The Future of the Poultry Industry." Hosted by: The University of Maryland. Website: www.vetmed.umd.edu

June 29-30: *Alabama Veterinary Medical Association Meeting*, Marriott Grand Hotel, Point Clear, Alabama. Contact: Joel L. Cline, DVM, J.B. Taylor Diagnostic Lab., 495 Alabama 203, Elba, AL 36323. Phone: 334-897-6340

2001 July

July 14-18: *AVMA-AAAP Meeting*, Boston, MA. Hotel Reservations: Internet (online reservations) <http://www.avma.org> Registration for meeting: AVMA, 1931 North Meacham Rd., Suite 100, Schaumburg, IL 60173-4360. Fax: 312-705-2561.

July 17-18: *Hatchery-Breeder Clinic*, Sheraton Atlanta Hotel, Atlanta. Details from U.S. Poultry & Egg Association, 1530 Cooledge Road, Tucker, GA 30084-7303; Phone: 770-493-9401; Fax: 770-493-9257; E-mail: seminar@poultryegg.org

July 20-21: *Alabama Poultry & Egg Association Annual Meeting and Convention*, Sandestin Beach Hilton, Destin, Fla. Details from AP&EA, P.O. Box 240, Montgomery, AL 36101; Phone: 334-265-2732; Fax: 334-265-0008.

2001 August

Aug. 24: - *International Course on Poultry Husbandry*. Contact: IPC Livestock Barneveld College, P.O. box 64, 3770 AB Barneveld, The Netherlands. Phone: +31 342 414881;

Fax: +31 342 492813;
E-mail: io@ipcder.hacom.nl

2001 September

Sept. 1-4: *6th European Symposium on Poultry Welfare*, Zollikofen, Switzerland. Contact:

Alois Mettler, WPSA Symposium 2001, Burgerweg 24, CH-3052 Zollikofen, Switzerland. Fax: +41 31 911 64 60.

Sept. 4: *Northern Ireland Poultry Industry Conference*, Loughry College, Cookstown, Co. Tyrone, N. Ireland. Contact: Basil Bayne, Greenmount College, 22 Greenmount Road, Antrium BT41 4PU, Ireland. Phone: +44 (0) 28 9442 6786;

Fax: +44 (0) 1849 426606;
E-mail: Basil.bayne@dani.gov.uk

Sept. 4-7: *3rd Ukrainian Poultry Conference*, Crimea, Ukraine. Organised by Poultry Institute of the Ukrainian Academy of Agrarian Sciences and the Ukrainian Branch WPSA. Contact: Dr. Taghirov Makhstud, Organising Committee Secretary, Poultry Research Institute, Birky, Zmiiv District, Kharkiv Region 63421, Ukraine. Phone: +380 (0) 5747 78005, 78006, 34439;

Fax: +380 (0) 5747 39458;

E-mail: poultry@zmiev.kharkov.com

Sept. 11-13: *The Poultry Federation (Arkansas, Missouri, Oklahoma) Nutrition Conference*, Clarion Inn, Fayetteville, Ark. Details from Judy Kimbrell, The Poultry Federation, P.O. Box 1446, Little Rock, AR 72203;

Phone: 501-375-8131; Fax: 501-375-5519

Sept. 9-12: *IX European Symposium on the Quality of Eggs and Egg Products & XV European Symposium on the Quality of Poultry Meat*, Contact: Dr. S. Yalcin, Secretary of WPSA Turkish Branch, Ege University, Faculty of Agriculture, Dept. of Animal Science, 35100 Izmir-Turkey. Phone +90 232 388 4000/1449 (ext.);

Fax: +90 232 388 1864.

E-mail: yalcin@ziraat.ege.edu.tr

Sept. 12-14: *2nd Poultry Genetics Symposium*, Organised by the Institute for Small Animals Research, Godollo, Hungary and WPSA Working Group 3 'Breeding and Genetics'.

Contact: Dr. Hidas Andras. Institute for Small Animals Research. H-2100 Godollo, Isaszegi ut, (P.O. Box 147). Phone: +36 28 420 387; Fax: +36 28 430 184; Email: hidas@katki.hu

Sept. 17-18: *Incubation and Fertility Research Group*, (WPSA Working Group 6 (Reproduction). St. Edmund's Hall, University of Oxford, UK. Contact: Dr. Charles Deeming, Hatchery Consulting & Research, 17 Rowland Close Wallingford, Oxfordshire, OX10 8LA, UK. Phone/Fax: +44 (0) 1491 835542 or <http://193.61.15.84/ifrg/ifrg.htm> (with online form).

Sept. 19-20: *Poultry Production and Health Seminar*, Marriott Downtown Hotel, Memphis, Tenn. Details from U.S. Poultry & Egg Association, 1530 Cooledge Road, Tucker, GA 30084-7303; Phone: 770-493-9401; Fax: 770-493-9257;

E-mail: seminar@poultryegg.org

Sept. 17-21: *World Veterinary Poultry Association XII International Congress*, Current developments and prospects for poultry disease prevention and control, Cairo, Egypt. contact: Cairo International Conference Centre, Prof. Dr. A.A. Sami Ahmed, President, Organising Committee, PO Box 2399, Cairo, Egypt.

Phone: +202 2442587; Fax: +202 2474955;
E-mail: mipco@thewayout.net

Sept. 30-Oct. 4: *13th European Symposium on Poultry Nutrition*, Floreal Club, Koning Albertlaan 59, 8370 Blankenberge, Belgium. contact: Semico-Seminar and Congress Organisation Office, Korte Meer, 16.

2001 October

Oct. 2-3: *Alabama Broiler Industry Seminar*, Auburn University Hotel and Dixon Conference Center, Auburn, AL Details from AP&EA, P.O. Box 240, Montgomery, AL 36101; Phone: 334-265-2732; Fax: 334-265-0008.

Oct. 4-7: *Fieravicola, 40th International Poultry Show*, Forli, Italy. Contact: Phone: +39 0543 793511; Fax: +39 0543 724488; E-mail: info@fieravicola.com; Internet: www.fieravicola.com

Oct. 9-12: *XVII Latin American Poultry Congress*, Guatemala City, Guatemala. Contact: Anavi, Avenida De La Reforma 8-60, Zona 9, Edificio Galerias Reforma, Torre II, 9° Nivel, Oficina 904, Guatemala City, Guatemala. Phone: (502) 331 1381; Fax: (502) 339 2338; Email: latino@terra.com.gt; Internet: www.XVIII-latinoavicola.org.gt

Meetings, Seminars and Conventions

Oct. 17-19: *National Meeting on Poultry Health and Processing*, Clarion Resort Fontainebleau, Ocean City, Maryland. Contact: Karen Adams at adams@dpichicken.com or Fax: 302-856-1845.

2001 November

Nov. 1-3: *Effective Broiler Breeder Management*, Holiday Inn, Utrecht, Netherlands: contact: Elaine Robson, Positive Action Conferences.

Phone: +44(0)1377 256316;

Fax: +44(0)1377 254663

E-mail: conf@positiveaction.co.uk

Nov. 5: *Salmonella 2001 Conference*, Holiday Inn, Utrecht, Netherlands. Contact: Elaine Robson, Positive Action Conferences.

Phone: +44(0)1377 245663;

Fax: +44(0)1377 254663;

Email: conf@positiveaction.co.uk

Nov. 6-9: *VIV Europe*, 2001, Royal Dutch Jaarbeurs Exhibition Center, Utrecht. contact: RoyalDutch Jaarbeurs, P.O. box 8500, NL 3503 RM, Utrecht, The Netherlands,

Phone: + 31 (0) 30 295 5662;

Fax: + 31 (0) 30 295 57 09.

2002 January

Jan. 14-15: *International Poultry Scientific Forum*, Georgia World Congress Centre, Atlanta, Georgia, USA. Contact: Yvonne Vizzier Thaxton, Executive Secretary, SPSS, Mississippi State University, Dept. of Poultry Science, Box 9665, Mississippi State, MS 39762. E-mail: spss@technologist.com

Jan. 16-18: *International Poultry Exposition Atlanta 2002*, Georgia World Congress Centre, Atlanta, Georgia, USA. Contact: US Poultry & Egg Association, 1530 Cooledge Road, Tucker, Georgia 30084-7804, USA. Phone: +1 770-493-9401; Fax: +1 770-493-9257;

E-mail: expogeneralinfo@poultryegg.org;

Internet: <http://www.poultryegg.org>

2002 March

March 21-23: *VIV Canada 2002*, Toronto, Canada. Contact: Royal Dutch Jaarbeurs, PO Box 8500, 3503 RM Utrecht, the Netherlands. Phone: +31 30 295 56 62; Fax: +31 295 57 09.

E-mail: canada@jaarbeursutrecht.nl.
Canadian Swine Exporters Association, PO Box 150, Hickson, Ontario, NoJ iLo, Canada. Phone: +1 519 462 2929; Fax: +1 519 462 2417. E-mail: csea@execulink.com

2002 April

April 24-26: *VIV China 2002*, China International Exhibition Centre, Beijing, P.R. China. Contact: Royal Dutch Jaarbeurs, P.O. Box 8500, 3503 RM Utrecht, the Netherlands. Phone: +31 30 295 5662; Fax: +31 30 295 5709; E-mail: viv.china@jaarbeursutrecht.nl

2002 May

May 27-31: *X International Seminar in Avian Pathology and Poultry Production (In Spanish)*, Georgia, USA. Contact: Dr. Pedro Villegas, Department of Avian Medicine, The University of Georgia, Athens, GA 30602-4875, USA. Fax: +1-706-542-5630; E-mail: sem2002@arches.uga.edu

2002 August

Aug 19-23: *The 7th World Congress of Genetics Applied to Livestock Production*, Le Corum Conference Centre of Montpellier, France: Contact: <http://wcgalp.toulouse.inra.fr>

2002 September

Sept. 6-10: *11th European Poultry Conference*, Bremen, Germany. Contact: 11th European Poultry Conference, 2002, Congress Partner, Birkenstr 17, D-28195 Bremen, Germany. Phone: +49 421 303130; Fax: +49 421 303133; E-mail: Bremen@cpb.de

2002 October

Oct. 6-10: *7th WPSA Asian Pacific Federation Conference*, Conrad Jupiter's Hotel, Gold coast, Queensland, Australia. In conjunction with 12th Australian Poultry & Feed Convention. Hotel Conrad, Jupiters Casino, Gold Coast,

Queensland, Australia. Contact: APFC 2002 Conference Managers, GPO Box 128, Sydney, NSW 2001, Australia. Phone: +61 2 9262 2277; Fax: +61 2 9262 3135; E-mail:

apfc2002@tourhosts.com.au; Internet: <http://www.tourhosts.com.au/apfc2002>

Oct. 6-11: *3rd International Workshop on the Molecular Pathogenesis of Marek's Disease and the Avian Immunology Research Group Meeting*, Dead Sea, Israel. Contact: MAREKS-AIRG at Target Tours, P.O. Box 29041, Tel Aviv 61290, Israel. Phone: +972 3 5175150; Fax: +972 3 5175155;

E-mail: mareks-airg@targetconf.com

Oct. 17-19: *National Meeting on Poultry Health & Processing*, Sheraton Fountainbleau Hotel, Ocean City, Maryland, USA. Contact: Sharon Webb, Delmarva Poultry Industry, Inc., RD 6, Box 47, Georgetown, DE 19947-9575, USA. Fax: +1 302-856-1845

2003 July

July 19-23: *XIII Congress of the World Veterinary Poultry Association*, Denver, CO, USA. Contact: Details are not currently available but will eventually be posted on the web site of the American Association of Avian Pathologists.