SOUND AGRICULTURAL PRACTICE
Opinion Number 04-2

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 Demarest Hill Winery in the Town of Warwick, Orange County.

REQUESTOR: Mr. Michael Sweeton, Supervisor
Town of Warwick
132 Kings Highway
Warwick, New York 10990

Preliminary Statement

By letter, dated November 5, 2003, Michael P. Sweeton, Supervisor for the Town of Warwick in Orange County, requested that the Department review the soundness of an agricultural practice at the Demarest Hill Winery. Mr. Sweeton requested that the Commissioner issue an opinion as to the soundness of the use of a propane cannon, from a noise perspective, for the protection of crops grown on the Francesco Ciummo property. The Town and County do not have noise ordinances applicable to commercial agricultural operations. However, the Town has received complaints concerning noise generated by the cannons.

The Department conducted a sound agricultural practice review of the use of propane cannons at the Demarest Hill Winery. The following information and findings have been considered in reaching this Opinion.

Information Considered in Support of the Opinion

1. Francesco Ciummo owns and operates a winery located on Pine Island Turnpike in the Town of Warwick, Orange County. Mr. Ciummo owns approximately 136 acres, 10 of which are currently planted to grapes. According to the Department's agricultural district file, the farm is not located within an agricultural district. However, the Town of Warwick's Assessor's office has indicated that the property receives an agricultural assessment.

2. On February 10, 2004, Matt Brower, Department Agricultural Resource Specialist and a Certified Crop Advisor, went to the winery to gather information on propane cannon use. The cannon was not being used at the time of this visit. Mr. Brower observed that the grapes are planted near the center of the property and that the cannon location was several hundred feet from any property line. He also observed that neighboring houses are screened from the cannon by woods.

3. Mr. Ciummo indicated that he started his operation in 1998. Mr. Ciummo stated that he used a propane cannon, to protect grapes from damage caused by birds, for the first time in 2003.

4. Mr. Ciummo indicated that the cannon is used from approximately the middle of July until the middle of September, seven days a week from approximately 6:30 a.m. until approximately 6:30 p.m. He stated that the cannon was set to fire at various intervals and at times was set to fire every 2 minutes. He indicated that the cannon was periodically moved to different locations on the property.

5. On or about August 10, 2004 Matt Brower received a telephone call from an area resident, concerning the use of the propane cannon at Demarest Hill Winery. The caller complained that the firing intervals were every fifteen seconds.

6. On August 16, 2004, Matt Brower visited the vicinity of the winery to listen to the cannon. According to Mr. Brower, at the entrance to the winery it sounded as if two or three cannons were firing. He indicated that the cannons sounded like they were at different locations on the property and that he heard approximately three explosions per minute. He also indicated the cannons were barely audible from a location near the front of the complainant's house.

7. In a letter to Mr. Ciummo dated August 20, 2004, Michael P. Sweeton, Supervisor for the Town of Warwick, stated that he had received complaints concerning the use of the propane cannon from surrounding homes. He indicated that the frequency of cannon firing was 15-20 second intervals all day.

8. On September 1, 2004 Mr. Brower met with Mr. Ciummo to discuss the cannon use. Mr. Ciummo stated that he is using a second cannon this year and that when the bird pressure is heavy both cannons are used, set to fire every 45 seconds. He further indicated that when there is less bird pressure, one cannon is used set to fire approximately every three minutes. Mr. Ciummo stated that if the birds are not feeding early in the morning, he delays turning the devices on and if the birds leave the area before dusk in the evening, he turns them off early.

9. During his September 1, 2004 site visit, Mr. Brower observed that only one cannon was operating and it was firing approximately every 2 ½ to 3 minutes. He also observed that Mr. Ciummo had visual deterrents in the field. Mr. Ciummo stated that he used the visual deterrents (balloons and wind socks) during 2003 and 2004, however, he indicated that, in his opinion, they did not provide any protection. Mr. Ciummo stated that netting is not practical for his operation because of the cost and labor involved. According to Mr. Brower, the cannon was barely audible from a location near the complainant's house.

10. Mr. Brower found the cost to purchase a new propane cannon ranges from $500 to $1,000 depending upon the supplier and the cost of operation would depend on usage. The cannon under review uses a 20 lb. tank which costs approximately $15. Mr. Brower concluded that, based on the cannon usage indicated by Mr. Ciummo, the cost for one season would probably be a tank of propane for each cannon or approximately $30.

11. The Department wrote to eighteen owners of land adjacent to the Ciummo property notifying them of the agricultural practice review and inviting them to comment on the cannon use. The Department also sent a letter to a landowner in the vicinity of the Ciummo property who, Supervisor Sweeton indicated, filed complaints with the Town concerning the use of the cannon. The Department received five responses of which three expressed opposition to the use of the cannon to prevent bird damage and two indicated that they did not oppose the practice.

12. Certain neighbors, whose residence is approximately 2,200 feet from the cannon location, indicated that they do not object to the use of the propane cannon to control bird damage at the Ciummo property. Another neighbor, whose residence is approximately 1,000 feet from the cannon location, stated that she supports cannon use because it has decreased the crow population in the area and its use is "a minor disturbance to a few people."

13. Neighbors who live directly across the street from the Demarest Hill Winery indicated that the cannon can be heard very clearly from their house and property. They indicated that it can be heard from approximately 7:00 a.m. until dusk from mid July until mid September and that the cannon wakes them up and interferes with their "country living." They also indicated that, in their opinion, a "better and quieter solution" should be found to prevent bird damage to the grapes and that the use of netting would be more appropriate for the area. Their residence is approximately 2,000 feet from the cannon location.

14. Another neighbor indicated that the cannon wakes her family up and the sound is upsetting to her and her children. She also stated the cannons fire approximately every five minutes and that the damage caused by the cannon "far outweighs the proposed benefit to Demarest Hill Winery." This neighbor stated that "too many people and animals in the surrounding area are unjustly affected by the noise" without describing how they are impacted, noting that "there must be another alternative." This person's residence is approximately 2,700 feet from the cannon location.

15. The Department received a letter from a resident of the Village of Warwick stating that she had "spoken with many residents who were disturbed by the Winery's practice of repeatedly (every few minutes) firing a carbide cannon beginning at about 6:15 am until nightfall for approximately two months for the last two years." This individual also indicated that she is awakened by the noise and it frightens people who live in the area. She also stated that she understands the need to protect crops, however, "there must be a less intrusive method," without identifying one. The individual's residence is about 2,600 feet from the cannon location.

16. In a letter dated May 23, 2004, John Bollenbach, Deputy Town Attorney for the Town of Warwick, stated that the Town of Warwick Zoning Code contains noise performance standards applicable to site plan and special permit approval. However, he indicated that these standards do not apply to commercial agricultural operations. The Town Zoning Code includes vineyards under the

"commercial agricultural operations" land use. Orange County does not have a noise ordinance.

17. Agriculture and Markets Law §308, subdivision 1, paragraph b requires that the Commissioner consider whether an agricultural practice is conducted by a farm owner or operator as part of his or her participation in the Agricultural Environmental Management (AEM) program as set forth in Agriculture and Markets Law Article 11-A. Mr. Brower contacted the Orange County Soil and Water Conservation District and confirmed that Mr. Ciummo does not participate in the AEM program.

18. According to a fact sheet from the Ontario Ministry of Agriculture, Food and Rural Affairs[1], "Unchecked, birds can completely destroy an entire crop. A flock of 5000 starlings can consume up to 1 ton of food over a 10 day period." The fact sheet also points out that bird damage is increasing because "bird populations are increasing, and there have been changes to migration patterns due to climatic changes." According to the document, birds usually feed early in the morning around sunrise and late in the afternoon around sunset. Mr. Ciummo has indicated that he complies with a number of the guidelines on the use of propane-fired cannons contained in the document, including: use between sunrise and sunset when birds feed, move the units around to keep the birds off guard, operate no more than one unit per 5 acres, unless it is absolutely necessary, and avoid operating near neighbors' houses. However, the fact sheet indicates that "Although the loudness of the blast is important, it is the unexpected nature of the blast that keeps birds nervous. Units should *never* blast at intervals of less than 3 minutes. Birds quickly get accustomed to units that are stationary, shoot at regular intervals, or fire very rapidly."

19. According to the Ontario fact sheet, birds react more to acoustical deterrents than visual deterrents. It also states that visual deterrents should be used with acoustical systems, because they rarely provide adequate protection by themselves. The fact sheet recommends an integrated approach to controlling bird damage, including: using a combination of scaring methods that affect the bird's sense of sight and sound and create a sense of fear, and positioning devices along the perimeter of the area to be protected, near trees and at entry areas.

20. A brochure titled "Birds," prepared by Paul D. Curtis and Michael J. Fargione of the NYS College of Agriculture and Life Science at Cornell University, indicates that ripening soft fruits are highly susceptible to bird damage. The brochure describes netting as "the most effective method for controlling bird damage." The brochure also indicates that there is a high labor cost for installation and removal of netting, and that this method is usually cost-effective only for the most valuable fruit crops. The authors, Curtis and Fargione, explain that a combination of control methods including distress calls, cannons, and visual devices provide better protection than one single control method. They also indicate that scare

[1] Fraser, Hugh W., K. H. Fisher and I. Frensch. Bird Control on Grape and Tender Fruit Farms. Ontario Ministry of Agriculture. 1998, pp. 1-11.

devices must be used from shortly before sunrise until sunset for adequate protection.

21. On April 16, 2004 July 24, 2004 and again on October 5, 2004, Mr. Brower contacted Dr. Paul Curtis, Extension Wildlife Specialist at Cornell University, regarding the control of bird damage in grape crops specifically. Dr. Curtis provided information on the potential crop loss due to bird damage, the cost of using netting to control bird damage, and propane cannon firing intervals. According to Dr. Curtis, an average annual crop loss of approximately 10% can occur as a result of bird damage in unprotected grapes and a high crop loss would be 20% to 30%. Dr. Curtis indicated that netting to protect 20 acres of grapes can cost up to $13,000 for materials, plus $1,000 annually for labor. Dr. Curtis also indicated that the use of netting can be cost-effective "for high value grapes with heavy bird damage." He explained that good quality netting could last seven to ten years and the initial cost could be prorated over the life of the netting. This compares to a cost of $500 to $1,000 for a propane cannon and negligible annual operation costs. According to Dr. Curtis, the recommended firing intervals, no more than every three minutes, are set for individual propane cannons. He indicated that this assumes that the cannons are set far enough apart so that the blast from one cannon will not affect birds in the area of another cannon.

Findings

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

1. Neither the Town of Warwick nor Orange County restrict the use of propane cannons by commercial agricultural operations. The Department has found no evidence or received other information indicating that Mr. Ciummo has been cited for any violation of federal, State or local law as a result of the use of the device.

2. Three neighbors have indicated that the cannon at the Demarest Winery wakes them and upsets and frightens some people. However, the Department has found no evidence that the use of the devices has resulted in bodily harm or property damage off the winery site.

[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.

3. The propane cannons provide a reasonable and cost-effective method of protecting the grape crop from bird damage. Mr. Ciummo only uses the devices when necessary and only during the daylight hours. The cannons are positioned a minimum of approximately 2,000 feet from the nearest complainant's house, and periodically moved to different locations on the property. However, it appears that at times the firing intervals are not consistent with recommended practice and are more frequent than three minute firing intervals.

4. The use of some type of bird control method is needed to prevent damage to the grape crop at Demarest Hill Winery. Without such a control, the Ciummos would suffer an economic loss as a result of the cost of planting and the crop production loss. Farmers have a variety of crop protection alternatives available to them including netting, acoustical and visual deterrents. The experts indicate that a combination of visual deterrents and acoustical systems provide better control than either method used alone. The expert literature indicates that while netting is the most effective method of controlling bird damage the initial capital investment and annual installation and removal expenditures for netting are substantially more expensive than for propane cannons. A propane cannon can be purchased for less than $1,000 from various sources. Capital costs for netting could exceed several thousand dollars for materials in addition to annual labor expenditures. Netting and cannons are both effective methods for the protection of ripening grapes. However, while netting would avoid the off-farm noise associated with cannons, there would be substantial initial and annual expenditures for the farm operation.

Conclusion

Based on the foregoing and in accordance with section 308 of the Agriculture and Markets Law, I conclude that, from a noise perspective, the use of propane cannons at Demarest Hill Winery for the protection of its grape crop, as described above, is sound to the extent that the firing interval for each cannon is no less than three minutes and the cannons are placed far enough apart so that the blasts from one do not affect the same area as another.

12/09/04
Date

Nathan L. Rudgers
Commissioner