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October 27, 1995

Dr. Michael Kenna
Director of Research
United States Golf Association
P.O. Box 2227
Stillwater, OK 74076

Dear Mike,

I want to bring the USGA Research Committee up to date on the our project with you. First, I will not be able to meet your November 1, 1995 deadline to submit the final report on the pesticide fate section of this project. The 240 samples are being analyzed as we speak but the results will not be available until late November. I will them suggest that the pesticide fate section be included in the final report for the entire project that I am planning to submit to you in April of 1996.

There are three main reasons for the delay in completing the project and submitting the final report. First is the lighting damage our facility received in June 1993 that required us to replace $17,000 (none of the funds were from the USGA money but from Cornell's Research Office) of electrical data acquisition/control equipment. Second is the labor that was involved in preparing the 2689 leachate, soil and clipping samples for ^{15}N analysis. Third, finding funds and cooperators to cover the $130,000 cost over-run of the analytical portion of budget for this project (see enclosed tables summarizing the analytical figures). As you will recall I informed you in the fall of 1991 that this project was going to go way over budget, but you indicated that USGA would not be able to supply additional funds. This has required me to scale some sections of the project back (no gaseous loss of N studies) and to use every source funds that I had available (two Hatch Projects, a USDA Regional IPM Grant, and all of the funds that I get form the New York State Turfgrass Association) to fulfill my commitment to the project.

I am asking the Research Committee for the additional time to complete the project and submit the final report in April of 1996. If this is a problem with the committee, then I am not sure how I can speed up the process any faster than I am. I have sensed much frustration from the Research Committee on several aspects of this project and I share some of your frustrations. Please let me know the feelings of the Research Committee.

I would like to write an update of our findings for the USGA Greens Section Record. I feel the "Rest of the Story" needs to be told and my/our defence of researching the "worst case scenario" side of the environmental issue. Good luck on your next research agenda.

Sincerely,

A. Martin Petrovic
Professor of Turfgrass Science

xc: G.L. Good

STATUS OF USGA ENVIRONMENTAL RESEARCH PROJECT

CORNELL UNIVERSITY

October, 1995

1. Pesticide Fate Studies

   a. All studies on fairway turf(ARESTS Facility) have been completed.

   b. The third year application of pesticides to experimental greens containing either sand or sand/peat (80/20, v/v).

      Metalaxyl was applied the first week of August and leachate samples have been collected and are being analyzed. Results available in late November, 1995.

2. Nutrient Fate Studies

   a. Leachate/soil samples

      All leachate samples have been analyzed for ortho-phosphate, ammonium and nitrate. About 90 % of the samples have been analyzed for N^{15} and the remaining samples to be analyzed by March 1, 1996. Soil analysis completed.

   b. Clipping samples have been analyzed for total N and P.

   c. Mass balance estimates will be made when all samples have been analyzed.

3. Final report containing the new results and summary of the entire project will be completed by April, 1996.

Table 1. Total number of samples collected, number to be analyzed and the number analyzed for leachate, soil and clipping from the USGA Project.

	Leachate			Clipping		Soil	
Material	Collected	To be Anal.	Done	Collected	Done	Collected	Done
	Number of Samples						
MCPP							
Frway(91)	916	426	426				
" (94)	240	240	240				
Green(94)	56	56	56				
Isazofos							
(92)	221	221	221				
Trichlorfon							
(92)	283	283	283				
Triadimefon							
(91)	465	328	328				
(92)	376	376	376				
Metalaxyl							
(95)	240	?	?				
nitrate	1978	1978	1978				
ammonium	1978	1978	1978				
PO4	1978	1978	1978				
N15	1978	1978	1978	2026	2026	162	162
Total N				1970	1970	243	162
Total P				1970	1970	243	162

Table 2. Total number of samples analyzed for the USGA Project.

Material	Leachate	Soil	Clippings
	total of samples analyzed		
Pesticides	2170		
N15	510	162	2026
PO4	1978		
NH4	1978		
NO3	1978		
Total N		162	1970
Total P		162	1970

Table 3. Analytical cost over-run for the USGA Project.

Material	Number of extra samples	Cost per sample	Addition Costs
Pesticides	1135	$100	$113,500
Soil			
Total N	-144	$10.50	-$1,512
N15	-144	$2.00	-$288
Total P	162	$5.00	$810
Gaseous Loss	-582	$5.00	-$2,910
Leachate	943	$6.00	$5,658
Clippings			$15,300*
		Total overspent	$135,268
		Total underspent	-$4,710
		Net amount overspent	**$130,558**

* difference in number of samples analyzed and the cost per sample.