Tee to Green

Vol. III, Number 2 Published monthly by the Metropolitan Golf Course Superintendents Association April, 1974

MGCSA MEETING NOTICE

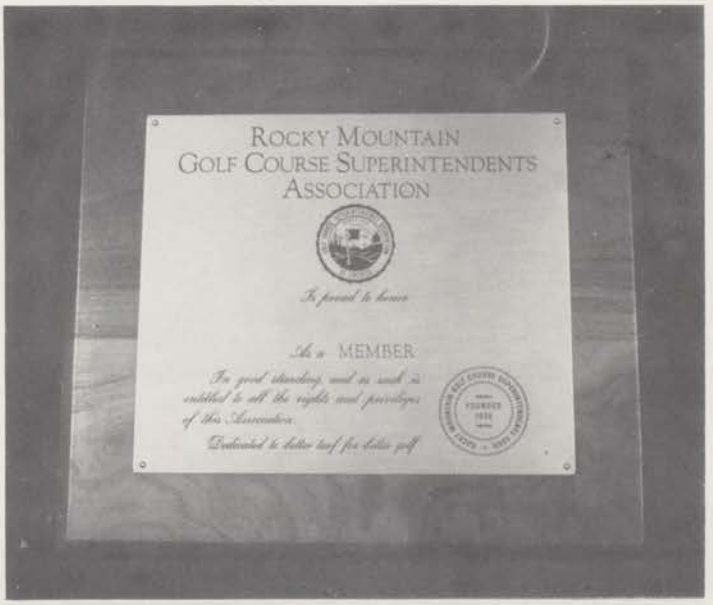
Date:	Tuesday. April 16th
Place:	Westchester Country Club
Golf:	12 noon on (weather permitting)
Lunch:	Available in grill room
Cocktails:	6-7 PM—Sports House
Dinner:	7 PM—Main Dinning Room
Program:	Mr. Peter DeAngelo—President Club Managers Association of American—Topic* Relationship Between Golf Superintendent and Club Manager
Other Guests:	Mr. Robert Watson—President Metropolitan PGA
Host:	Robert De Pencier
Directions:	From Northern Westchester and Rockland County—take Cross Westchester Expressway (287) to exit 10 Keep to your right as you leave exit ramp and take Route 120 on your right (300') then go through one traffic light and at the first blinker light make a right to Westchester Country Club. From Long Island and Southern Westchester take I-95 to Cross Westchester Expressway (287) (West, Tappan Zee Bridge). Then take exit for Hutchinson River Parkway (Merritt) (south) to North Street Exit. At Exit ramp go right towards Harrison, go thru 1 traffic light go about ½ mile and look for Park Drive South (Column with Westchester CC) on your left. Follow Park Drive South to Club house.
NOTE:	Please return your postcards promptly. Reservations are a must.

COMMING EVENTS:

April 6-7	Westchester Country Home Gardeners Clinic County Center—White Plains
April 18th	LIGCSA Harbor Hills Country Club—Port Jefferson, N.Y.
May 16th	LIGCSA—Sayville Counrty Club
May 16th	MGCSA—Innis Arden Golf Club
June	Open
July	Open
August 23rd	Superintendents Championship—Round [illegible] GC
Sept.	Open
October	MGCSA Invitational—The Apawamis Club (tentative date Oct. 2)
Dec. 21	Christmas Party—Burning Tree Country Club

Please contact Robert DePencier if you can have a meeting at your club in June, July, or Sept.

MEMBERSHIP PLAQUES



The MGCSA Executive Board has decided to have available to all class A, B, & C members a membership Plaque. Payment will be made on an individual basis and will be approximately $7.50. Members can sign up at the next meeting or call Dick Allen 723-3238, to have your name put on the list. The plaque will be on display at the April meeting. You will be billed by the Association when you receive your plaque.

Membership Committee: Frank Bevelaqua Chairman

MGCSA NEWS:

Well the golfing season is just about underway. When the Masters golf tournament is over then golfers will start coming in full force. We have had another mild winter with very little winter injury. Those who dormant feed and top dress really stand out when you have a mild winter. It certainly seems to favor the bent grasses. Although the poa annua maybe green it certainly hasn't grown like the bents.

Tee to Green

Editorial Staff

Garry Crothers	*Co-Editor*
Ted Horton	*Co-Editor*
Scott Benty	*Staff Writer*

OFFICERS

President:	Harry H. Nichol, Elmwood C.C. Office 914-592-6608, Home 914-268-9370
First Vice President:	Garry N. Crothers, Apawamis Club Office 914-967-2100, Home 914-234-3770
Second Vice President:	Edward C. Horton, Winged Foot Golf Club Office 914-698-2827, Home 914-937-3613
Secretary:	Richard Allen, Sunningdale C.C. Office 914-723-3238, Home 914-723-8097
Treasurer:	Robert Alonzi, Burning Tree C.C. Office 203-869-5779, Home 914-937-1527
Sergeant at Arms:	Orlando Casterella, Westchester Hills G.C. Office 914-948-5020, Home 914-698-3976

Now that fertilizer costs have skyrocketed maybe Spring feeding will be cut down. Probably one of the biggest factors in Spring feeding is the demand by the membership for color. One of the advantages of dormant feeding is that you do get the color but not the lush growth which is usually the case with Spring applications of fertilizer. Also if you happen to hit a cold Spring the tendency is to put just a little more fertilizer out when the grass hasn't responded (mainly because the soil is just too cold).

We are glad to hear Dick DePencier is recovering nicely from a back operation for a pinched nerve. Now that the turf conference circuit has just about finished and vactions all enjoyed we can expect a big turnout for the April meeting. Attendance at the March meeting was a little low. So be sure to bring your neighbor on the 16th. We have an excellent program lined up. If you haven't already, please send in your dues now.

Mr. Richard Browne has been approved by the Executive Committee as a Class A member. Dick is the new Superintendent at the Greenwich Country Club. Welcome to MGCSA Dick.

IN MEMORIAM

Lawrence Labriola—We certainly will miss Lawrence Labriola. He was an honorary member of the MGCSA. A dear friend of the golf course Superintendent and a man who over the years helped our association in many ways, with the golf prize fund, and his annual picnic. He also had done various construction work on many of the golf courses in the area and certainly much of his nursery stock can be found on the golf courses in our area also. All the members of MGCSA extend our deepest sympathy to the Labriola family.

GOLF COMMITTEE — Terry Mulligan

HANDICAPS: MGA or Club handicaps will be used at all MGCSA golf outings and tournaments. Those members not having an MGA or Club handicap will start the season with last years handicap and we will try to compute your handicap as the season progresses. Please turn in all score cards, don't just record your score on the tournament sheet.

Tournaments: This year we will try to get away from kickers at each golf outing. We plan to have different types of individual events. We also would like to have a fourball tournament. The players are paired in two-man teams and their better ball on each hole is the team score. Each player will be allowed 100 percent of his handicap, the strokes to be taken as they come on the card. If enough interest is shown and enough teams enter this tournament could be implemented by the May meeting. Pairings would be posted in the Tee to Green.

Hole-In-One: It has been suggested that all golfing members of MGCSA pay $2.00 for Hole-In-One Insurance to protect anyone, who is fortunate enough to get a hole in one, from going bankrupt at the 19th hole.

PLEASE EXCUSE OUR ERROR

We neglected to credit the articles in last months issue on the Rutgers Turfgrass Conference and the U.S.G.A. Greens Section Meeting to Scott Benty. Once again, thank you Scott.

Position Available: Assistant Superintendent
Raritan Valley Country Club
Somerville, New Jersey 08876
Salary commensurate with experience, but will train person with some basic knowledge.
Please contact: Mr. Alfred Rathjens
341 Country Club Road
Somerville, N.J. 08876
Phone (after 5 PM)
(201) 722-5876

Assistant Superintendent
Crestmont Country Club
750 Eagle Rock Avenue
West Orange, N.J. 07052
Salary $9,500 to $10,500
all normal benefits
Please contact: Mr. Peter Pedrazzi, Superintendent
750 Eagle Rock Avenue
West Orange N.J. 07052
Bus. (201) 731-5106
Home: (201) 377-5539

REMOVAL OF CANADIAN GEESE:

Andy Androsko again reminds us that if we wish to schedule removal of Canadian Geese from the golf course, we should **immediately** contact:

Mr. John R. Watters
U.S. Department of Interior
Fish & Wild Life Service
P.O.Box 717
11 North Pearl Street
Room 606
Albany, N.Y. 12201
Tel. 518-472-5381

TURF CONFERENCE AT U. MASS.

The University of Massachusetts hosted its annual Turfgrass Conference at the Highpoint Motor Inn in Chicopee, Massachusetts March 6th, 7th, 8th. Dr. Joseph Troll was at the controls again. He has a unique quality of improvising his program each year, and 1974 was no exception.

This conference was a reunion for many superintendents, but for me it was very special. For it was at this same time last year that I graduated from "Winter School" and was fortunate enough to secure a job at Winged Foot Golf Club. I know from experience how the students felt about interviews and meeting some influential people in the turf field. Students are nervous and apprehensive about their futures. They desire a job and a great future, and they desire it immediately. This feeling is natural for all and an experience which we all go through at one time or another. However, life does not work as quickly as we sometimes desire. A good future must be built upon a strong and well planned background. Just as the architect builds a new home, he must secure the foundation to assure that the structure will weather the change of seasons. To those students who found jobs, I suggest that you work hard and plan well. For those employers who have hired new students, be patient, guide them as best you can. Remember, you are training the future of your profession.

A well planned conference is one which runs on time and is comprised of knowledgeable speakers. Superintendents attending the U. Mass. Conference found both of the above under one roof. The proceedings were scheduled very well. A broad spectrum of speakers made the conference exciting.

Mr. William Buchanan representing the U.S.G.A. hosted a panel of superintendents rehashing the "Summer of '73." Dr. Robert Carrow representing U. Mass., conducted a similar panel discussion on tricalcium. Dr. Houston B. Couch delivered an amusing talk on what to do in case we see another devastating summer. Mr. Richard Silvar representing the Pinehurst Golf Club, which is run by the Diamond Head Corporation, related his job of managing several golf courses. Mr. Edward Horton delivered a powerful presentation concerning the operation of a high budget golf course.

Congratulations should be extended to Dr. Troll for his excellent organization of the conference and for securing a well rounded panel of speakers. I look forward to next years conference with enthusiasm and high expectations.

Scott Benty

RESEARCH REVIEW By Wayne C. Morgan

NUTRIENT STORAGE AND MOVEMENT UNDER TURF

In the 1972 Purdue Turfgrass Conference Proceedings, Dr. Paul E. Rieke of Michigan State presented an article on Nutrient Storage and Movement under Turf. His information principally concerned nitrogen, phosphorus, and potassium.

NITROGEN

Nitrogen warrants such attention because it affects the turf in so many ways. Included are shoot growth, shoot density, root growth, color, tolerance to temperature and moisture stress conditions, disease susceptibility, wear tolerance, recuperative potential, and competition of the turfgrass with weeds and other turfgrass species. Nitrogen is added to the soil by fertilizing, in rainfall, and by nitrogen fixation carried on by certain soil microorganisms. In addition, nitrogen can be added to the soil in top dressing material, included with peat, manure or by clippings returned to the turf.

Clippings return is merely a recycling of the nitrogen already present. If one assumes that 200 pounds of green clippings (80% moisture) are returned to the turf per 1,000 square feet annually and that they average five percent nitrogen (dry weight basis), this amounts to two pounds of nitrogen being recycled in the clippings. This amounts to a very light fertilization with each mowing with ready release of N. Higher values would be evident if heavier nitrogen applications or a longer growing season prevailed.

The reservoir of nitrogen tied up in the soil organic matter is an important source of nitrogen when soil temperatures are warm and peak microbial activity occurs. Mineral soils might contain about 0.15% nitrogen by dry weight. Most of this nitrogen is essentially unavailable for the turf to use since soil organic matter in mineral soils is usually relatively resistant to further decomposition.

Nitrogen losses by leaching can be appreciable if sound management practices are not followed, especially on irrigated sands. A soil nitrate study included several nitrogen fertilizer treatments, which were applied to Merion Kentucky bluegrass. Data were obtained in 1970 and 1971 from the 0-6, 6-12, 12-18, and 18-24 inch depths. When very high rates of nitrogen (6 to 8 lbs. per 1,000 sq. ft. annually) were applied in soluble form (ammonium nitrate) in April, there was appreciable leaching. When this treatment was divided into three applications during the growing season, the apparent leaching of nitrate into lower horizons was much reduced.

Use of organic (or slow release) nitrogen carriers—milorganite, ureaformaldehyde and isobutylidene diurea reduced the nitrate levels in the soil during spring and early summer; but in late summer, the nitrate levels in the subsoil (to 24 in.) were somewhat higher than in plots receiving ammonium nitrate in 1970 data. The 1971 data suggests similar trends except a very dry summer and limited irrigation resulted in very little nitrate nitrogen appearing in the soil, even in the 0-6 inch depth. This was attributed to the nitrogen fertilizer particles staying in the thatch layer, which was discarded when the soil was sampled.

On the basis of these studies we have prepared guidelines on nitrogen fertilization to keep nitrate leaching to a minimum.

1. Use no more than 1.5 pounds of nitrogen per 1,000 square feet (60 lbs. per acre) on turf in any one application.
2. Apply nitrogen only to actively growing turf.
3. On sandy soils use irrigation judiciously to reduce leaching.
4. If clippings are returned, reduce nitrogen rates accordingly.
5. Use slow release forms of N.
6. On sandy sites, especially where water sources could be contaminated with nitrates, it is well to consider the use of low nitrogen requiring turfgrass.

PHOSPHORUS

Phosphorous does not leach readily through soils. Most soils have a high capacity to tie-up phosphorous either by attraction to the clay particles, or by forming less soluble iron and aluminum phosphates if the soil is acid, or calcium phosphate if the soil is alkaline (above pH 7.0). An example of the tendency for phosphorous to collect in the surface soil is illustrated in data taken from one of our research plot areas. The 0-2 inch depth had a soil phosphorous test of 70 pounds per acre. The 4-6 and 8-10 inch depth samples tested 25 and 6 pounds phosphorous per acre, respectively.

Great concern should be raised about the effect of imbalances of phosphorous, which could induce a deficiency of iron or other nutrients. When arsenates are being used for **Poa annual** control, phosphorous applications should also be restricted since an application of phosphorous containing fertilizer can offset the arsenate influence.

POTASSIUM

Potassium is a cation (positively-charged); as such, it is attracted to the cation exchange capacity (negatively-charged) on clay minerals and soil organic matter particles. This tends to hold potassium from leaching through the soil. It can be leached, however, with excessive irrigation, especially from sandy soils. Also, ammonia applications favor leaching of K by replacement. More frequent and usually higher potassium rates will be required on heavily irrigated sands to account for the greater leaching losses.

Data in Table 1 show the tendency for potassium to stay near the surface of a fine sandy loam soil. Increasing nitrogen rate caused a decrease in soil potassium test due to greater amounts of potassium removed from clippings.

TABLE 1 Soil potassium tests as affected by depth of sampling and rate of nitrogen application.

Annual nitrogen rate	Depth of sampling inches			
1 lbs./1000 sq. ft.	0-2	2-4	4-6	6-8
		lbs. of K		
4	274	134	108	108
14	197	120	101	96

Certain soil minerals have the ability to fix potassium, that is, to tie-up potassium within the structure of the mineral. This takes potassium out of soil solution and prevents its leaching, but it is not available to the plant until it is released from the mineral again. Soils, which have such minerals, may contain great quantities of potassium; but soil tests may not be high. On such soils, response to potassium may not be apparent.

OTHERS

Calcium and magnesium are closely related to soil pH. If pH is acceptable for the turf, both of these nutrients are usually present in adequate quantities in the northern mid-west. In some cases a need for magnesium may occur. Soil testing is the best means for determining magnesium needs.

Sulfur can be leached from the soil in the sulfate form. Heavy rainfall and irrigation, especially on sandy soils, contribute to sulfate leaching. Reports of sulfur responses on turf are most common in Washington and Florida. This need for this nutrient will probably become more widespread as more stringent air pollution controls are employed, which will reduce sulfur additions to the soil by rainfall.

The micronutrients, iron, manganese, copper, and zinc are normally present in much more than sufficient quantities for turf. If soil pH is too high, however, they are often not in available form. Deficiences of iron are especially common on shallow-rooted cool-season grasses (particularly bentgrass and **Poa annual**) as well as on many of the warm-season grasses. In the mid-west many greens have become considerably higher in pH because of irrigation with hard water. We find pH values of 7.4 to over 8.0 common on greens in Michigan. Lowering soil pH can make the iron more available again.

Divot News
S.C.G.C.S.A.

SHRUB PACKETS AND EVERGREENS FOR REFORESTATION AVAILABLE

The Millbrook Office of the Department of Environmental Conservation is accepting orders for seedling trees and shrubs for spring planting.

Ten varieties of two year old seedling evergreens are available. The cost is $20.00 per thousand, plus shipping, with a minimum order of one thousand of any one species. Varieties in stock are: White Pine, Scotch Pine, Red Pine, Norway Spruce, White Spruce, Larch, Austrian Pine, Balsam Fir, Douglas Fir and Black Locust.

Provided the State requirements are met, any landowner—private individual, business firm, industrial company, church or social group, school, State or local government, etc.,—with at least one acre of open, plantable land may order trees. Typically, trees are planted to provide windbreaks, prevent or control erosion, improve wildlife habitat, produce future forest crops like Christmas trees or improve scenic beauty. State trees may not be planted for ornamental purposes.

For those with less than an acre of open land, who would like to do something for the environment, special wildlife habitat improvement packets have been prepared. Designed for small areas, odd corners, or fence line plantings, they contain a mixture of 100 shrub and tree seedlings. Two different packets are available. The price is $6.00 per packet, plus shipping.

Three varieties of wildlife shrubs (Cranberry, Bush Honeysuckle, and Bristly Locust) are available in limited amounts for bulk sales. They are useful in providing wildlife food, cover, and travel lanes along plantation edges, fence rows, stone walls and the like. Shrubs may also be used as soil stabilizes on land subject to erosion. Cost is $7.50 for one bundle of 250 shrubs, and $5.00 for two or more bundles.

Landowners who wish to obtain an order blank, or who would like further information, may write to D.W. Weller, Associate Forester, Department of Environmental Conservation, R.D. 2, Route 44, Millbrook, New York 12545. Enclosing a stamped self-addressed legal size envelope will speed the reply.

Westchester County Agricultural News

PRE-EMERGE REVIEW by John R. Hall, Turf Specialist

This is a good time of the year to review the characteristics and modes of action of the more popular preemergence turf herbicides.

COMMON NAME:	Benefin
TRADE NAMES:	Balan, Binnel, Balfin
CHEMICAL NAME:	N-butyl-N-ethyl-trifluoro-2, 6-dinitro-p-toluidene

Benefin materials are available as emulsifiable concentrates (1.5 lb/gal) and 2.5% granules. Benefin is a volatile material and works best on turf in the granular form. Volatility is reduced when the material is irrigated into the soil soon after application. This material satisfactorily controls crabgrass, goosegrass, pigweed, lambsquarter, purslane, carpetweed, yellow and green foxtail and other turf weeds. Nutsedge, cocklebur, grandsil and ragweed are notably tolerant of benefin. Benefin has a long residual and should not be used in situations where fall overseeding is contemplated. Materials similar to benefin have been shown to inhibit actively dividing cells of germinating seedlings and stop growth processes (3). The material is strongly absorbed through seed coats and the epidermis of shoots. Benefin damages bentgrass and thins fescue but other turfgrasses are considered tolerant (4).

COMMON NAME:	Betasan
TRADE NAMES:	Prefar, Pre-San
CHEMICAL NAME:	S-(O-O-diisopropyl phosphoro-dithioate) ester of N (2-mercap-toethyl) benzene sulfonamide

Bensulide materials are available as emulsifiable concentrates (4 lb/gal) and as a 7% granular. Granular materials have provided the best control in Maryland trials. Smooth and hairy crabgrass, goosegrass, foxtail, annual bluegrass, pigweed, purslane and other annual turf weeds are satisfactorily controlled by this material. Six to eight month control may be expected with this material. Effectiveness of this material is hampered by high cation exchange capacity and organic matter content (4). Representatives of this class of compunds are thought to cause alkylation of sulfhydryl groups of proteins, therefore, reducing protein synthesis in roots of germinating seedlings (3). Bensulide has caused injury to bermuda and zoysia. Although the material is safe on bentgrass. It has reportedly increased summer wilting on greens (4).

COMMON NAME:	DCPA
TRADE NAMES:	Phthalic acid, Dacthal, Dacthalor, Oust, DAC 893
CHEMICALS NAME:	Dimethyl tetrachloroterephthalate

DCPA materials are available as wettable powders (50 and 75%) and as 2.5 and 5% granules. Crabgrass, foxtail, goosegrass, lambsquarter, purslane, chickweed, pigweed, spurge, dock, and other turf weeds are satisfactorily controlled. Ragweed, smartweed and velvetleaf are notably tolerant of this material (6). Under normal conditions DCPA will persist in the soil for 60 to 90 days (4, 5). The effectiveness of this material is decreased by soils high in organic matter. This class of compounds is not foliar adsorbed nor translocated within the plant. They cause severe stunting of germinating seedlings by arresting cell division (3). DCPA may injure red fescue and bentgrass and its use on golf greens is considered risky. In Maryland tests DCPA decreased the winter survival of sprigged tufcote bermudagrass (1).

COMMON NAME:	Siduron
TRADE NAME:	Tupersan
CHEMICAL NAME:	1-(2-methylcyclohexyl)-3-phenylurea

Siduron is available as a 50% wettable powder. Crabgrass, foxtail, cheatgrass, downy brome, witchgrass, purslane, lambsquarter, nimblewill and other turf weeds are controlled. Broadleaved weeds are poorly controlled with this material. Annual bluegrass is very resistant to this compound. Siduron will persist in the soil for 10 to 12 months, but it is the only material that can be utilized in conjunction with bluegrass seeding. The effectiveness of this material is decreased by soils high in organic matter. This class of compounds inhibits photosynthesis leading to closure of the stomata, inhibition of transpiration and eventual death of the germinating seedling (3). Bermudagrass and certain bentgrasses are injured by siduron, whereas, red fescues are considered tolerant. Caution is recommended when utilizing this material on golf greens.

COMMON NAME:	Tricalcium Arsenate
TRADE NAMES:	Calcium arsenate, Orthoarsenate, Chip-Cal, Kleen-up
CHEMICAL NAME:	$Ca_3(AsO_4)_2$

Calcium arsenate is available as an inorganic material in granular form (48 and 73%) or as an 85% wettable powder. Crabgrass, annual bluegrass, goosegrass, chickweed, and other turf weeds can be controlled with this material. Gradual buildup of toxic arsenic levels in the soil is important in utilizing this material. Many climatic and edaphic factors affect arsenic toxicity and therefore caution must be utilized with this material (2). Arsenates cause death of germinating seedlings by blocking production of high energy phosphate compounds. Red fescues are injured by levels necessary for **Poa annua** control. With all preemergence materials it is essential that label instructions be closely followed. Water in these chemicals immediately after they are applied and do not disrupt the soil surface.

Tee to Green

Richard C. Allen, Secretary
126 Underhill Road
Scarsdale, New York 10583

First Class

MELVIN B LUCAS JR A
GARDEN CITY GOLF CLUB
315 STEWART AVE
GARDEN CITY NY 11530

We Know Agrico 18-5-9 Can Improve Your Fairways.

And We'll Go To Any Links To Prove It!

We know Agrico Country Club Fertilizer can improve fairways. Because it feeds more efficiently to help build plusher turf—turf that will approach your greens in quality.

We'll prove it to you on your own course, free of charge.

Formulated with moderate-size granules, Agrico 18-5-9 can be spin-spread faster and more accurately. Once spread, 18-5-9's power-feeding formula makes your fairway turf uniformly thicker. This helps "keep the ball high on every lie" and gives your golfers better fairway shots.

Because 18-5-9 is high in nitrogen content, you need fewer bags for normal fertilization. A real savings when you've got 40 to 65 acres of fairways.

The nitrogen is derived from organic as well as quick green-up sources. Five units of nitrogen are in water insoluble form to keep your turf greener—longer.

Higher potash content, one-third from sulphate, makes turf so resilient that it resists tracking—even under heavy traffic conditions. Five units of phosphorus will maintain, but not increase soil levels.

Agrico® Country Club

"We'll Go To Any Links"

To prove that Agrico can improve your fairways, we'll go to any links. Complete the coupon below and we'll come to you—with a free product demonstration. We'll prove beyond a doubt the effectiveness of Agrico's 18-5-9 formula for fairways. And we'll fill you in on Agrico's full line of dependable course-care products.

Dan Brogan
14 Wiedemann Avenue
Clifton, New Jersey 07011

Please contact me for a free product demonstration of 18-4-10 or 18-5-9 and for information on Agrico's other course-care products.

Name _____

Title _____ Golf Course _____

Street or P.O. Box _____

Phone Number _____

City _____ State _____ Zip _____

Offer good only in Agrico trade areas