

SOUND AGRICULTURAL PRACTICE
Opinion Number 95-1

SUBJECT: Request for an opinion pursuant to Section 308 of the Agriculture and Markets Law as to the soundness of a certain agricultural practice conducted at the Wegmans Egg Farm, Town of Wolcott, Wayne County.

REQUESTOR: Mr. Andrew Wadsworth
Manager
Wegmans Egg Farm
6864 Wadsworth Road
Wolcott, New York 14590
(315) 594-2898

Preliminary Statement

In a letter received by the Department, dated March 1, 1994, Mr. Andrew Wadsworth, Manager of the Wegmans Egg Farm, requested an opinion pursuant to Section 308 of the Agriculture and Markets Law on the soundness of an agricultural practice conducted on the farm. The farm is located at 6864 Wadsworth Road in the Town of Wolcott, Wayne County, approximately three miles north of the Village of Wolcott and five miles west of the Village of Red Creek. The farm is in Wayne County Agricultural District #6.

Mr. Wadsworth requested that the Commissioner issue an opinion as to the soundness of the farm's chicken manure composting process with regard to odor. A number of odor complaints have been received by Mr. Wadsworth since the farm began composting the chicken manure on its premises. Pursuant to this request, the Department contacted Mr. Wadsworth and scheduled a meeting and tour of the operation. On April 5, 1994 Mr. Matt Brower and Dr. Robert Somers (Department of Agriculture and Markets) and Mr. Tom Richard (Biological Engineer with Cornell University) met with Mr. Wadsworth at the farm. Mr. Wadsworth answered questions related to the on-farm composting procedures, the farming operation, the composting building, and neighbor complaints and conducted a tour of the farm so that Mr. Brower, Dr. Somers and Mr. Richard could observe the composting process and facility. On October 28, 1994 Mr. Brower and Mr. Richard met Mr. Wadsworth at the farm to examine the changes that were implemented at the facility since the initial visit on April 5, 1994. On December 12, 1994, Mr. Brower and Ms. Ruth Moore, Associate Attorney with the Department of Agriculture and Markets, met with an official for the Town of Wolcott, farm neighbors, and Mr. John Wilson, an attorney representing some of the neighbors, to obtain and discuss their views and concerns. On June 15, 1995, Mr. Brower, Dr. Somers, and Mr. Richard met Mr. Wadsworth at the Egg Farm to gather additional

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information on the composting process, including sampling for both on-site and laboratory testing of the composting material.

A synopsis of the pertinent results of these visits, inquiries, and fact gathering efforts follows.

Background Information

1. The Wegmans Egg Farm has been in operation in the Town of Wolcott, Wayne County since 1968. In 1990, the facility had an operating capacity of 480,000 birds. Since then, the operation has expanded to its current population of approximately 240,000 pullets and 840,000 layers. The farm complex consists of many buildings, including an egg preparation and packaging structure, a retail sales facility, a shipping station, 16 chicken houses/barns, and the composting facility. According to Mr. Wadsworth, the farm includes 2,500 acres of owned and rented land, all used for the production of corn to support a portion of the feed requirements of the farm.

2. In 1989, the Wegmans Egg Farm contracted with Agri-Cycle, Inc. for the disposal of all of its chicken manure. Agri-Cycle composted the manure into organic fertilizer pellets called *Plant Rite*, which was sold for use as a soil amendment for homes and gardens. Agri-Cycle composted all of the manure from Wegmans' five hi-rise barns and landspread the manure from the farm's 11 other chicken houses. According to Mr. Wadsworth, Wegmans constructed its composting building in 1993 to increase Agri-Cycle's composting capacity and to reduce the potential for odor and pollution. He stated that in the Fall of 1993, Agri-Cycle closed its facility. The start-up date for Wegmans' composting operation was January, 1994.

3. Wegmans' composting operation is located in the eastern quadrant of the farm complex. Construction of the 60,000 square foot building was completed in December, 1993. Mr. Wadsworth stated that the building/operation was designed to handle all of the manure produced by the farm on a daily basis, up to 500 wet tons of chicken manure per week. He indicated that the operation will generate up to 10,000 tons of compost per year.

4. The composting building is segmented into three interrelated units. One unit contains the staging area where the manure is received and mixed. The middle unit is subdivided into three bays, with each bay containing two composting pits. Each pit is 20 feet wide, 204 feet long, and 39 inches high. The vertical side walls of each bay can be opened to receive natural ventilation. Composting gases generated in each gabled bay section escape through open ridge vents in the roof of the facility. The third unit contains the discharge/shipping facilities for the finished compost.

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5. At the time of the Department's initial visit in April, 1994, the chicken manure from the daily clean-out barns and the hi-rise houses was being transported approximately 500 to 600 feet by dump trucks to the composting facility. The manure from the two types of chicken houses was mixed and placed in the receiving end of the composting bays. Mr. Wadsworth stated that the daily clean-out manure has a moisture content of approximately 75% and the manure from the hi-rise houses has a moisture content of 35-40%. The two sources of manure are mixed to achieve a desired, pre-composting moisture content of 50-55%. On the Department's second visit in October, 1994, sawdust and turkey litter was being purchased and added to the manure mixture to introduce a carbon source, provide better internal aeration (porosity) within the composting manure, and further reduce the moisture content of the pre-composted manure. According to a report dated June 1995, prepared by Wegmans Food, Inc., at the time of the Department's June 15, 1995 visit the farm was composting only the daily "clean out" manure (approximately 230 tons per week) and was directly land applying and immediately incorporating the hi-rise manure (approximately 192 tons per week). This change was made to allow additional amendment to be added to the composting mixture to increase the c:n ratio and maintain a favorable moisture content. Forced aeration was used in all of the composting pits.

6. A *Compost-a-Matic* machine runs the length of the pits and is used to turn the manure in the pits and advance it forward towards the discharge end of the pit. The machine aerates and mixes the manure. The rate at which the compost is turned has been changed to experiment with various techniques to control odor. Initially, the manure was turned once every 24 hours. At the end of January, 1994, the compost was turned twice daily and *Ammonia Neutralizer* was applied during the second turning. As of October, 1994, the manure was being turned twice within a 36 hour period and *Ammonia Neutralizer* was being applied during each turning¹.

7. On October 7, 1994, the Department received from Wegmans an air quality sampling report prepared by O'Brien & Gere Engineers, Inc. The report provided air sampling results requested by the Department, including ammonia and sulfide compound levels inside and outside the composting facility. The report stated the composting process within each bay is completed in 22 to 25 days. The air quality samples acquired outside of the facility did not indicate odorous compound levels above the Air Quality Standard or Short-term Guideline Concentration established by the NYSDEC. One of the samples taken inside the facility during normal operating conditions exceeded the NYSDEC short-term guideline concentrations for ammonia. One of the samples was taken inside when the ammonia neutralizer was not in use and the results exceeded the NYDEC short-

¹Letter to the Department dated October 12, 1994, from Mr. Wadsworth to Mr. Brower.

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term guideline concentrations for ammonia, methyl mercaptan, and dimethyl disulfide. The Department determined that the testing conducted by O'Brien & Gere was not extensive enough to allow reliable conclusions to be drawn on the level of odor emanating from the facility.

8. Mr. Wadsworth stated that Wegmans ultimately intends to sell half of the composted chicken manure to agricultural interests and field spread the remaining half on the farm. He stated that the composted chicken manure that is not sold is stockpiled in the fields and spread within one or two months. Mr. Wadsworth estimates that only 10% of the compost is currently sold.

9. On November 23, 1994, Mr. Ken O'Neil, Director of Engineering and Site Development for Wegmans, transmitted a report² to the Department that detailed an odor control study completed by O'Brien and Gere Engineers, Inc. The report stated that odor control was not included in the original design of the building. The study report described six technologies that could be used to control odor at the facility, the cost estimates for the installation of each technology described in the report, and a recommendation on which technology should be experimentally tested and evaluated. Mr. O'Neil stated by letter that Wegmans has contracted with Nature Plus, of New Caanan, Connecticut to conduct a pilot study at the facility. The pilot study will test the effectiveness of using non-toxic, non-sensitizing, hypo-allergenic, biodegradable, and bacteria free enzymes produced by Nature Plus to control odors. As of June 15, 1995 this technology had been installed in one of the bays. When it is in use the building is closed and air is drawn into the equipment from the entire facility. The only information provided by Wegmans to the Department relative to the efficacy of the experimental enzyme treatment indicated that post treatment ammonia levels ranged between 60 and 75 ppm and that other odors were not noted in the air stream. In large measure, these results far exceed the ammonia levels reported by O'Brien and Gere Engineers, Inc. pursuant to the air sampling it conducted both inside and outside the composting facility. The Department found no scientific literature supporting the efficacy of the enzyme treatment in controlling odors related to the composting of chicken manure.

10. On December 12, 1994, Ruth Moore, Associate Attorney with the Department of Agriculture and Markets, and Matt Brower met with Mr. John Wilson, an attorney representing some of the farm's neighbors and others within the community to listen to their concerns regarding odors. An official for the Town of Wolcott stated that the number of complaints the Town has received have increased since the composting facility was placed into operation. He stated, however, that he did not perceive the odor to be a major problem. On May 4,

²Egg Farm Manure Composting Facility Odor Control Study. November, 1994. Produced by O'Brien and Gere Engineers, Inc. at the request of Wegmans Food Markets, Inc.

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1994, a farm neighbor told Mr. Brower that the ammonia odors from the facility had made her nauseous 15 times since January, 1994. She indicated that she never consulted a doctor with regard to her symptoms. However, she stated that she has contacted Wegmans and DEC concerning the odor on numerous occasions. During a conversation with the complainant on December 12, 1994, Mr. Brower was informed that the odor has a smell of dead animals.³ Mr. Brower contacted several additional farm neighbors on December 12, 1994. One neighbor stated that the odor problem began in the spring of 1994 and was worse during 1994 than in years past. She described the odor as having a urine smell. Another neighbor stated that she smells some odors from the farm, but most of the odor seems to occur when the manure is stored in a lagoon near her house and when it is spread on the fields. She stated that the stockpiled compost that has been placed approximately one mile from her house is a constant source of odor.

11. During the weeks of December 11 and December 18, 1994, Mr. Brower contacted several other complainants, all neighbors, whose names were provided by Mr. Wilson. One farm neighbor informed Mr. Brower that he was the plant manager at the Agri-Cycle composting facility. He stated that he is part of a neighborhood/industry committee that meets every month or two to discuss the odor situation. Representatives from Wegmans regularly update the committee on actions that have been taken to improve the situation. The complainant concluded that the odor from the farm has, in his opinion, been worse since the composting facility was placed into operation. Another farm neighbor stated that he thought the odor from the farm has been worse and more frequent this year and that it was more of a problem at night. One complainant concluded that the odor was not a problem until January, 1994. He stated that the odor is bothersome about four days each week and that the odor has, on occasion, caused his family to become nauseous. All three of these individuals stated that the odor from the farm had not improved.

12. On four occasions, April 5, October 28, and December 12, 1994, and June 15, 1995, Department staff visited the Wegmans facility. On April 5th, Mr. Brower and Dr. Somers stopped in front of a complainant's residence prior to visiting the farm and did not detect any unusual odors. A slight ammonia smell was detected inside the high-rise chicken facility visited by the staff that day. No unusually strong odors were detected inside the receiving/mixing and discharge/shipping units of the compost facility. However, very strong ammonia odors were detected inside the middle composting unit where the six composting bays are located. Hydrogen sulfide and/or the smell of deceased animals were not detected. Those present on the tour proceeded to the complainant's residence that

³According to Mr. Wadsworth, all deceased birds are placed in 55 gallon drums, sealed, and kept in cold storage. A rendering facility picks up the carcasses once a week.

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was visited earlier that day by Mr. Bower and Dr. Somers and no unusually strong odors were detected. Mr. Brower indicates that on his October 28, 1994 visit to the egg farm, similar observations were made at each of the above described locations. On December 12, 1994, Mr. Brower and Ms. Moore stopped in front of the above referenced residence and at the entrance to the farm and did not detect any unusually strong odors. Mr. Brower described the odors present as being similar to those on other chicken farms. Strong ammonia odors and/or the smell of dead animals were not detected. On June 15th, 1995, Mr. Brower and Dr. Somers did not detect any odors in the vicinity of Furnace and Wadsworth Roads, or at the office complex located on the Wegmans Egg Farm.

13. On May 5, 1994, Mr. Brower contacted Mr. James Hassan, Conservation Enforcement Officer for DEC's Region 8, to determine if any complaints had been registered with that office. Mr. Hassan stated that he had received odor complaints from one complainant and that he had made several trips to the farm. Mr. Hassan frequently travels through the area and makes stops in the vicinity of the farm. On several occasions, Mr. Hassan stated that strong odors seemed to be coming from the farm. He remembered one evening at 7:30 p.m. on December 2, 1994 when the odor was particularly bad. Mr. Hassan stated that the odor smelled like dead animals. When Mr. Hassan detected the odor on the 2nd, he was at the intersection of Furnace Road and Wadsworth Road (about 2,000 feet northwest of the facility).

14. Mr. Wadsworth stated that Wegmans notified DEC in advance of its intention to construct a chicken manure composting facility on the property. As per Mr. Brower's conversation with Ed Kieda, DEC Region 8 Solid Waste Division, on October 10, 1994, Mr. Kieda stated that Wegmans did not need a Part 360 Solid Waste Permit to compost its on-farm generated manure. On December 14, 1994, Mr. Brower contacted Dan David, an engineer with the DEC Region 8 Solid Waste Division. Mr. David stated that importing turkey litter, sawdust and/or wood chips for use in the composting process did not change the exempt status of the facility.

15. The *On Farm Composting Handbook*⁴ is a technical document prepared by the Northeast Regional Agricultural Engineering Service (NRAES) which includes thirteen land grant universities. The *Handbook* describes the composting process in detail and discusses different types of composting methods, including the problems associated with each method. The *Handbook* states that if an insufficient supply of oxygen exists, anaerobic composting conditions prevail. If anaerobic conditions exist in the composting process, the potential for the production of intermediate compounds, including methane, organic acids, hydrogen sulfide and other substances exist. These compounds accumulate under anaerobic conditions and lead to the production of offensive odors. The *Handbook* recommends the oxygen concentration in the compost be above 5%. Excess loss of ammonia during the

⁴ On Farm Composting Handbook. 1992. Robert Rynk, editor. NRAES-54.

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composting process can occur when the initial pH of the mix is too high, according to the *Handbook*. When C/N ratios fall below 20:1, the available carbon is fully utilized, nitrogen becomes unstable, and excess nitrogen in the form of ammonia or nitrous oxide may be released. The *Handbook* suggests that the type of binding agent (i.e., carbon source) must be considered because these sources decompose at different rates. If the carbon source is difficult to break down, the composting process may be slowed and a longer composting period may be necessary. The *Handbook* lists the following "reasonable ranges" for a composting process that has the ability to produce faster compost with less odors: raw manure moisture levels of 40-65%, pH between 5.5 and 9.0, initial C/N ratios of manure/carbon source mixtures ranging from 20:1 to 40:1, and composting temperatures between 110 and 150 degrees F.

16. At the time of the Department's June 15, 1995 visit, Mr. Richard conducted several on-site tests of the composting manure and collected samples of the manure for laboratory analysis, which was completed by Northeast Analytical of Schenectady, New York. The tables below summarize the results of the on-site testing and the laboratory analysis, respectively.

Sample Number	Location	Temp. Degrees F 0.5 Ft. Deep	Temp. Degrees F 2.5 Ft. Deep	Percent Oxygen
2.1	36 feet from north end of pit (over vent)	147	92	19
2.1a	45 feet from north end of pit (no vent)	112	142	2
2.2	100 feet from north end of pit (no vent)	148	108	2
2.3	175 feet from north end of pit (over vent)	98	143	19
4.1	36 feet from north end of pit (over vent)	136	138	15
4.1a	45 feet from north end of pit (no vent)	114	118	2
4.2	100 feet from north end of pit (no vent)	107	112	2

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Sample Number	Location	Temp. Degrees F 0.5 Ft. Deep	Temp. Degrees F 2.5 Ft. Deep	Percent Oxygen
4.3	175 feet from north end of pit (over vent)	95	106	20
6.1	36 feet from north end of pit (over vent)	89	86	21
6.1a	45 feet from north end of pit (no vent)	142	112	2
6.2	100 feet from north end of pit (no vent)	155	117	2
6.3	175 feet from north end of pit (over vent)	126	150	19

Sample No.	pH	Percent Moisture	C:N Ratio
2.1	8.36	56.3	13.1:1
2.2	8.74	35.2	25.1:1
2.3	8.94	33.9	26.3:1
4.1	8.25	58.2	10.8:1
4.2	8.53	40.4	21.6:1
4.3	8.84	32.7	23.8:1
6.1	8.37	50.9	15:1
6.2	8.82	34.7	21.4:1
6.3	9.09	26.7	22.3:1

17. Tom Richard provided the Department with his assessment of the above test results in a letter dated August 10, 1995. Mr. Richard clarified some of his written comments during a phone conversation with Mr. Brower on August 24, 1995, and again during a phone conversation with Kim Blot, Director of the Department of Agriculture and Markets' Division of Agricultural Protection and Development Services, on September 12, 1995. In a letter dated September 19,

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1995, from Mr. Blot to Mr. Richard, Mr. Blot summarized the substance of Mr. Richard's comments as follows: Mr. Richard acknowledged that he discussed the test results in comparison to other large composting facilities but not in comparison to the "reasonable ranges" contained in the *On Farm Composting Handbook*. The "reasonable range" recommendations for rapid composting contained in the *On Farm Composting Handbook* are the most appropriate standards to use in assessing whether Wegmans' composting process is sound. In comparing the Wegmans' results against these standards, one or more of the samples taken for each of the conditions analyzed were outside the recommended "reasonable range". In most cases, mitigating factors existed which did not cause serious concern regarding the odor generating potential of the compost. However, oxygen levels were unacceptable in that approximately half of the samples taken registered less than the recommended minimum standard of 5%. This indicates that the Wegmans Egg Farm manure is not being composted aerobically which significantly increases the likelihood that intermediate compounds like methane and hydrogen sulfide which have strong odors will be generated.

The inherent problem with the Wegmans facility is a basic design flaw in the composting bays. Because the introduction of air occurs only at intervals along the bays, as opposed to continuous venting, the composting process is not aerobically stable. Finally, although Wegmans' composting operation is fairly typical of, and in many respects better than most large composting operations, this does not mean, however, that Wegmans' composting facility meets the reasonable standards recommended in the *On Farm Composting Handbook*. Mr. Richard stated in a letter to Mr. Blot dated September 28, 1995, that this summarization is an accurate portrayal of his views on all the points described.

18. On June 27, 1995, Citizens Against Pollution By Wegmans, an unincorporated association of neighbors of the Wegmans Egg Farm, brought suit against Wegmans Food Markets Inc. in federal district court for the Western District of New York, alleging violations of the federal Clean Water Act and Clean Air Act, and alleging damages under common law theories of negligence, nuisance and trespass.

Review of Other Pertinent Literature

The following is a synopsis of scientific literature reviewed by the Department which is pertinent to the subject opinion:

The scientific literature reviewed by the Department concerning the composting and/or handling of chicken manure suggests that ammonia, hydrogen sulfide, carbon dioxide, and carbon monoxide are the major gas

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impurities in the air of a livestock building. According to Manninen, et al.⁵ "ammonia is an eye, skin and respiratory tract irritant causing lacrimation, cough, dyspnea, and even pulmonary edema." They state that symptoms caused by gaseous ammonia have been noted at levels below the 25 ppm TLV (Threshold Limit Value) and at levels above 100 ppm, respiration rate and tidal volume may be lowered. Dr. John Pickrell⁶ agrees with Manninen and states that high indoor ammonia concentrations can be a chronic gastrointestinal irritant/stressor. Most studies reviewed examined the air quality inside livestock facilities and very little information was presented on the fate of these gas impurities once they left a facility.

In a report issued by O'Brien and Gere⁷, a list of average odor threshold values for air contaminants was provided. The average odor threshold values were obtained by O'Brien and Gere from the Handbook of Environmental Data on Organic Chemicals. Odor thresholds reported by O'Brien and Gere include: ammonia and carbon disulfide (0.100 ppm) and hydrogen sulfide, methyl mercaptan, and dimethyl sulfide (0.001 ppm). The average odor threshold values are obtained from studies that use the subjective opinions of test panel participants and their ability to identify an odor to determine minimum detectable odor levels. J. Ronald Miner⁸ reports that odor is a subjective phenomenon. "The reaction to odor is based upon previous experience, relationship to the enterprise producing the odor, and the individual sensitivity of the person involved." He also states that once odor is produced, the amount detected by an individual depends upon downwind transport and dilution by air turbulence and mixing, wind velocity and direction, ambient air temperature, relative humidity, and the physiographic pattern of the local landscape.

⁵Manninen, A., J. Kangas, M. Linnainmaa, and H. Savolainen. 1989. Ammonia in Finnish Poultry Houses: Effects of Litter on Ammonia Levels and their Reduction by Technical Binding Agents. *Am. Ind. Hyg. Assoc. J.* 50(4):210-215.

⁶John Pickrell DVM, PhD. 1991. Hazards in Confinement Housing - Gases and Dusts in Confined Animal Houses for Swine, Poultry, Horses and Humans. *Vet Hum Toxicol* 33 (1) February 1991, pp. 32-39.

⁷As Reported in *Air Sampling Project*. October, 1994. Prepared by O'Brien and Gere Engineers, Inc. at the request of Wegmans Food Markets Egg Farm.

⁸Miner, Ronald J. 1984. Use of Natural Zeolites in the Treatment of Animal Wastes. J. paper No. 6402. Oregon Agricultural Experiment Station, Corvallis, Oregon: Project 360.

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Voorburg and Monteny⁹ state that obtaining measurements of ammonia emissions is relatively simple for livestock houses with forced ventilation because ammonia concentration can be obtained at the exhaust openings. However, such measurements require numerous readings to accurately reflect fluctuations in the amount of exhaust air and ammonia concentrations. Furthermore, Bonazzi, et al.¹⁰ state that the amount of ammonia and other gases released by the composting process is dependent upon a number of factors, including the temperature of the air within the building. They measured greater releases of gaseous materials during warmer periods due to a "hot-house" effect associated with composting within an enclosed structure.

Bonazzi, et al.¹¹ conducted research on two composting facilities located in Emilia-Romagna, Italy. The operations had been composting chicken manure for over a year prior to the initiation of the study. Both operations are enclosed by a building. The length of the composting bay in building A is approximately 195 feet (60 meters) and the bay in Building B is approximately 330 feet (100 meters) in length. A compost turner is used to mix the material and advance the compost forward, approximately 6.5 feet, with each run of the machine. Both operations were monitored for temperature, air moisture, product density, pH, dry matter, volatile solids, nitrogen, and phosphorus for one year in building A and six months in building B. The authors determined that in building A, 63 percent of the initial nitrogen was lost through volatilization and in building B, 50 percent of the initial nitrogen was lost. Lockyer, et al.¹² reported that the amount of nitrogen lost in the form of ammonia through volatilization was much less when the chicken manure had been dried prior to land application. They found that the manure collected as a slurry from a chicken house lost 40 to 57 percent of the total excretal nitrogen, with 74 to 84 percent of that loss

⁹J. H. Voorburg and G. J. Monteny. 1991. Emissions of Ammonia. Studies in Environmental Science, 46. Amsterdam, New York, Elsevier.

¹⁰Bonazzi, G., L. Valli, and S. Piccinini. 1990. Controlling Ammonia Emission at Composting Plants. Biocycle. Vol. 31, No. 6.

¹¹Bonazzi, G., L. Valli, and S. Piccinini. 1990. Controlling Ammonia Emission at Composting Plants. Biocycle. Vol. 31, No. 6.

¹²Lockyer, D. R., B. F. Pain, and J. V. Karenbeek. 1989. Ammonia Emissions from Cattle, Pig and poultry Wastes applied to Pasture. Environmental Pollution, Vol. 56, pp. 19-30.

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occurring after spreading. Conversely, the air dried manure collected from a chicken house lost only 12 percent of the excretal nitrogen, with 50 percent of that loss occurring after spreading.

Findings

Based upon the facts, information, and circumstances described above, and in consultation with the State Advisory Council on Agriculture; the New York State College of Agriculture and Life Sciences at Cornell; the USDA Natural Resources Conservation Service; and the Sound Agricultural Practices Guidelines¹³ by which agricultural practices are evaluated, I find the following:

1. Composting is a superior manure management alternative for a poultry facility as large as the Wegmans Egg Farm. Other alternatives, like the lagooning and/or landspreading of all of the manure generated weekly by the farm could have a greater potential for producing odor and other adverse off-farm effects.
2. Accounts vary significantly as to the severity, frequency, source, and type of odors emanating from the Wegmans Egg Farm. The Department has been unable to determine whether the odors described by the complainants are partially or exclusively generated by the composting process. There are obvious and normal sources of odor associated with the conduct of the Wegmans farm operation other than the composting process itself. The 16 chicken production houses, for example, are potential sources of odor. During the review process, the Department did not examine/assess all sources of odor because the inquiry was necessarily confined to the composting process itself.
3. Compost which is produced aerobically is much more stable and, therefore, less likely to produce strong odors than compost which is processed anaerobically. The chicken manure on the Wegmans Egg Farm is not being composted aerobically, with the exception of areas over the aeration zones. Furthermore, three out of nine of the test results for c:n ratio and eight out of twenty-four of the temperature

¹³On November 1, 1993 the NYS Advisory Council on Agriculture published its report entitled *Protecting the Right of New York Farmers to Engage in Sound Agricultural Practices*. The Council developed guidelines to assist the Commissioner of the Department of Agriculture and Markets in determining what is sound pursuant to Section 308 of the Agriculture and Markets Law. The guidelines state that the practice 1) should be legal; 2) should not cause bodily harm or property damage off the farm; 3) should achieve the results intended in a reasonable and supportable way; and 4) should be necessary. The sound agricultural practices guidelines recommended by the Advisory Council on Agriculture are given significant weight in assessing agricultural practices.

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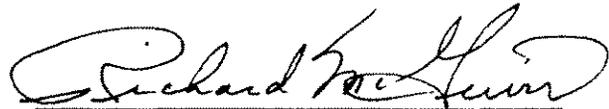
readings were not within the "reasonable range" as identified in the *On-Farm Composting Handbook*.

4. The composting facility on the Wegmans Egg Farm appears to be operating within relevant federal, state and local laws and regulations. To the best of the Department's knowledge, Wegmans has not been cited for any violation of law or regulation in relation to the composting facility.

Conclusion

Based on the foregoing, and in accordance with Section 308 of the Agriculture and Markets Law, I am unable to conclude that the composting process currently in operation on the Wegmans Egg Farm Inc., is sound. While Wegmans has clearly attempted during the course of the Department's review to lessen the potential for the generation of offensive odors by its composting operation, and while progress has been made, the fact remains that the composting process currently employed does not comply with the reasonable range standards identified in the *On-Farm Composting Handbook*, and in particular, the oxygen thresholds recommended.

10-31-95
Date


Richard T. McGuire
Commissioner