SOUND AGRICULTURAL PRACTICE
Opinion Number 01-3

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 by the Adams Henhouse, Inc. in the Town of Naples, Ontario County.

REQUESTORS:

Mr. Mark W. Adams
President, Adams Henhouse, Inc.
7909 Hickory Bottom Road
Naples, NY 14512

Nancy Crawford, Esq.
1221 Lee Road, Suite 2
Rochester, NY 14606

Preliminary Statement

By letter, dated June 28, 2000, Mark Adams, President for the Adams Henhouse, Inc., requested that the Department review the soundness of an agricultural practice on his farm. Mr. Adams requested that the Commissioner issue an opinion as to the soundness of chicken manure application, from a water quality perspective, on a 20-acre parcel used for the production of crops.

By letter, dated September 8, 2000, Nancy J. Crawford, an attorney representing a group of residents in the area of the farm, requested that the Commissioner issue an opinion as to the soundness of chicken manure and chicken parts application in relation to water quality, odor control, and fly control on a 20 acre parcel and an 80 acre parcel used by Adams Henhouse, Inc. for the production of crops.

Pursuant to the requests, the Department conducted a sound agricultural practice review of the chicken manure and parts application conducted by Adams Henhouse, Inc. On August 8, 2000 and October 17, 2000, Department Agricultural Resource Specialist Matt Brower, a Certified Crop Advisor and a certified Agricultural Waste Management Planner, visited the Adams farm to gather information on the manure application on the 20 acre parcel and the 80 acre parcel during 1999 and 2000.

Information Considered in Support of the Opinion

1. Adams Henhouse, Inc. owns and operates an egg farm located at 7909 Hickory Bottom Road in the Town of Naples, Ontario County. The farm operation consists of one high-rise and one low-rise barn, which are used to house approximately 105,000 layers. The farm uses approximately 160 acres, which are owned by the farm, and 110 acres, which they rent for the production of corn. The farm rents the two parcels which are the subject of this review. The 20-acre parcel is located on County Route 36 in the Town of Naples, Ontario County. The 80-acre parcel is located on County Route 36 partially in the Town of Naples, Ontario County and partially in the Town of Springwater, Livingston County. According to Department

records, the 20-acre parcel is not in an agricultural district. The portion of the 80-acre parcel that is located in Livingston County is in Livingston County Agricultural District #3, which was recertified on or about May 29, 2000. However, the portion of the 80-acre parcel that is located in Ontario county is not in an agricultural district. According to Ronald Johnson, assessor for the Town of Naples, the 20 acre parcel and the portion of the 80 acre parcel that is located in Ontario county do not receive agricultural assessment.

2. Mr. Adams stated that an individual who lives adjacent to the 20-acre parcel has claimed that his well has been contaminated by the chicken manure application. Mr. Adams indicated that he first heard about the complaint in June of 2000. Mr. Adams stated that he has not been contacted by the complainant and that he heard about the issue through the news media. Mr. Adams indicated that it is his understanding that the complainant has a dug well that was contaminated with *E. coli*.

3. Mr. Adams indicated that he did not apply manure to the 20-acre parcel in 1999. Mr. Adams stated that he applied manure from his high-rise barn on this parcel during late May and early June of 2000. According to Mr. Adams the manure was very wet, approximately 70-80% moisture, because of the breeding of the chickens. Mr. Adams indicated that some of the manure was incorporated with a moldboard plow the same day it was applied and some was incorporated within 3 days. Mr. Adams stated that the manure was applied at a rate of approximately 10 tons per acre. Mr. Adams also stated that rental arrangements were not made in time to allow for soil testing prior to manure application. He indicated that the nutrient levels in the manure from the high-rise barn had not been determined.

4. Mr. Adams stated that because the manure removed from the high rise barn was extremely wet in May and early June 2000, any chickens that got loose in the barn could not be captured and returned to their cages. As a result, they were trapped in the manure and died. He also stated that he was not able to separate the dead chickens from the manure and as a result, a number of chickens were spread on the 20-acre field with the manure. Mr. Adams stated that he does not regularly dispose of dead chickens by spreading them on the fields. Dead chickens are usually buried at another location on the farm.

5. The Department of Environmental Conservation (DEC) regulates Solid Waste Management Facilities, including the disposal of solid waste, pursuant to regulations set forth in 6 NYCRR Part 360. The exemptions in Part 360 include the following:

   "Disposal areas located within the property boundaries of a farm for crop residuals, animal and aquacultural carcasses and parts generated from a farm and other similar solid waste generated by farm activities." [6 NYCRR §360-1.7(b)(3)]

6. On March 26, 2001, Department Associate Attorney John Rusnica spoke with DEC Attorney Rebecca Denue, whose area of responsibility includes solid waste,

concerning the exemption for disposal of animal carcasses and parts. Ms. Denue confirmed that the exemption includes landspreading of the carcasses and parts on the farm.

7. Mr. Adams indicated that the main fly problem occurred in June of 2000, as a result of the manure application on the 20-acre parcel. Mr. Adams stated that in June 2000 he began composting the manure from the high-rise barn in an attempt to reduce fly and odor problems. Mr. Adams stated that he has not received fly and/or odor complaints as a result of the application of the manure from the low-rise barn.

8. Mr. Adams stated that in 1999 the high-rise barn was cleaned twice a week and all of the manure was applied to the 80-acre parcel. According to Mr. Adams, he applied the manure to this parcel in 1999 from June through September and during November. He stated that July through September and in November, the manure was incorporated within 1-3 days. Mr. Adams indicated that he did not incorporate the manure in June because the soil was too dry and hard. According to Mr. Adams, he tried not to apply manure on Fridays or weekends.

9. Mr. Adams stated that during 1999 the low-rise barn was cleaned twice a week and approximately 40% of the manure was applied to the 80-acre parcel during June through August. Mr. Adams stated that none of the manure from the low-rise barn was applied to the 80-acre parcel during 2000.

10. According to Mr. Adams, during 2000, manure from the high-rise barn was applied to the 80-acre parcel in January and April. Mr. Adams indicated that the manure was not incorporated in April because he needed to allow the weeds to grow prior to herbicide application.

11. Mr. Adams stated that he checks all the farm's watering equipment for leaks every day in an attempt to keep the manure dry. Mr. Adams also stated that he used *Larvadex* for fly control during 1999 and 2000.

12. The Department mailed a letter to twenty-six landowners adjacent to the two parcels, notifying them of the agricultural practice review and inviting them to comment on the practice. The Department received twelve written responses from residents in the area of the subject parcels. One of the residents stated that she experienced respiratory problems and eye and nose irritation from the odor that resulted from the manure application. Another resident reported that a family member became sick from the flies and odor. Neither of these residents sought medical treatment for the health effects. A resident stated that she and her husband experienced urinary tract bleeding, diarrhea, and mouth lesions as a result of drinking water from their well that was contaminated. Several residents expressed concern that two wells may have been contaminated as a result of the manure application. Information provided by the residents indicates that one well tested positive for *E. coli* and one well tested positive for Coliform and trace amounts of nitrates and phosphates.

13. The residents alleged that the time period between the manure application and incorporation into the soil ranged from 3 days to 3 weeks. They also stated that the odor problem lasted from 1 to 8 weeks and the fly problem lasted from 4 to 8 weeks during 1999 and 2000. Some of the residents allege that odor lasted for several months. All of the residents experienced fly and odor problems, varying in severity, with some describing the problems as "intolerable" and some reporting that they left their homes at least temporarily. Five residents expressed concern about the manure application affecting surface and ground water quality. Some residents reported seeing chicken parts and carcasses, as well as fly larvae, on both of the subject parcels of land.

14. In a July 25, 2000 letter to Mr. Adams, Matthew P. Gillette, an Environmental Engineer with the Department of Environmental Conservation Region 8 Division of Water, summarized his findings after visiting Adams Henhouse, Inc. on June 23 and 30th, 2000. Mr. Gillette states that there is a potential for stormwater discharge from the 20-acre parcel but that he did not see any evidence of manure runoff at the time of his visit. He also noted that there is a potential for surface and ground water discharge at the 80-acre parcel. However, there is no indication in the letter that Mr. Gillette observed any water quality problems as a result of the manure application at this site. Mr. Gillette also noted that an Animal Waste Management Plan was being developed for the farm, as required under the State Pollutant Discharge Elimination System (SPDES) General Permit for Concentrated Animal Feeding Operations (CAFOs) issued to the farm, and that implementation of the plan would minimize the potential for discharge. During a conversation on February 6, 2001 Mr. Gillette indicated to Mr. Brower that he did not visit the site during 1999. However, he received several complaints concerning flies and water quality during the spring of 2000. Mr. Gillette stated that at the time he visited the site, the 80-acre parcel had been planted and no manure was observed on the soil surface at either parcel. He also indicated that the fly problem was over, for the most part, at the time of his site visit. Mr. Gillette also states in his July 25, 2000 letter that during his inspection he saw no evidence of the disposal of dead chickens through land spreading with manure. He indicates, however, that the CAFO SPDES permit specifically addresses this issue. Item 8- Generic Best Management Practices, paragraph c, subparagraph x, states that "Animals shall be disposed of in a manner to prevent...creation of a public health hazard." Thus, Mr. Gillette concluded that should health officials indicate that this practice is unacceptable from a public health perspective it should not be used as a disposal alternative.

15. In a letter to the Town of Naples Board of Health dated June 19, 2000, Dr. Jeffrey Long, Town of Naples Health Officer, stated that he visited several properties in the area of the 20-acre parcel on June 17, 2000. Dr. Long indicated in his letter that the manure had been applied approximately two weeks prior to his visit. At the time of his visit, Dr. Long found "unacceptable heavy infestations of flies." He also stated in his letter that he visited the field and found "multiple areas of unturned under manure." Dr. Long concluded that the level of infestation at the time of his visit

created a risk to public health in the area. During subsequent phone conversations with Mr. Brower, Dr. Long stated that he did not receive any complaints about the manure application during 1999. He indicated that the manure was mostly incorporated and that he did not observe any chicken parts on the soil surface at the time of his visit to the site. He also indicated that it was his understanding that the manure was incorporated within 2 to 3 days. According to Dr. Long, Mr. Adams was not cited for any violation of the Public Health Law. Dr. Long indicated that if some dead chickens were inadvertently mixed with the manure and applied to the soil surface from time to time, it would not create a public health hazard. He stated that if a large number were applied to the soil surface on a regular basis, it could create a public health hazard.

16. On January 30, 2001, Mr. Brower contacted Joan Ellison, Public Health Director for Livingston County. Ms. Ellison stated that her office received the first complaint about the manure application on the 80-acre parcel on June 15, 2000. She also stated that office staff visited the area surrounding the 80-acre parcel on June 20, 2000. According to Ms. Ellison, her office did not cite Mr. Adams for any violation of the Public Health Law. The information provided by the Livingston County Department of Health (LCDOH) indicates that the complaints received by their office during 2000 related to water quality and odor concerns. The LCDOH investigated a complaint as to whether chicken manure produces airborne pathogens which can make humans ill. The Department contacted Ms. Sandy Switzler of the New York State Department of Health Regional Office in Rochester regarding the inquiry. Ms. Switzler reported that her office knew of no illness or respiratory problems caused by manure spreading or of any airborne pathogens associated with the practice. She indicated that it could possibly be a problem in a closed, indoor area.

17. On February 6, 2001, Mr. Brower contacted Joyce Lee from the Ontario County Health Department. Ms. Lee informed Mr. Brower that her office was not involved in the manure application issue and referred him to the New York State Health Department office in Geneva. On February 6, 2001 Mr. Brower contacted Chip Burden, District Director for the NYS Health Department. Mr. Burden stated that his office was not directly involved in the issue. However, Mr. Burden indicated that in his opinion, not enough information is available to conclude that *E. Coli* and/or Coliform found in the wells is due to the manure application. Mr. Burden stated that his Department did not cite Mr. Adams or Adams Henhouse, Inc. for any violation of the Public Health Law.

18. On February 12, 2001, Mr. Brower contacted Donald Leysath, Supervisor for the Town of Naples. Mr. Leysath indicated that he did not recall when the manure application took place on the 20-acre parcel. However, he did visit the site when manure was still on the surface and he did not observe any larvae or chicken parts in the manure. Mr. Leysath stated that the heaviest fly infestation lasted approximately 8 weeks. Mr. Leysath also stated that he received some complaints relative to the manure application on the 80-acre parcel. He indicated that most of these complaints

were related to flies and odor. According to Mr. Leysath, neither Mr. Adams nor Adams Henhouse, Inc. was cited for any violation of local law.

19. Mr. Brower contacted Dr. Phillip Kaufman, a Veterinary Entomologist at Cornell University, to gather information relative to the fly problem. Dr. Kaufman stated that he didn't visit the site; however, Mr. Adams contacted him at the time of the problem. Dr. Kaufman indicated that Mr. Adams described the wet condition of the manure to him. Dr. Kaufman stated that if the manure was as wet as described, fly larvae could not live in the manure at the time of spreading. According to Dr. Kaufman, it takes 14-17 days for a heavy fly infestation to occur after the manure is incorporated into the soil. He also indicated that if the larvae are present in the manure at the time of spreading, incorporation will not significantly reduce the fly problem. During a subsequent conservation with Dr. Kaufman, he stated that in order to reduce the risk of flies being attracted to the manure after spreading, it is best to incorporate the manure within 24 hours and definitely within 48 hours after application.

20. A bulletin prepared by Ohio State University[1] identifies guidelines for manure management in cage layer houses. According to the bulletin, odor and insect problems can be minimized by "keeping the manure as dry as possible". One of the guidelines identified for keeping the manure dry is checking drinking systems and repairing leaks regularly. The bulletin also discusses guidelines for manure application. The guideline for reducing the risk of runoff, odor, and insect problems recommends incorporating the manure into the soil as soon as possible.

21. Dr. Robert Somers, Chief of the Department's Agricultural Protection Unit, has a doctorate in forest soil science and is a soil scientist. According to Dr. Somers, the landspreading of chicken parts is not necessary for the production of corn as it does not add any appreciable amount of nutrients to the soil, nor does it act as a soil conditioner.

---

[1] Poultry Manure Management and Utilization Problems and Opportunities. Bulletin 804. Ohio State University. pp.1-2.

Findings

Based upon the facts, information and circumstances described above, and in consultation with the Advisory Council on Agriculture; the New York State Department of Environmental Conservation, the New York State College of Agriculture and Life Sciences at Cornell; the USDA Natural Resources Conservation Service; and the Sound Agricultural Practice Guidelines[2] by which agricultural practices are evaluated, I find the following:

1. The Department has found no evidence or received other information indicating that Mr. Adams has been cited for any violation of federal, state or local law as a result of the application of chicken manure, and any associated chicken parts, during 1999 and 2000. The landspreading of chicken parts, when generated from a farm and disposed of within the property boundaries of a farm, is exempt from DEC regulation pursuant to 6 NYCRR §360-1.7(b)(3).

2. Some residents alleged that health effects such as coughing, respiratory problems and eye and nose irritation were caused by the odor from the manure application. However, they submitted no evidence or information indicating that the manure or parts application practice caused such conditions. The New York State Department of Health Regional Office in Rochester reported that they knew of no illness or respiratory problems caused by manure spreading or of any airborne pathogens associated with the practice.

   Some neighbors have expressed concern that the manure application by Adams Henhouse, Inc., is contaminating wells in the area and stated that drinking the contaminated water caused urinary tract bleeding, diarrhea, and mouth lesions. The Department obtained information indicating that one well in the area did test positive for *E. coli* and one well tested positive for Coliform and trace amounts of nitrates and phosphates. However, the Department has found no evidence or other information that the application of manure, and any associated chicken parts, caused the contamination problems. According to Chip Burden, District Director for the New York State Health Department, not enough information is available to conclude that *E. Coli* and/or Coliform found in the wells is due to the manure application. The

[2] On 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.

Department has found no evidence that the application of manure, and any associated chicken parts, has resulted in bodily harm or property damage off the site.

3. While reports vary as to the number of days the manure, and any associated chicken parts, were left on the surface before incorporation, it appears that on a number of occasions the manure and parts were left on the surface for two or more days. Leaving the manure and parts on the surface for this period of time during warmer weather increases the potential for fly and odor problems. According to Dr. Kaufman, the manure should be incorporated within 48 hours to reduce the risk of fly problems. The manure application resulted in a fly infestation that created a risk to public health in the area. The Generic Best Management Practices which are part of the DEC CAFO SPDES permit require that animals be disposed of in a manner to prevent creation of a public health hazard. If some dead chickens were mixed with the manure and applied to the soil surface from time to time, it would not create a public health hazard.

4. The land application of the chicken manure is necessary for the corn crop and nutrient recycling. Mr. Adams is in the process of developing a nutrient management plan, which will help to reduce the risk of odor and fly problems. The land application of chicken parts is not necessary for the production of the corn crop. However, it is a means of disposal which is exempt under DEC's solid waste regulations.

Conclusion

Based on the foregoing and in accordance with section 308 of the Agriculture and Markets Law, I conclude that, from a water quality perspective, the land application of chicken manure on the Adams farm for the production of crops, as described above, is sound. However, I am unable to conclude that, from an odor and fly control perspective, the land application of chicken manure, and any associated chicken parts, on the Adams farm for the production of crops, as described above, is sound.

6/14/01
Date

Nathan L. Rudgers
Commissioner