



The Poultry Informed Professional

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

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Waste Management in the Poultry Industry

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When the discussion turns to the impact of poultry waste and the best way to handle this inevitable by-product, the major issue to be considered is ground water contamination. If carcasses are placed in pits as has been done for so many years, there is the potential that the liquefied material produced by the decomposition of carcasses could escape the enclosure and make its way to ground water sources. If carcasses and/or manure are composted and spread on fields as fertilizer, poor land stewardship could result in over-application or application too near to open wells and waterways. Either error in waste application could result in runoff and contamination of the water systems, which are used to provide drinking water to our families and livestock. Preliminary studies done in the state of Georgia indicate that high nitrate levels in the ground water is more consistently associated with inappropriate litter storage, litter

application, and poultry house location in relation to wells than the poultry disposal pits.

Continued on Page 2

Contents

Waste Management in the Poultry Industry... Pages 1-2
 Broiler Tip... Page 3
 Broiler Performance Data (Region) Page 1
 Broiler Performance Data (Company) Page 3
 Broiler Whole Bird Condemnations (Region) Page 4
 Broiler Whole Bird Condemnations (Company) Page 4
 Excerpts.. "Broiler Hatchery" "Chicken and Eggs" and "Turkey Hatchery, ... Pages 5-6
 Meetings, Seminars and Conventions Page 7

Broiler Performance Data (Region) Live Production Cost					
	SW	Midwest	Southeast	Mid-Atlantic	S-Central
Feed cost/ton w/o color (\$)	131.19	123.32	138.53	138.59	135.08
Feed cost/lb meat (¢)	12.55	11.79	13.27	13.75	12.84
Days to 4.6 lbs	46	45	45	45	45
Med. cost/ton (¢)	2.88	1.93	3.17	3.26	2.85
Chick cost/lb (¢)	3.98	3.83	3.98	3.62	3.90
Vac-Med cost/lb (¢)	0.07	0.02	0.19	0.09	0.13
WB & 1/2 parts condem. cost/lb	0.22	0.19	0.29	0.26	0.28
% mortality	3.93	4.17	4.96	5.14	4.94
Sq. Ft. @ placement	0.81	0.78	0.80	0.80	0.82
Lbs./Sq. Ft.	5.90	6.78	6.54	6.90	6.40
Down time (days)	10	12	14	11	15

Data for week ending 5/27/00

Waste Management in the Poultry Industry

Continued from Page 1

Good biosecurity measures always include timely removal of dead from the poultry houses and proper disposal of the carcasses to prevent introduction of possible pathogens from the carcasses to the rest of the flock. How then can it be that we do not consider that by contamination of the drinking water, we are still introducing these pathogens into our flocks, this time through a route that will surely affect all the birds since each of them need to drink? With proper poultry waste management we must not only consider the first steps, such as composting, but also the usage of that production in a way which will not jeopardize the health of the flocks.

Different areas of the country have different problems due to variations in type of soil, concentration of agricultural industries that produce waste products, as well as the location of areas that utilize these waste products, and the depth of ground water in relation to ground surface. One standard measure of water contamination has been nitrate levels. The EPA standard for drinking water is 10 mg/L. In places like Delmarva where the poultry concentration is high in relation to crop production, coupled with a shallow soil layer, lends this region to high potential problems with ground water contamination.

Until recently, economics has rules which methods will be used for poultry waste disposal. Pits by far are the most economical method for carcass disposal and land application of manure in many cases is a money saving venture by reducing the need to purchase inorganic fertilizer. However, these practices, by regulation, will need to be modified to better utilize the nutrients available in these waste products. Land application of manure based on nitrogen content was originally thought to be the best measure of nutrient utilization. However, it has been found more recently that phosphorous tends to bind more tightly to the soil and will be retained for a longer period of time. Continued application of manure on the soil without regard for the phosphorous content can result in an overabundance of this mineral and disrupt the mineral balance of the soil. This can result in poor utilization of other minerals, increase the potential for runoff of nitrogen into the ground water, and increase the level of soil nutrients over that found to be acceptable.

One obvious solution to this problem would be to transport the manure from areas where it is produced to areas where it can be used. There are a few problems with this simple solution. The first is the cost associated with transportation. Remember the methods of waste disposal used to date have been based on economics. Few people look forward to changes, especially if it means it is going to cost more money. The other concern is biosecurity. Transportation of litter could potentially be a source of disease spread. Composting of manure and carcasses, if done properly, will greatly reduce this risk. Composting also reduces the nitrogen content of this waste product so application of composted material to the soil potentially reduces the risk of ground water contamination.

There is a great deal of information available regarding waste disposal methods, the advantages and limitations of these methods, and the economics associated with each, yet we will find ourselves unable as a group to pull together to solve this problem in a uniform and cooperative way. There are many individual groups working on this such as the Department of Poultry Science at The University of Georgia who have taken the lead in the development and implementation of the nutrient management plan for poultry producers in Georgia. What I hope will happen is that such proactive programs will eliminate the need for the government to find it necessary to coordinate this effort through mandatory regulations, many of which have already been proposed to Congress.



Dr. Jean E. Sander

My primary responsibilities include clinical avian medicine, teaching poultry diseases, and applied research. I diagnose and investigate the causes of poultry health problems through gross necropsy, diagnostic testing, and farm visits. I use the information learned to design research projects which address the industry needs.

My teaching includes undergraduate, professional (veterinary), and graduate level courses. In addition, I am the Graduate Coordinator for the Master of Avian Medicine program.

Broiler Tip . . .

Suburban Myths — Part I

Local authorities, especially county governments, sometimes defend zoning and land use plan decisions allowing subdivisions in agricultural areas using a variety of schemes. One is by saying that although the new development will certainly change the environment of that area, that overall there will be less pollution than if it is left agricultural (especially pastures where manure is applied). This is a myth without merit.

For most areas being developed in Georgia, homes in a new subdivision must usually be located on at least 6/10 of an acre where septic systems are used (lot sizes may be smaller if a sewer is in place). The home itself, a paved driveway, patio or deck, swimming pool, and any outbuildings or other structures can reduce this by another 2/10 of an acre as these are impervious surfaces, unavailable for water runoff or percolation.

Now, add an outside dog to the backyard (on approximately 2/10 of an acre). A good sized dog, such as a Labrador retriever, may excrete liquid and solid waste at an average of 2.5 pounds per day, or 913 pounds annually (depending on body weight and diet). On a per acre basis the annual manure application rate for that area is 2.3 tons per year, compared to the maximum recommended poultry litter application rate of 5 tons per acre annually for pastures. In other words, two dogs per household in a subdivision approximately equal the maximum manure loading for a given area that a broiler farm would contribute. If smaller lots are used where sewers are available, homeowners also have cats, or if there are more than two dogs per household, then the subdivision will greatly exceed what any agricultural operation would ever apply to the land. Plus, the storm sewers pass this pollution much quicker to the streams and lakes. Even recalculating the manure loading based on the total subdivision area does not substantially change the numbers, as much of the area is under paved roads and many of the houses sit on what were buffer areas for the farm. Also, since many lawns are over fertilized with commercial fertilizer, suburban homeowners are a significant threat to the environment.

So, if your local government is rezoning agricultural land for subdivisions, there are two valid questions to be asked. First, why are they allowing excessive polluters into the area, and second, why aren't pet owners in subdivisions required to have nutrient management plans?

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Broiler Performance Data (Company) Live Production Cost

	Average Co.	Top 25%	Top 5 Cos.
Feed cost/ton w/o color (\$)	135.27	129.43	126.27
Feed cost/lb meat (¢)	12.96	12.11	11.59
Days to 4.6 lbs	45	45	44
Med. cost/ton (¢)	2.97	2.28	2.39
Chick cost/lb (¢)	3.95	3.82	3.63
Vac-Med cost/lb (¢)	0.11	0.04	0.04
WB & 1/2 parts condemn. cost/lb	0.26	0.18	0.16
% mortality	4.64	3.56	2.88
Sq. Ft. @ placement	0.80	0.78	0.77
Lbs./Sq. Ft.	6.35	6.13	6.29
Down time (days)	13	13	15

Data for week ending 5/27/00

Broiler Whole Bird Condemnation (Region)

	SW	Mid-West	S. East	Mid-Atlantic	S. Central
% Septox	0.261	0.307	0.210	0.298	0.278
% Airsac	0.060	0.103	0.222	0.392	0.177
% I.P.	0.038	0.059	0.173	0.098	0.087
% Leukosis	0.005	0.003	0.021	0.028	0.010
% Bruise	0.005	0.005	0.013	0.009	0.013
% Other	0.021	0.004	0.060	0.016	0.011
% Total	0.454	0.418	0.793	0.614	0.708
% 1/2 parts condemnations	0.417	0.323	0.375	0.420	0.407

Data for week ending 5/27/00

Broiler Whole Bird Condemnation (Company)

	Average Co.	Top 25%	Top 5 Co.'s
% Septox	0.280	0.245	0.289
% Airsac	0.205	0.092	0.045
% I.P.	0.107	0.055	0.095
% Leukosis	0.018	0.010	0.010
% Bruise	0.011	0.011	0.017
% Other	0.020	0.003	0.004
% Total	0.641	0.414	0.459
% 1/2 parts condemnations	0.393	0.311	0.189

Data for week ending 5/27/00



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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 and Economic Research Service (ERS) "Livestock, Dairy and Poultry Situation and Outlook" Reports

Broiler Eggs Set In 15 Selected States Up 1 Percent

According to the most recent National Agricultural Statistics Service (NASS) report commercial hatcheries in the 15-State weekly program set in incubators 186 million eggs during the week ending May 27, 2000. This was up 1 percent from the eggs set the corresponding week a year earlier. Average hatchability for chicks hatched during the week was 82 percent.

Broiler Chicks Placed Up 1 Percent

Broiler growers in the 15-State weekly program placed 148 million chicks for meat production during the week ending May 27, 2000. Placements were up 1 percent from the comparable week in 1999. Cumulative placements from January 2, 2000, through May 27, 2000, were 3.07 billion, up 1 percent from the same period a year earlier.

April Egg Production Up 3 Percent

U.S. egg production totaled 7.01 billion during April 2000, up 3 percent from the 6.78 billion produced in 1999. Production included 5.91 billion table eggs and 1.10 billion hatching eggs, of which 1.04 billion were broiler-type and 67.0 million were egg-type. The total number of layers during April 2000 averaged 329 million, up 2 percent from the total average number of layers during April 1999. April egg production per 100 layers was 2,130 eggs, up 1 percent from 2,110 eggs in April 1999.

All layers in the U.S. on May 1, 2000 totaled 328 million, up 2 percent from a year ago. The 328 million layers consisted of 267 million layers producing table or commercial type eggs, 58.0 million layers producing broiler-type hatching eggs, and 2.94 million layers producing egg-type hatching eggs. Rate of lay per day on May 1, 2000, averaged 70.4 eggs per 100 layers, up 1 percent from the 70.0 a year ago.

Laying flocks in the 30 major egg producing States produced 6.57 billion eggs during April, up 3 percent from April 1999. The average number of layers during April, at 309 million, was up 2 percent from a year earlier.

Egg-Type Chicks Hatched Down 13 Percent

Egg-type chicks hatched during April totaled 36.6 million, down 13 percent from April 1999. Eggs in incubators totaled 36.9 million on May 1, 2000, up 5 percent from a year ago.

Domestic placements of egg-type pullet chicks for future hatchery supply flocks by leading breeders totaled 309,000 during April 2000, up 8 percent from April 1999.

Broiler Hatch Up 1 Percent

The April 2000 hatch of broiler-type chicks, at 744 million, was up 1 percent from April of the previous year. There were 637 million eggs in incubators on May 1, 2000, up slightly from a year earlier.

Leading breeders placed 6.76 million broiler-type pullet chicks for future domestic hatchery supply flocks during April 2000, down 4 percent from April 1999.

Turkey Eggs in Incubators on May 1 Down 7 Percent From Last Year

Turkey eggs in incubators on May 1, 2000, in the United States totaled 31.2 million, down 7 percent from May 1 a year ago. Eggs in incubators were down 5 percent from the April 1 total of 32.8 million. Regional changes from the previous year were: East North Central, down 6 percent; West North Central, down 14 percent; North and South Atlantic, up 6 percent; South Central, down 6 percent; and West, down 16 percent.

Poults Placed During April Down 7 Percent From Last Year

The 24.9 million poults placed during April 2000 in the United States were down 7 percent from the number placed during the same month a year ago. Placements were down 3 percent from the March total of 25.7 million. Regional changes from the previous year were: East North Central, down 14 percent; West North Central, down 16 percent; North and South Atlantic, up 5 percent; South Central, down 4 percent; and West, down 2 percent.

Poultry Production Growth Expected To Slow

According to the latest Economic Research Service (ERS) report broiler, turkey, and egg production is expected to rise in 2001, but the increases are expected to be smaller than in previous years for turkeys and eggs. Wholesale prices for broilers and turkeys in 2001 are forecast to remain close to or decline slightly from expected 2000 levels, while egg prices are expected to post a modest decline. Net returns for poultry processors were down in 1999 and may decline further in 2000. Feed prices in 2001 are forecast to remain near predicted levels for 2000.

Broiler Production Increases To Continue

Broiler production is forecast to increase 4-5 percent in 2001 following an expected increase of about 4 percent in 2000. The broiler hatchery flock at the beginning of May is slightly higher than a year earlier. Broiler chick placements through April are up 1 percent from the same period in 1999. Federally inspected production in first-quarter 2000 was 7.59 billion pounds, 4 percent higher than first-quarter 1999.

The continued increases in production have pressured prices and annual prices for 2000 are expected to show little or no change from 1999. Although U.S. beef production is expected to decline in 2001, overall meat supplies are forecast to be up slightly, pressuring broiler prices.

Strong net returns (before interest and overhead) in the mid-1990's led to an expansion in the U.S. broiler industry. Despite the higher production, average prices in 1996-7 were above 60 cents per pound due to a consumer health concerns about red meats, popularity of chicken in the increasing away-from-home market, and a rapidly expanding export market for dark meat products. While the domestic market has remained strong, export market growth has subsided due to a number of factors, chief among them was the collapse of the Russian market following the ruble's devaluation.

In 2001, the broiler export market is expected to continue to expand although by about 1 percent. Driving the expansion in exports are economic recovery and growth in Russia and China, both major markets. On the other hand, a slowdown in the domestic economy would reduce the demand for broilers in the away-from-home market. Also, any weather-related problems in grain and soybean production would raise feed costs and lower net returns.

Turkey Production Up Slightly in 2001

Declining feed costs and a double-digit increase in average turkey prices in 1999 greatly improved net returns. As a result, production is expected to increase about 2 percent this year and another 1 percent in 2001. Production in first-quarter 2000 was 6 percent higher than the previous year, but a decline in the number of poults being placed over the first 4 months of 2000 is expected to reduce production gains later in the year. The higher production and large overall meat supplies will likely restrict any upward movement in turkey prices.

Turkey exports in 2001 are forecast at 410 million pounds, up 3 percent from 2000. Because Mexico is the largest market, the Mexican economy will play a large part in the size of turkey shipments. Exports in 2000 and 2001 are expected to benefit from continued growth in the Mexican economy, a gradual expansion in exports to Russia, and increased shipments to Asian markets. In early 2000, both the Mexican and Russian economies have benefited from higher energy prices and have expanded imports of U.S. turkey products. Shipments to Asian markets are expected to continue growing, but will face strong competition from chicken products.

Egg Production Expected Up Slightly in 2001

With net returns for egg producers expected to be lower in 2000 than in previous years, producers are expected to cut back on production increases. Egg production in 2001 is expected to be only 1 percent higher than the previous year.

The egg breaking sector is expected to continue to be the fastest growing part of the egg industry with the number of eggs broken forecast to expand 4-5 percent in 2001 following an expected increase of 6 percent in 2000. Processed egg use in the restaurant and food service industries continues to expand. After falling in 1997-9, egg exports are forecast to be about the same in 2000 and are expected to rise slightly in 2001. Exports of hatching eggs and egg products are expected to be the stronger than shell egg exports, which will likely remain depressed, mostly due to competition from China in the Hong Kong and Japanese markets.

Meetings, Seminars and Conventions

2000 June

June 21: Cornell Poultry Conference, Ramada Inn-Ithaca Airport, Ithaca, NY. Contact: K. Keshavarz, Dept. of Animal Science, Cornell University, Ithaca, NY 14853-4801. Phone: 607-255-9829

June 25-28: NCC Summer Board of Directors Meeting, Four Seasons Aviara, Carlsbad (North San Diego), Calif. Contact: National Chicken Council, 1015 15th St., N.W., Suite 930, Washington, D.C. 20005-2605. Phone: 202-296-2622.

June 29-July 1: NPIP Millennial Conference, DoubleTree Hotel, Colorado Springs, CO. Contact: National Poultry Improvement Plan, 1498 Klondike Road, Suite 200, Conyers, GA 30094. Phone: 770-922-3496

2000 July

July 2-6: Xth International Congress on Animal Hygiene, Maastricht, The Netherlands. Contact: Royal Netherlands Veterinary Association, P.O. Box 14031, NL-3508 SB Utrecht, The Netherlands. Fax: +31 30 251 1787

July 6-14: XXth Gala International Symposium/Workshop on Rapid Methods and Automation in Microbiology. Manhattan, Kansas. Contact: Daniel Y.O. Fung, Kansas State University, Manhattan, KS 66506-1600. Phone: 785-532-5654; Fax: 785-532-5681; dfung@oz.oznet.ksu.edu: <http://www.dec.ksu.edu/dec/con/microciology>

July 18-19: U.S. Poultry and Egg Hatchery-Breeder Clinic, Birmingham, Alabama. For information check the US POULTRY website at www.poultryegg.org or contact 1530 Cooledge Road, Tucker, GA 30084-7303. Phone: 770-493-9401; Fax: 770-493-9257. E-mail: research@poultryegg.org.

July 22-26: AVMA 137th Annual Convention, Salt Lake City, Utah. Contact: American Veterinary Association, 1931 North Meacham Road, Schaumburg, IL 60173. Phone: 847-925-8070, Fax: 847-925-1329.

2000 August

Aug. 12-15: International Conference on Animal Science and Veterinary Medicine 'Towards the 21st Century', Beijing,

China. Contact: Ms Xu Jinhua, Organising Committee of ICASVM 2000, Institute of Animal Science, Chinese Academy of Agricultural Sciences, No. 2 Yuanming Xilu Road, Beijing 100094, China.

Aug. 19-21: 89th Annual Meeting - Poultry Science Association, Preceding XXII World's Poultry Congress. Montreal's Convention Centre, Montreal, Quebec. See PSA website for more information. <http://www.psa.uluc.edu/meet/psa2000/psa2000.html>

Aug. 20-25: XXI World's Poultry Congress, Convention Centre, Montreal, Quebec, Canada. Contact: Rosaleen Rinzler, WPC 2000 Congress Secretariat, Events International Meeting Planners Inc., 759 Victoria Square, Suite 300, Montreal, Quebec, Canada H2Y 2J7. Phone: 514-286-0855.

2000 September

Sept. 20-21: U.S. Poultry and Egg Poultry Production and Health Seminar, Birmingham, Alabama. For information check the US POULTRY website at www.poultryegg.org or contact 1530 Cooledge Road, Tucker, GA 30084-7303. Phone 770-493-9401; Fax: 770-493-9257; e-mail: training@poultryegg.org

Sept. 27-29: VIV America Latina, International Trade Show for Intensive Animal Production and Processing, Expo Center Norte, Sao Paulo, SP Brazil. Contact: Royal Dutch Jaarbeurs Brasil, Phone: +55 15 262 3133; Fax: +55 15 262 3575; E-mail: rdjbr@uol.com.br

2000 October

Oct. 18-20: National Meeting on Poultry Health and Processing, Sheraton Ocean City, Ocean City, Maryland. Sponsored by Delmarva Poultry Industry, Inc. Contact: Sharon Webb. Phone: 302-856-9037; Fax: 302-856-1845; E-mail: dpi@ce.net

2000 November

Nov. 7-10: Expoaviga, International Poultry & Livestock Technology Show, Montjuic Trade Fair Center, Fira de Barcelona, Spain. Contact: F. Xavier Castells, Manager, Expoaviga, Avda. Reina Mo.Cristina, s/n 08004 Barcelona, Spain. Fax: +34 93 23 32602.

Nov. 14-16: XVI Central America Poultry Congress, Hotel El Panama, Ciudad de Panama, Panama. Contact: Dr. Evelio Quiroz, Presentente APECA, Apartado No 6-3994, Estafeta El Dorado, Panama. Fax: +507 261 1352

Nov. 27: Coccidiosis 2000, Hannover, Germany. Contact: Elaine Robson, Conference Organizer, Positive Action Conferences, P.O. Box 4, Driffield, East Yorkshire YO25 9D1 England. Phone: +44 (0) 1377-256316; Fax: +44 (0) 1377-254663.

Nov. 8 - Dec. 1: EUROTIER International Exhibition for Livestock & Poultry Production, Hannover, Germany. Contact: Daniel M. Koning, DLG, Eschborner Landstrasse 122, D-60489 Frankfurt, Germany. Fax: +49 69 2478 8113.

2001 January

Jan. 17-19: 2001 International Poultry Exposition, Georgia World Congress Centre, Atlanta, Georgia, USA. Contact: US Poultry & Egg Association, 1530 Cooledge Road, Tucker, Georgia 30084, USA. Fax: +1 770-493-9257.

2001 February

Feb. 7-9: Australian Poultry Science Symposium, University of Sydney, Sydney NSW, Australia. Contact: Dr. D. Balnave, Dept. of Animal Science, University of Sydney, Camden NSW 2570, Australia. Fax: +61 2 4655 0693; E-mail: derickb@camden.usyd.edu.au

Feb. 11-16: 2nd International Poultry Broiler Nutritionists Conference, Rotorua, New Zealand. Contact: Bob Diprose, Executive Director, Poultry Industry Association 96D Carlton Gore Road, Auckland, New Zealand. Phone: +64 9 520 4300; Fax: +64 9 520 1553.