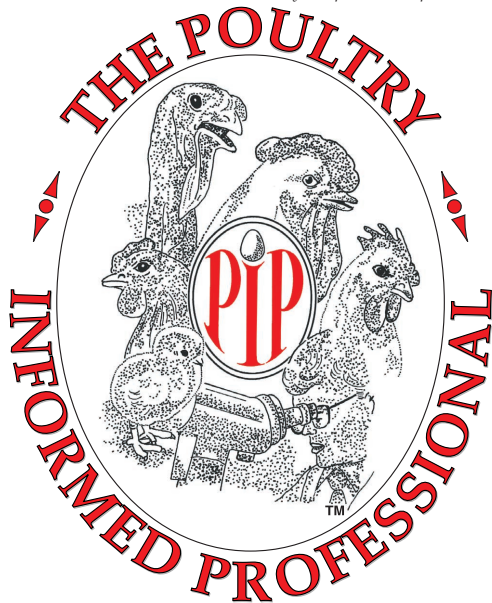


The Poultry Informed Professional is published with support from The Primary Breeder Veterinarians Association by the Department of Avian Medicine of the University of Georgia College of Veterinary Medicine. © 1999 Board of Regents of the University System of Georgia except for: United States Government Publications: "Livestock, Dairy and Poultry Situation and Outlook" (Economic Research Service, U.S.D.A); "Broiler Hatchery" and "Chicken and Eggs" (National Agricultural Statistics Service, Agricultural Statistics Board, U.S.D.A.) © 2004 Primary Breeder Veterinarians Association. Articles may be reprinted with permission. For information or permission to reprint, contact Diane Baird, (706) 542-1904.

September  
October 2005

Issue 86



# The Poultry Informed Professional

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

Phone (706) 542-1904 Fax (706) 542-5630  
e-mail: dbaird@vet.uga.edu

## technicalupdate

Volume 1

Reprinted with permission from Aviagen

## TREATMENT OF INTESTINAL WORMS IN BROILER BREEDERS

Summary Provided by Dr. Suzanne Young, Aviagen and Dr. James Dawe, Bayer Animal Health

In recent years, all FDA approved intestinal worm treatments administered in poultry feed have been withdrawn from the US market. This left the industry dependent on piperazine, the only water administered deworming drug approved for poultry. Piperazine is commonly used in both preventative and treatment programs. Due to widespread usage of piperazine, the industry suspects worms are building some resistance against this drug, possibly resulting in more intestinal worm outbreaks.

*Continued on Page 2*

### Contents

Broiler Performance Data (Region) Live Production Cost					
	SW	Midwest	Southeast	Mid-Atlantic	S-Central
Feed cost/ton w/o color (\$)	157.07	138.88	159.45	160.56	160.05
Feed cost/lb meat (¢)	14.40	12.16	15.10	15.11	14.57
Days to 4.6 lbs	43	41	42	43	43
Chick cost/lb (¢)	3.77	4.13	3.31	3.77	3.95
Vac-Med cost/lb (¢)	0.07	0.06	0.07	0.04	0.06
WB & 1/2 parts condem. cost/lb	0.18	0.18	0.16	0.17	0.11
% mortality	4.78	4.12	4.56	5.21	3.98
Sq. Ft. @ placement	0.81	0.82	0.85	0.83	0.83
Lbs./Sq. Ft.	6.91	6.39	7.37	6.96	6.56
Down time (days)	14	9	14	10	11

Data for week ending September 10, 2005





Page 1 of 11

- Treatment of Intestinal Worms.. Pages 1-3
- Histomoniasis (Blackhead).. Pages 4-5
- Broiler Performance Data (Region) Page 1
- Broiler Performance Data (Company) Page 6
- Broiler Whole Bird Condemnations (Region) Page 6
- Broiler Whole Bird Condemnations (Company) Page 6
- Excerpts.. "Broiler Hatchery" and "Chicken and Eggs" and "Turkey Hatchery, ... Pages 7-8
- Meetings, Seminars and Conventions Pages 9-10
- February 2005 Charts Page 11

Intestinal worms are commonly diagnosed during necropsy of pullets, cockerels and occasionally broilers. A preventative worming program is suggested in rearing breeders to reduce the incidence and severity of intestinal worms. Severe intestinal worm infestations can cause diarrhea, poor absorption of nutrients, and enteritis. Clinical signs commonly seen with intestinal worm infestations include rough feathering, retarded growth, pasty vents and pale birds. Worms can be carriers of infectious diseases, including Blackhead (*Histomonas meleagridis*), (see Aviagen Technical Update Vol: 2 for more information) which has been diagnosed more frequently in recent months.

Cleaning out houses and placing new litter with every flock will minimize exposure to intestinal worms. Not only do houses containing built-up litter harbor intestinal worm eggs that could affect the next flock, they also serve as a reservoir for darkling beetles that are associated as carriers for worm transmission. Although preventative programs are ideal, occasionally outbreaks will occur. Table 1 below describes the most common intestinal worms in chickens; Table 2 summaries treatment options.

**Table 1: Common Intestinal Worms of Chickens**

Common Name	Scientific Name	Location	Age of birds when adult worms first appear	Description	Intermediate Host	Treatment Options
<b>Roundworm (Ascarid)</b> 	<i>Ascaridia galli</i>	Small Intestine	> 4 wk	Large, thick, yellowish-white 50-116 mm long 500 µm-1.8 mm wide	None	1. Levamisole hydrochloride 2. Piperazine 3. Albendazole 4. Oxfendazole 5. Fenbendazole 6. Ivermectin
<b>Tapeworm</b> 	Many	Small Intestine	> 5 wk	Segmented, white  Length and width varies greatly with species.	1. Darkling beetle 2. Earthworm 3. Grasshoppers 4. House fly 5. Beetle 6. Ant 7. Stable fly	1. Albendazole
<b>Capillaria</b> 	<i>Capillaria obsignata</i> (most common)	Small Intestine (Occasionally ceca)	> 3 wk	Hair-like worm hard to visualize 7-18 mm long 49-80 µm wide	None	1. Levamisole hydrochloride 2. Albendazole 3. Oxfendazole 4. Fenbendazole 5. Ivermectin
<b>Cecal Worm</b> 	<i>Heterakis gallinarum</i>	Cecal pouches	> 6 wk	Small, white hard to visualize. Detected by their movement in cecal contents. 7-15 mm long	None (Earthworm vector for Blackhead)	1. Levamisole hydrochloride 2. Albendazole 3. Oxfendazole 4. Fenbendazole 5. Ivermectin

Piperazine is the only FDA approved drug for treatment of roundworms in poultry. Currently, there are no approved drugs for treatment of Capillaria, tape or cecal worms in poultry. As a result, the drugs below (other than Piperazine) are used extra-label in drinking water when prescribed and monitored by a licensed veterinarian.

**FDA prohibits extra-label drug use in feed; therefore all treatments must be administered via drinking water. Follow all manufacturer recommended doses. Consult your veterinarian for prescriptions and withdrawal times.**

Continued on Page 3

**Table 2: Extra-Label Drugs Used for Treatment of Intestinal Worms via Drinking Water**

Active Ingredient	Trade Name	Susceptible Worms	Problems and Drug Side Effects
Piperazine Sulfate	Wazine 34%	Roundworms only	1. Resistance has been associated with this drug. 2. Water soluble
Levamisole Hydrochloride	Prohibit Solution	Roundworms, Capillaria, cecal	1. No effect on egg production or performance when used 8-16 mg/lb body weight dose. 2. Water Soluble
Albendazole	Valbazen Suspension	Roundworms, Capillaria, cecal and tapeworms	No reported negative effects
Oxfendazole	Synanthic	Roundworms, Capillaria, cecal	Can settle in water lines
Fenbendazole	Cattle Safe-Guard	Roundworms, Capillaria, cecal	Can settle in water lines
Ivermectin	Ivermectin 1% (10mg/ml)	Roundworms, Capillaria, cecal	Can settle in water lines

**HELPFUL HINTS WHEN CALCULATING DOSAGES:**

1. Calculate total body weight of flock (lbs)
2. Dose mg X (lb in flock) = Total mg for flock
3. Be sure active ingredient and dose are in the same unit. 1g = 1000 mg
4. Total grams needed for flock / grams active ingredient per package = # of packages for flock

**CALCULATION EXAMPLE:**

1. A house with 9000, 5lb females and 900, 5.5 lb males:  
 $9000 (5) + 900 (5.5) = \sim 49,950$  total lbs in flock
2. If the dose is 16mg/lb:  
 $49,950 \text{ lbs} \times 16 \text{ mg} = 799,200 \text{ mg}$  total for house
3. To convert to grams:  $799,200 / 1000 = 799.2\text{g}$
4. If there are 544.5g of active ingredient per packet:  
 $799.2\text{g} \text{ needed} / 544.5\text{g active ingredient} = \sim 1.5$  packages for that flock

**REFERENCES**

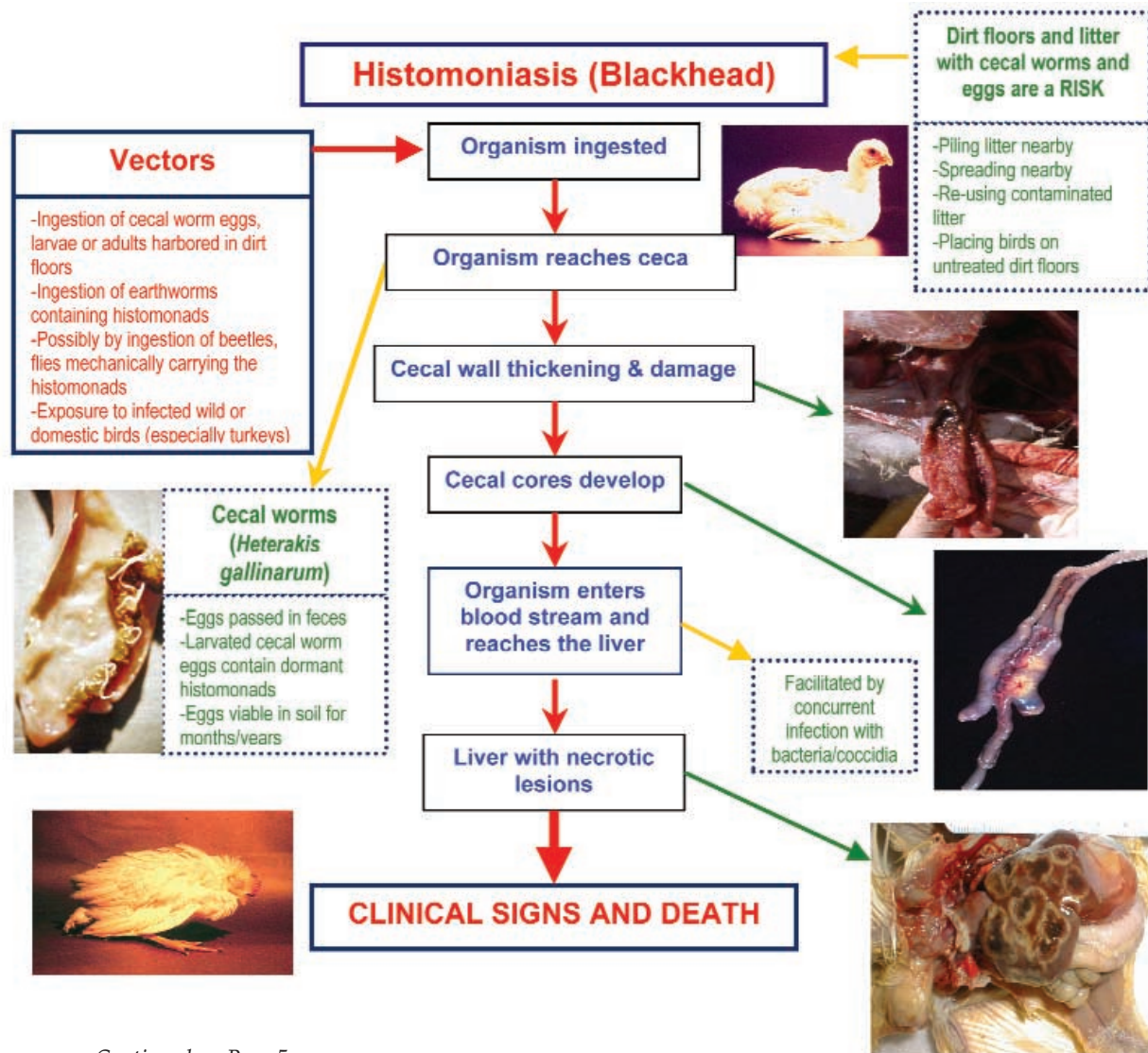
1. Dawe, J. and C.L. Hofacre, April 2002. With Hygromycin Gone, What are Today's Worming Options? The Poultry Informed Professional: Issue 60; 1-8.
2. McDougald, L.R. 2003. Internal Parasites. In: Diseases of Poultry. Y.M. Saif (ed.) 11th ed. Iowa State University Press, Ames, IA:931-972.

## HISTOMONIASIS (BLACKHEAD)

Kelli Holloway Jones, D.V.M., M.A.M., Aviagen

Histomoniasis is a complex disease process primarily affecting turkeys. Other fowl such as chickens, quail, and peafowl are also susceptible. Recently, clinical cases have surfaced in pullets and cockerels, which have necessitated the need for a review of disease processes, prevention, and treatment options. The primary agent in this disease process is the protozoal organism, *Histomonas meleagridis*.

### DISEASE PROCESS AND TRANSMISSION



Continued on Page 5

## CLINICAL SIGNS AND DIAGNOSIS

- o Signs develop 7-12 days after infection
- o Clinical signs are listlessness, unkempt feathers, and discolored cecal discharge
- o Swollen ceca with thickened walls and possibly cecal cores
- o Liver lesions are highly variable, but typically manifest as circular depressed target-like areas up to 1 cm in diameter
- o Upon suspicion of blackhead, submission of birds to a diagnostic lab is warranted
  - Differentiation of concurrent infections with agents such as salmonellosis, coccidiosis, aspergillosis, and upper digestive tract trichomoniasis is important
  - Microscopically, the protozoa can easily be found in affected ceca and livers

## TREATMENT AND PREVENTION

- o The only approved drug for blackhead is nitarson. Refer to the 2005 Feed Additive Compendium for current dosing and directions. It may be effective when used preventatively, but arsenicals are not strong enough to treat established infections. Use as the sole source of arsenic (concurrent 3-Nitro use is not recommended).
- o Reducing primary vectors (i.e. cecal worms) is key in the strategy for blackhead control. Consistent, early, and frequent worming with benzimidazole type products\* will help reduce exposure to cecal worms/eggs and the histomonads they carry. See Aviagen Technical Update, Vol. 1 for more information on worming programs. Avoid exposure to earthworms.
- o Coccidiosis caused by *E. tenella* has been identified as a contributing factor.
  - It is more likely to spread to the liver when coccidiosis is also present
  - The numbers of birds with severe lesions are increased with presence of both parasites
  - Prevention strategies to control *E. tenella* are important
- o Biosecurity measures aimed at reducing populations of vectors are recommended. Complete removal of old litter from premises between flocks is recommended. Affected houses should undergo a thorough cleanout and disinfection.
- o Besides cecal worms and earthworms, other invertebrate organisms could serve as mechanical vectors. Therefore, control measures should also include actions to reduce darkling beetles and flies, among others.
- o Some companies are having success with various programs that include salting dirt floors (granular feed grade only). Caution is advised, as salt has the potential to rust metal.
- o Vitamin supplementation, especially with fat-soluble vitamins A, E, D<sub>3</sub>, and K is a good practice. In situations of intestinal disease, such as with a break of coccidiosis or blackhead, absorption of fat-soluble vitamins is decreased.

Only through effective management practices aimed to reduce the build-up of cecal worms and other potential vectors, and a thorough monitoring and control program for coccidiosis, can clinical histomoniasis be effectively controlled in broiler breeders.

**\*FDA prohibits extra-label drug use in feed; therefore all treatments must be administered via drinking water. Follow all manufacturer recommended doses. Consult your veterinarian for prescriptions and withdrawal times.**

## References:

1. McDougald, L.R. 2003. Other Protozoan Diseases of the Intestinal Tract- Histomoniasis (Blackhead). In: Diseases of Poultry. Y.M. Saif (ed.) 11th ed. Iowa State University Press, Ames, IA: 1001 -1006.
2. Dawe, J. and C.L. Hofacre, April 2002. With Hygromycin Gone, What are Today's Worming Options? The Poultry Informed Professional: Issue 60; 1-8.
3. Clark, F.D. and R.A. Norton, Jan/Feb 1998. Histomoniasis-an unwelcome houseguest returns. Turkey World.

**Broiler Whole Bird Condemnation (Company)**

	Average Co.	Top 25%	Top 5 Co.'s
% Septox	0.168	0.152	0.192
% Airsac	0.044	0.046	0.015
% I.P.	0.023	0.014	0.011
% Leukosis	0.003	0.001	0.001
% Bruise	0.003	0.003	0.002
% Other	0.008	0.005	0.004
% Total	0.249	0.221	0.225
% 1/2 parts condemnations	0.369	0.446	0.796

Data for week ending September 10, 2005

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

	Average Co.	Top 25%	Top 5 Co.'s
Feed cost/ton w/o color (\$)	158.35	152.28	148.71
Feed cost/lb meat (¢)	14.58	13.12	12.44
Days to 4.6 lbs	42	42	41
Chick cost/lb (¢)	3.77	4.01	3.83
Vac-Med cost/lb (¢)	0.06	0.04	0.02
WB & 1/2 parts condemn. cost/lb	0.15	0.14	0.14
% mortality	4.48	3.52	2.96
Sq. Ft. @ placement	0.83	0.78	0.81
Lbs./Sq. Ft.	6.86	6.50	6.19
Down time (days)	11	13	13

Data for week ending September 10, 2005

**REMINDER**

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

**Broiler Whole Bird Condemnation (Region)**

	SW	Mid-West	S. East	Mid-Atlantic	S. Central
% Septox	0.192	0.250	0.206	0.164	0.127
% Airsac	0.050	0.033	0.044	0.064	0.032
% I.P.	0.008	0.016	0.026	0.047	0.007
% Leukosis	0.001	0.000	0.011	0.000	0.001
% Bruise	0.001	0.001	0.004	0.005	0.004
% Other	0.013	0.005	0.007	0.007	0.012
% Total	0.266	0.306	0.298	0.286	0.183
% 1/2 parts condemnations	0.421	0.694	0.354	0.390	0.244

Data for week ending September 10, 2005



COBB-VANTRESS



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 The Primary Breeder Veterinarians Association.

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

### Broiler Eggs Set In 19 Selected States Down Slightly

According to the latest National Agricultural Statistics Service (NASS) reports, commercial hatcheries in the 19-State weekly program set 208 million eggs in incubators during the week ending September 3, 2005. This was down slightly from the eggs set the corresponding week a year earlier. Average hatchability for chicks hatched during the week was 82 percent. Average hatchability is calculated by dividing chicks hatched during the week by eggs set three weeks earlier.

### Broiler Chicks Down 3 Percent

Broiler growers in the 19-State weekly program placed 170 million chicks for meat production during the week ending September 3, 2005. Placements were down 3 percent from the comparable week a year earlier. Cumulative placements from January 2, 2005 through September 3, 2005 were 6.15 billion, up 2 percent from the same period a year earlier.

### July Egg Production Up Slightly

U.S. egg production totaled 7.56 billion during July 2005, up slightly from last year. Production included 6.44 billion table eggs, and 1.12 billion hatching eggs, of which 1.06 billion were broiler-type and 62 million were egg-type. The total number of layers during July 2005 averaged 340 million, down 1 percent from a year earlier. July egg production per 100 layers was 2,222 eggs, up 1 percent from July 2004.

All layers in the U.S. on August 1, 2005, totaled 340 million, down 1 percent from a year ago. The 340 million layers consisted of 282 million layers producing table or market type eggs, 55.9 million layers producing broiler-type hatching eggs, and 2.63 million layers producing egg-type hatching eggs. Rate of lay per day on August 1, 2005, averaged 71.0 eggs per 100 layers, same as a year ago.

### Egg-Type Chicks Hatched Up 1 Percent

Egg-type chicks hatched during July 2005 totaled 35.3 million, up 1 percent from July 2004. Eggs in incubators totaled 35.3 million on August 1, 2005, up 12 percent from a year ago.

Domestic placements of egg-type pullet chicks for future hatchery supply flocks by leading breeders totaled 242,000 during July 2005, up 9 percent from July 2004.

### Broiler-Type Chicks Hatched Up Slightly

Broiler-type chicks hatched during July 2005 totaled 808 million, up slightly from July 2004. Eggs in incubators totaled 663 million on July 1, 2005, down slightly from a year earlier.

Leading breeders placed 6.66 million broiler-type pullet chicks for future domestic hatchery supply flocks during July 2005, down slightly from July 2004.

### Turkey Eggs in Incubators on August 1 Down 1 Percent

Turkey eggs in incubators on August 1, 2005, in the United States totaled 30.2 million, 1 percent below August 1 a year ago. Eggs in incubators were also 1 percent below the July 1, 2005 total of 30.6 million eggs. Regional changes from the previous year were: East North Central up 3 percent, West North Central down slightly, North and South Atlantic up 2 percent, South Central down 8 percent, and West down 14 percent.

### Poults Placed During July Down 2 Percent From Last Year

The 24.5 million poults placed during July 2005 in the United States were down 2 percent from the number placed during the same month a year ago. Placements were up 1 percent from June 2005. Regional changes from the previous year were: East North Central up slightly, West North Central down 2 percent, North and South Atlantic up 2 percent, South Central down 17 percent, and West down 7 percent.

### Broiler Production Increases by Almost 5 Percent

According to the latest Economic Research Service (ERS) reports, broiler meat production during the first half of 2005 was 17.5 billion pounds, up 4.9 percent from the same period in 2004. Production during the second quarter of 2005 was 8.9 billion pounds, 5.3 percent higher than the previous year. The increase in broiler meat production came from a combination of a higher number of birds going to slaughter and an increase in their average liveweight. Over the first half of 2005 the number of broilers slaughtered was 4.4 billion, up 1.9 percent from a year earlier. The average broiler liveweight at slaughter during the first 6 months of 2005 was 5.34 pounds, up 2.1 percent from last year. The growth rate for broiler meat production

is expected to slow somewhat during the second half of 2005, but is still expected to be 3 to 4 percent higher than during the same period in 2004. Much of the growth is expected to come from higher liveweights as the number of birds being placed for growout over the last several weeks has only been slightly higher than a year earlier. Gradually strengthening prices for a number of broiler products are expected to provide some incentive for producers to expand production, and while grain prices have been increasing they are not expected to be any higher than a year earlier and below where they were in the second half of 2003.

The number of chicks being placed weekly for growout has averaged approximately 175 million over the last 5 weeks (July 9 to August 6). This is down less than 1 percent from the same weekly period in 2004. Broiler meat production estimates for the third and fourth quarters are 9.2 and 8.9 billion pounds, respectively. These production levels are 3.8 and 3.7 percent higher than the previous year.

### **Broiler Exports Surge in 2005**

Over the first 6 months of 2005, broiler exports were 2.55 billion pounds, up 25 percent from a year earlier. The major reason for the much higher shipments was that the export restrictions due to U.S. avian influenza (AI) outbreaks that had been in place in the first half of 2004 are now gone. This has resulted in stronger exports to Russia, the CIS countries, and a number of Asian markets (Hong Kong/China, Korea, and Japan). In addition there has been continued expansion of shipments to Mexico.

Exports to Russia were 707 million pounds in the first half of 2005, up 14 percent from a year earlier. The increase has come almost entirely in the form of higher shipments of leg quarters as they make up 96 percent of our exports to Russia on a quantity basis. During the first 6 months of 2005, leg quarter exports have accounted for 67 percent of our total broiler exports on a quantity basis. Even with broiler production increasing 4.9 percent over the first half of 2005, leg quarter prices have continued to strengthen. During July, leg quarter prices have continued to increase, reaching over 45 cents per pound by the end of the month. These rising prices combined with the strong production increases in the second quarter of 2005 and falling cold storage holdings indicate a continued strong export demand for leg quarters.

With a strong demand for broiler products even in the face of rising prices, the forecast for U.S. broiler exports over the second half of 2004 has been revised upward. The forecast for the third and fourth quarters are for shipments of 1.4 and 1.5 billion pounds, an increase of 7 percent in the third quarter and 3 percent lower in the fourth quarter than the record 1.49 billion pounds exported in the fourth quarter of 2004. One reason for the expected slow down in exports

in fourth-quarter 2005 is exports to Russia were restricted over the first half of 2004 and in the second half of the year there was a rush to fill as much of the Russian import quota as possible. As a result, fourth-quarter exports were a record 1.49 billion pounds. This is not expected to be the case in 2005. The export forecast for 2006 is also increased to 5.5 billion pounds, slightly higher than in 2005 and close to the record exports of 2001.

### **Turkey Production Increases in First-Half 2005**

Turkey production during the first 6 months of 2005 was 2.7 billion pounds, a 1.4-percent gain compared with a year earlier. The increase in turkey meat production was due to an increase in the average liveweight of birds at slaughter as the number of birds slaughtered in the first 6 months of 2005 was actually down 3.5 percent from a year earlier. The average liveweight for turkeys at slaughter during the first 6 months of 2005 was nearly 29 pounds, an increase from the previous year of 4.9 percent. The forecast for meat production in the second half of 2005 is for a slight decrease compared with the previous year. The decline in production is expected to be moderate by growers producing larger birds, as the number of birds slaughtered is expected to be lower. The number of poult placed for growout during the first 7 months of 2005 totaled 163 million, down 2.6 percent from the same period in 2004. With higher turkey meat production in the second quarter of 2005, turkey production has risen in the last two quarters after having fallen in the previous seven quarters.

The relatively small increase in production combined with higher exports has resulted in prices at or above their year-earlier levels. In July, the price of 8-16 pound whole hens in the Eastern market was 72.6 cents a pound, up 2 percent from a year earlier, but 25 percent higher than the July 2003 price. With basically no growth in production forecast for the remainder of 2005 and with lower stocks as of the end of June, wholesale prices for whole turkeys are expected to remain close to or slightly higher than their year-earlier levels through the remainder of 2005.

### **Turkey Exports Jump by 56 Percent**

Over the first 6 months of 2005, U.S. turkey exports totaled 273 million pounds, up 56 percent compared with the previous year. As with broiler exports, much of the increase has come from the lifting of export restrictions in place in the first half of 2004. The increase in exports has been to a number of countries in Asia along with a strong increase in shipments to Mexico, the largest market. Shipments to Mexico in the first half of 2005 totaled 171 million pounds, up 68 percent from last year. With larger exports and strengthening prices, the value of turkey exports rose strongly to \$177 million during the first 6 months of 2005, an increase of 48 percent from a year earlier.

# Meetings, Seminars and Conventions

## 2005 October

**October 4-7: XIX Latin American Poultry Congress**, Atlapa Convention Center, Panama City, Panama. Contact: ANA VIP, PO Box 6-3994, El Dorado, Panama. Phone: +1 507 226 3941; Fax: +1 507 226 9905; Email: anavip@anavip.com; Website: www.anavip.com/congreso

**October 7-8: 4th European Poultry Genetics Symposium**, (WPSA Working Group 3, Breeding and Genetics), Dubrovnik, Croatia.

Contact: Helga Medic, Phone: +385 1 4605126; Email: hmedic@pdf.hr

**October 9-12: 13th Australian Poultry Convention**, Conrad Jupiters, Gold coast, Australia. Contact: Tour Hosts Pty Ltd, G.P.O. Box 128, Sydney, NSW 2001, Australia. Phone: +61 2 9265 0777. Fax: +61 2 9267 5443; E-mail: poultry2005@tourhosts.com.au; Website: www.poultry2005.com

**October 11-13: Poultry Farming 2005**, 27th International Conference, Business Meeting and Exhibition, IHS 'E.Joliot-Curie, St. Constantin and Elena Varna, Bulgaria. Contact: Bulgarian Poultry Union, 1303 Sofia, 80 Christo Botev Boulevard, Bulgaria. Phone/Fax: +352 2 931 09 58; Email: galus@mb.bia-bg.com

**October 13-14: Poultry Protein & Fat Seminar**, Nashville, Tennessee USA. contact: U.S. Poultry & Egg Association, 1530 Cooledge Road, Tucker, Georgia 30084 USA. Phone: +1 770-493-9401; Fax: +1 770-493-9257; Website: www.poultryegg.org

## 2005 November

**November 1-4: VIV Europe 2005**, Jaarbeurs, Utrecht, The Netherlands. Contact: VNU Exhibitions Europe BV, PO Box 880. 3503 RV Utrecht, The Netherlands, Phone: +31 30 295 2772; Fax: +31 3 295 2809; Email: viv.europe@vnuexhibitions.com; Website: www.viv.net

**November 3: 3rd International Waterfowl Conference**, (WPSA China Branch), Guangzhou, Guangdong Province, China. Contact: WPSA China Secretary-General, Dr. Xiquan Zhang, College of Animal Science, South China Agricultural University, Guangzhou 510642, China. Phone: +86 20 8528 5703; Fax: +86 20 8528 0740; Email: waterfowl2005@scau.edu.cn; Website: www.scau.edu.cn/waterfowl2005

**November 3-10: United States Animal Health Association**, Hershey, Pennsylvania. Website: www.usaha.org.

## 2006 January

**January 23-24: International Poultry Scientific Forum**, Georgia World Congress Center, Atlanta, Georgia USA, Contact: US Poultry & Egg Assn., 1530 Cooledge Road, Tucker, Georgia 30084 USA, Phone: +1 770 403 0401; Fax: +1 770 403 9257, Website: www.poultryegg.com

**January 25-27: 2006 International Poultry Exposition**, Georgia World Congress Center, Atlanta, Georgia USA, Contact: US Poultry & Egg Assn., 1530 Cooledge Road, Tucker, Georgia 30084 USA, Phone: +1 770 403 0401; Fax: +1 770 403 9257, Website: www.poultryegg.com

## 2006 February

**February 9-11: National Turkey Federation (NTF) Annual Convention 2006**, Orlando, Florida USA. Contact: National Turkey Federation, 1225 New York Avenue, NW Suite 400, Washington, DC 20005 USA. Phone: +1 202-898-0100; Fax: +1 202 898 0203; Email: info@turkeyfed.org; Website: www.eatturkey.com

**February 20-22: Poultry Focus Asia 2006**, Queen Sirikit National Convention Center, Bangkok, Thailand. Phone: +44 1377 256316; Fax: +44 1377 253640; Email: conf@positiveaction.co.uk; website: www.positiveaction.co.uk

## 2006 March

**March 5: ACPV Workshop**, Contact: Babak Sanei, DVM, Poultry Ontario Ministry of Agriculture, Food and Rural Affairs, Guelp, ON N1G2W1. Phone: 519-824-4120 Ext. 54650; Fax: 519-763-2253; Email: babak.sanei@omaf.gov.on.ca

**March 21-23: Midwest Poultry Federation Convention 2006**, St. Paul, Minnesota USA. Contact: Midwest Poultry Federation, 108 Marty Drive, Buffalo, Minnesota 55313 USA. Phone: +1 763-682-2171; Fax: +1 763-682-5546; Email: Nicole@midwestpoultry.com; Website: www.midwestpoultry.com

## 2006 April

**April 3-6: 6th International Symposium on Avian Influenza**, St. John's College, Cambridge, UK. Contact: Dr. I. Capua. Fax: +39 49 8084360; Email: icapua@izsvenezie.it or Dr. D. Swayne. Fax: +1 706 5463161; Email: dswayne@sepri.usda.gov

**April 24-27: Middle East Poultry Show 2006**, Dubai World Trade Center, Dubai, United Arab Emirates. Contact: Mediac Communication & Exhibitions LLC, PO Box 5196, Dubai, United Arab Emirates. Phone: +971 4 2692004; Fax: +971 4 2691296; Email: mediac@emirates.net.ae; Website: www.mediacc.com

## 2006 May

**May 9-10: British Pig & Poultry Fair 2006**, Warwickshire, United Kingdom. Contact: Haymarket Land Events, Royal Agricultural Society of England, Stoneleigh Park, Warwickshire CV8 2LZ England. Phone: +44 24 76 696969; Fax: +44 24 76 696900; Email: alice.bell@haynet.com; Website: www.pigandpoultryfair.org.uk

**May 15: Respiratory Diseases 2006**, NH Utrecht Hotel, Utrecht, Holland. Phone: +44 1377 256316; Fax: +44 1377 253640; Email: conf@positiveaction.co.uk; Website: www.positiveaction.co.uk

**May 16-18: VIV Europe**, (Postponed from November 2-4, 2005), Jaarbeurs, Utrecht, The Netherlands. Contact: VNU Exhibitions Europe BV, PO Box 8800, 3503 RV Utrecht, The Netherlands. Phone: +31 30 295 2788; Fax: +31 30 295 2809; Email: viv.europe@vnuexhibitions.com; Website: sites.vnuexhibitions.com/sites/viv

**May 22-26: International Seminar in Poultry Pathology and Production**, organized by The University of Georgia and the Colombian Poultry Veterinary Association (AMEVEA), at the University of Georgia, Athens, Georgia. Contact: Sem2006@uga.edu

**May 24-26: VIV Russia 2006**, Moscow, Russia. Contact: Website: sites.vnuexhibitions.com/sites/viv

# Meetings, Seminars and Conventions

## 2006 July

**July 16-19 : Poultry Science Association (PSA) Annual Meeting 2006**, Edmonton, Alberta, Canada. Contact: Mary Swenson, Poultry Science Association, Inc., 1111 N. Dunlap Avenue, Savoy, Illinois 61874 USA. Phone: +217 356 5285; Fax: +1 217 398 4119; Email: marys@assoqh.org; Website: www.fass.org or www.poultryscience.org

## 2006 September

**Sept. 10-14: 12th European Poultry Conference**, Veronafiere Congress Centre, Verona, Italy. Contact: Secretariat XII WPSA European Conference, Department of Food Science, Via San Giacomo 9, 40126 Bologna, Italy. Phone: +39 051 209 4221; Fax: +39 051 251 936; Email: wpsa@alma.unibo.it; Website: www.epc2006.veronafiere.it

**Sept. 27-29 : VIV China 2006**, (Postponed from June 2006-dates not yet specified), Beijing, P.R. China. Contact: VNU Exhibitions Europe B.V., PO Box 8800, 3503 RV Utrecht, The Netherlands. Phone: +31 30 295 2772; Fax: +31 30 295 2809; Email: viv.china@vnuexhibitions.com; Website: sites.vnuexhibitions.com/sites/viv or Mr. Ruifent Xu, CNAVS Trade Fair Office. Phone +86 10 649 50 373; Fax: +86 10 649 50 374; Email: rfxu@china-av.net

## 2006 October

**October 10-14: World Poultry Science Association (WPSA) European Poultry Conference 2006**, Verona, Italy. Contact: Secretariat - XII WPSA European Conference, Department of Food Science, University of Bologna, Via San Giacomo 9, 40126 Bologna, Italy. Phone: +39 041 209 4221; Fax: +39 051 251 936; Email: epc2006@wpsa.it; Website: www.epc2006.veronafiere.it

## 2006 November

**November 14-17: EuroTier 2006**, Hanover, Germany. Contact: DLG (Deutsche Landwirtschafts-Gesellschaft e.V.), Eschborner-Landstrasse 122, 60489 Frankfurt-am-Main, Germany. Phone: +49 69 24788 265; Fax: +49 69 24788 113; Email: eurotier@DLG-Frankfurt.de; Website: www.eurotier.de

## 2007 January

**Jan. 31-Feb. 2: 2007 International Poultry Exposition**, Georgia World Congress Center, Atlanta, Georgia, USA. Contact: US Poultry & Egg Association, 1530 Cooleedge Road, Tucker, Georgia 30084 USA. Phone: +1 770 493 9401; Fax: +1 770 493 9257; Website: www.poultryegg.org

## 2007 March

**March 20-22: Midwest Poultry Federation Convention 2007**, St. Paul, Minnesota USA. Contact: Midwest Poultry Federation, 108 Marty Drive, Buffalo, Minnesota 55313 USA. Phone: +1 763-682-2171; Fax: +1 763-682-5546; Email: Nicole@midwestpoultry.com; Website: www.midwestpoultry.com

## 2008 August

**August 10-15: XXIII World's Poultry Congress**, Convention and Exhibition Centre, Brisbane, Australia. Contact: WPC 2008 Congress, Intermedia Convention & Event Management, PO Box 1280, Milton, Queensland 4064, Australia. Phone: +61 7 3858 5594; Fax: +61 7 3858 5510; Email: wpc2008@im.com.au; Website: www.wpsa.info

Broiler Performance Data (Region) Live Production Cost					
	SW	Midwest	Southeast	Mid-Atlantic	S-Central
Feed cost/ton w/o color (\$)	159.08	140.25	162.10	161.50	159.44
Feed cost/lb meat (¢)	14.83	12.45	15.17	15.26	15.27
Days to 4.6 lbs	44	41	44	44	43
Chick cost/lb (¢)	3.85	4.19	4.13	4.10	3.45
Vac-Med cost/lb (¢)	0.07	0.06	0.06	0.03	0.08
WB & 1/2 parts condemn. cost/lb	0.18	0.18	0.12	0.19	0.16
% mortality	5.27	5.70	5.32	5.52	5.08
Sq. Ft. @ placement	0.80	0.83	0.83	0.84	0.84
Lbs./Sq. Ft.	6.74	6.30	6.33	6.46	7.17
Down time (days)	13	10	10	10	13

Data for week ending August 27, 2005

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

	Average Co.	Top 25%	Top 5 Co.'s
Feed cost/ton w/o color (\$)	159.58	151.96	141.70
Feed cost/lb meat (¢)	14.86	13.56	12.25
Days to 4.6 lbs	43	42	42
Chick cost/lb (¢)	3.92	3.94	4.17
Vac-Med cost/lb (¢)	0.08	0.05	0.07
WB & 1/2 parts condemn. cost/lb	0.16	0.14	0.18
% mortality	4.75	3.58	2.85
Sq. Ft. @ placement	0.83	0.79	0.80
Lbs./Sq. Ft.	6.67	6.56	6.20
Down time (days)	12	11	9

Data for week ending August 27, 2005

**Broiler Whole Bird Condemnation (Region)**

	SW	Mid-West	S. East	Mid-Atlantic	S. Central
% Septox	0.189	0.261	0.126	0.175	0.199
% Airsac	0.051	0.039	0.027	0.075	0.041
% I.P.	0.006	0.015	0.007	0.062	0.020
% Leukosis	0.001	0.000	0.001	0.000	0.012
% Bruise	0.001	0.001	0.004	0.006	0.004
% Other	0.013	0.006	0.012	0.007	0.005
% Total	0.200	0.322	0.178	0.325	0.282
% 1/2 parts condemnations	0.400	0.669	0.262	0.399	0.372

Data for week ending August 27, 2005

**Broiler Whole Bird Condemnation (Company)**

	Average Co.	Top 25%	Top 5 Co.'s
% Septox	0.160	0.160	0.247
% Airsac	0.050	0.042	0.027
% I.P.	0.025	0.022	0.027
% Leukosis	0.003	0.001	0.000
% Bruise	0.003	0.002	0.001
% Other	0.008	0.005	0.003
% Total	0.248	0.232	0.305
% 1/2 parts condemnations	0.391	0.454	0.819

Data for week ending August 27, 2005