Vol. VI, No. 6

Published monthly by the Metropolitan Golf Course Superintendents Association

July, 1976

COMING EVENTS:

August 25	Rhode Island Turf Field Day
August	M.G.C.S.A. picnic and softball game date and
	location to be announced
September 13:	Lawrence Labriola Memorial Tournament,
	Sponsored by M.G.C.S.A.
September 30:	M.G.C.S.A. Invitational, The Apawamis Club
October:	M.G.C.S.A. meeting
November 18:	M.G.C.S.A. annual meeting

December 18: M.G.C.S.A. Christmas Party and raffle.

M.G.C.S.A. News: It sure was nice to have some cool weather in mid July, along with rainfall. It makes the 100 day stress period shorter. Bob DePencier had Westchester in great shape for the Classic. Bob is leaving for Pinehurst in the near future. It's a nice way to leave when the course played the best it ever has for the Westchester Classic. Thanks again, Bob, for the complimentary tickets. Bob informed me that he will still be in charge of the Christmas Party and raffle.

The Dung Beetle is now starting to show his face around the county. We will try and give a further up date in our next issue. The test plots with the hyperodes weevil certainly show that even though the hyperodes weevil wasn't as severe this year, areas not treated, definitely don't have as good turf quality. We expect to get our first evaluation tests from Cornell within the next few weeks.

The weather man has been pretty kind to us, up until this date. The poa annua didn't seem very strong at all this year, not that it is anyway, anytime. I felt that if the poa had been stressed to any great deal, it was going to fade very fast. But the cool nights and weekly rains have sustained it. We still have August to face.

A few of the Superintendents were at the Rutgers Turf Field Day. There seem to be less and less Superintendents attending the Field Day, and yet much of the research on improved bent and bluegrass varieties are for our benefit. Rhode Island and University of Mass. have their field days on July 28th and August 25th.

We still would appreciate funds for the Hyperodes & Dung Beetle Research. Garry N. Crothers

WELFARE:

Keep us informed. Call Dick Gonyea 914-835-3205, Cancelleri 914-667-3737 or Roger Morhardt 914-279-7181 y any information which you think should be shared. Lloyd Hughes is on the mend. Seems he was on a OSHA ladder at home, fell and broke both wrists. He's doing fine with two plastic clubs for hands.

REMEMBER SEPTEMBER 13th — SYLVANIA COUNTRY CLUB

Now that we have concluded the celebration of July 4th and our 200th Anniversary, remember that the next major celebration is September 13th—GCSAA's 50th Anniversary to be held at Sylvania Country Club. Make your plans now to be in attendance and participate in the many activities highlighting GCSAA's "50 Years of Progress."

ARNOLD PALMER TO BE KEYNOTER FOR 50th ANNIVERSARY BANQUET

Arnold Palmer, one of the foremost golfers in the world, will deliver the keynote address for GCSAA's 50th Anniversary Celebration on September 13 at the Sylvania Country Club in suburban Toledo, Ohio. In the address, "Golf's Golden Asset: Your Fifty Years of Progress," Palmer will talk about how the golf course superintendent affects the game of golf.

Palmer is the son of Milfred J. "Deke" Palmer, a golf course superintendent from 1924 until his death earlier this year. Deke Palmer began his 55-year professional golf career as a greenkeeper at the Latrobe Country Club, for which he designed the first nine holes in 1921. He was also the only resident pro the club ever had, from 1921 to 1975.

The one-day GCSAA Anniversary Celebration will feature displays of antique golf equipment and golf cours_maintenance tools and equipment that date back to the Association's founding in 1926.

The Association, originally known as the National Association of Greenkeepers of America, was founded at the Sylvania (Ohio) Country Club, which will receive a bronze plaque commemorating the founding. The plaque will be mounted on a stone at the entrance to the clubhouse.

Awards will be presented at an evening banquet to 11 winners of GCSAA's "Outstanding Service Award," with Past Presidents and Charter Members of the Association also being honored. In addition to Association members, invited guests will represent the Ohio political scene, Sylvania Country Club, allied associations and publications, the GCSAA Executive Committee, the Educational and Industrial Advisory Councils and others.

The annual GCSAA Tournament will be played at the





Editorial Staff				
Garry Crothers Ted Horton		Co-Editor Co-Editor		
	OFFICERS			
President:	Garry N. Crothers, Apawamis Office 914-967-2100, Hor	s Club ne 914-234-3770		
First Vice President:	Robert DePencier, Westchest Office 914-967-6000, Hor	er C.C. ne 203-531-9780		
Second Vice President:	Charles Martineau, Whippoorwill C.C. Office 914-273-3755, Home 914-428-3826			
Secretary:	Richard Gonyea, Rye Golf Club Office 914-835-3205, Home 914-835-3204			
Treasurer:	Robert Alonzi, Burning Tree Office 203-869-5779, Hor	C.C. ne 914-937-1527		

Not copyrighted. If there is good here, we want to share it with all chapters – unless author states otherwise.

Sylvania and Glengarry Country Clubs September 14 and 15. The Ladies Tournament, September 14, will be played at the Toledo Country Club.

GCSAA'S TEAM NAMED FOR INTERNATIONAL TOURNAMENT IN ENGLAND

Palmer Maples, Jr. of The Standard Club, Atlanta, Georgia; Charles H. Fatum, Jr. of the Wee Burn Country Club, Stamford, Connecticut; George Prieskorn of the Burroughs Farm Country Club, Brighton, Michigan; and T.C. Hamilton of the Dallas Country Club, Dallas, Texas, will represent GCSAA at the British Turf Symposium and International Greenkeepers and Superintendents Golf Tournament to be held at Walton Heath Golf Course in early October. The team was selected by the Executive Committee at its Spring Board Meeting.

METROPOLITAN GOLF COURSE SUPERINTENDENTS ASSOCIATION RESEARCH FUND REPORT

To date the following clubs individuals and commercial firms have supported the M.G.C.S.A. Research Fund. This money will be used to underwrite Research by the Entomology Department of Cornell University on the Hyperodes Weevil and the Dung Beetle.

Clubs:

The Apawamis Club Blind Brook Club Bonnie Briar Country Club Burning Tree Country Club Century Country Club

Country Club of Darien Elmwood Country Club Fenway Country Club Fresh Meadow Country Club Innis Arden Country Club Knollwood Country Club Metropolis Country Club Old Oaks Country Club Quaker Ridge Country Club Ridgeway Country Club Rockrimmon Country Club Piping Rock Club Rockland Country Club Round Hill Club St. Andrews Golf Club Scarsdale Golf Club Silver Springs Country Club Sunningdale Country Club Waccabuc Country Club Wee Burn Country Club Whippoorwill Club Winged Foot Golf Club Woodway Country Club Wykagyl Country Club Sleepy Hollow Country Club Sterling Farms Club Brae Burn Country Club Shore Haven Golf Club

Individual Class A, B & C Members:

Garry Crothers Robert DePencier Charles Martineau Robert Alonzi Allan Tretera Mike Maffei **Richard Gonyea** Sherwood Moore Edward Horton **Terry Boles** Dan Verrille Louis Verrille Angelo Gagliardo Joe Camberato Michael Dale Roger Harmonay Ted Jozwick Edward Consolati

Robert Capstick **Tony Savone** Benjamin Zukosky Al Moore Thomas A. Grywalski Michael Jacques **Robert Phipps** Thomas F. Grywalski Gene Grady Phil Santucci Roger King **Richard** Allen John Wistrand **Tony Grasso Bill Somers** John Corsi Paul Caswell

We would like more clubs to be involved in the research fund.

Research Committee Sherwood Moore, Chairman, Woodway Garry Crothers, Apawamis Charles Martineau, Whippoorwill Mel Lucas, Jr., Garden City Dr. A.V. Virtuoso, Whippoorwill Roger J. King, Quaker Ridge

RUTGERS TURFGRASS RESEARCH FIELD DAY—SUMMARY By Anthony Sciandra

On June 23, Rutgers University sponsored its annual turfgrass Field Day. This was the first time I attended the event and I found the research work well done and its benefits innumerable. Unlike last year, when the majority of the research presented was directed toward disease identification and disease occurance on certain turfgrasses, this event concentrated on the major cool season grasses and their overall appearance when subjected to temperature extremes, various fertility levels, minimum management practices and other factors that enhance and also reduce the vigor of the Turf. Also, there was testing done on new and improved strains of commonly used Cool Season Turfgrasses.

It would be arduous to summarize the field day by the succession of events on the tour schedule, therefore a discussion of the major turfgrasses tested and their results will be delivered.

BLUEGRASS TRIALS

Because of the popularity and the diverse use of bluegrasses, the majority of the research conducted at the field day was concentrated in this area.

Minimum Management Practices

Most turf type Bluegrasses are best adapted to moist, fertile fine textured soils, but at the conclusion of a two year experiment on a low maintenance program, the varieties South Dakota, Kenblue, and Park were outstanding when subjected to minimum management.

Appearance At Two Different Fertility Levels

As you know, the Nitrogen fertility requirement varies with specific cultivars, and although Bluegrasses such as Merion and Windsor thrive on 8-10 pounds of Nitrogen per 1,000 sq. ft., it was noted that at these high rates on other bluegrass varieties succulence is increased and disease was also increased. Some diseases associated with high fertility include Fusarium Roseum, Pythium, and Brown Patch. At a low rate of Nitrogen, 3-5.6 pounds per 1,000 sq. ft. Park, Delta and Kenblue were outstanding varieties that retained a favorable

ANDREW WILSON INC.

DISTRIBUTORS FOR

JOHNS-MANVILLE IRRIGATION PIPE-FITTINGS – CONTROLLERS – SPRINKLERS

SALES • SERVICE • DESIGN

1170 U.S. Route 22 West Mountainside, New Jersey 07092 (201) 654-5800

Sales Representative - Bob Lippman (914) 248-5790

appearance and had few disease problems. But it should be noted that Dollar Spot and Red Thread are associated with a low fertility program.

Persistance In Competition With Poa Annua

The Bluegrasses most competitive with Poa Annua are Touchdown and Bensun (formerly A-34). These grasses are also adaptable to shady areas and have a moderate resistance to Leaf Spot and Stripe Smut.

Variety Evaluation

There are many old varieties of bluegrasses being tested, and some new strains being developed. Older varieties not included in the above experiments that have desirable characteristics for turfgrass use include Baron, Adelphi, Parade, Bristol, Birka and Kenblue. Watch for new improvements with Nugget, and a special interest should be given to Enmundi, which is grown in Europe and recently has started production in the U.S.

RYEGRASS TRAILS

General Comments

The Ryegrasses have been utilized where rapid establishment and soil stabilization are desired such as (a) on slopes having high erosion potential, (b) seeding at a time of the year when the probability of successful establishment is low. Ryegrasses also do not have a thatch layer and have a extremely high tolerance to the herbicides Silvex, 2, 4-D and Banvel D.

Persistance In Competition With Poa Annua

Those varieties that compete well with Poa Annua include Manhattan, Pennfine, Pelo and N.K. 100.

Variety Evaluation

It was shown that Manhattan, Derby, and Pennfine are well suited for tolerance to heat stress, Yorktown and Diplomat for their winter performance, and Citation proved to be successful because of its resistance to Red Thread disease and its overall appearance.

FESCUE TRIALS

General Comments

It was pointed out that fescues are best suited for low maintenance areas, such as roughs, at the base of trees, and at hillsides. Their appearance is good during the Spring and Fall, but then take on a somewhat undesirable appearance during the summer. Keep in mind the use of Fescues in these previously mentioned areas saves time and money because of the minimum amount of care needed for their growth.

Red Fescue Mowing and Fertilization

In a study covering a nine year span, and when cut at three inches high, Red Fescue showed no deterioration whatsoever. Conversely, recommended varieties that showed good tolerance to close mowing include Dawson, Highlight, Polar and Jamestown (all Chewing Fescues).

In regard to fertilization, the nitrogen requirement for Fescues is 1.6 to 3.0 pounds per 1,000 sq. ft., but a decline in the Fescues was evident when excessive amounts of nitrogen were applied.

Variety Evaluation

It was brought to our attention that one misleading variety

on the market is Dawson. It has an excellent 1st year appearance but is very susceptable to dollar spot the second year.

The most promising varieties included Fortress and Banner. Both retained good color, provided an good cover and needed very little mowing.

Another variety was Puscinellia Distans. It requires a somewhat different culture than other Fescues in that it has a high requirement for salt to attain good color and coverage. This may have a place in areas along seashores and other high salt regions.

BENTGRASS TRIALS

Bentgrass Strain Evaluation

In this area of research Kingston, Bardot and Tracenta seem to have held up the best.

Fertilization

Dr. Engel stressed the point that we are applying too much fertilizer on bent areas. He suggested that we try to reduce the amount by one pound on some areas and visually compare the results. Less Nitrogen also reduces the amount of Poa that is present.

The dormant fertilization tests were not projected to their maximum potential because of the time of the year the field day was held. It would show up more distinct during the month of April.

Variety Evaluation

Highland and Astoria still seem to be the best choices for Colonial Bentgrass use while Penncross and Seaside are recommended Creeping Bentgrass cultivars.

As a miscellaneous item we were shown a plot of Zoysia grass that was established in 1947 and mowed at three quarter inches with very little maintenance. This seemed very promising to those interested in a low maintenance program but it should be noted that Zoysia grass remains dormant until late Spring, reaches its peak during June, July and August and goes dormant again during the Fall. Therefore, the plot we were shown was at its peak, but its appearance will slowly deteriorate with the cool weather in the Fall and consequently will not green up until late Spring of next year.

HYPERODES TURFGRASS WEEVIL RESEARCH

By Pat Vittum

The Hyperodes research has been rewarding in the past month. Dr. Tashiro is currently compiling and analyzing the data from the field tests which are being conducted at Bonnie Briar, Century, and Winged Foot. Preliminary indications are that the recommended Dursban treatment (2 lb AI per acre at dogwood full bloom) continues to be effective. An experimental compound also looks very good and may be registered in time for next spring. More information will follow when Dr. Tashiro finishes analyzing the data.

The biological development of the weevil has been as expected so far. I have been regularly surveying the population once or twice a week at three places (Bonnie Briar, Burning Tree, and Winged Foot) and making spot checks at other courses, and have found a distinct transition from larva to pupa to adult. As this goes to press, a second generation appears to be starting, but more observations are necessary before this can be established definitely. This would be contrary to Cameron's observations of six years ago, but would support the observations of several superintendents who have indicated their certainty that there are at least two generations. The next two weeks will be critical in determining whether a second generation is indeed involved.

Some dung beetle larvae have been observed in fairways of Wykagyl and rough of Winged Foot. Much of the population appears to be infected with milky spore disease and the population density does not seem to be high enough to cause extensive damage. The larvae are primarily in the last (largest) larval stage and should be pupating fairly soon. According to the literature, it is too late to treat effectively for this year.

If you have any questions, suggestions, or problems, let me know. Contact me through Ted Horton at Winged Foot C.C. (914-698-2827).



A STUDENT'S DESCRIPTION OF OUR PROFESSION

By Ted Horton

Have you ever wondered about how others viewed your profession? I guess we all have at one time or another. The following job description of a Golf Course Superintendent was prepared by John Callahan, Jr. as a school exercise. John is thirteen years old and remembers the days when his father John Callahan, Sr.—a Class C member of the M.G.C.S.A.— was a golf course superintendent before his present employment as a salesman. Interestingly enough, John did not consult with his father prior to writing his description.

The Golf Course Superintendent

by John Callahan, Jr.

- 1. Work Environment
 - A. Mostly Outside
 - 1. Cutting grass
 - 2. Fertilizing and seeding
 - 3. Fungicide program
 - 4. Beautification program
 - B. Some inside
 - 1. Usually during winter
 - 2. Repairing machines
 - 3. Sharpening blades from lawn mowers and other machines
 - 4. Storing of chemicals and other maintenance stuff
- 2. Disadvantages
 - A. An all hours job
 - 1. When getting ready for a tournament work from 4:30 A.M. until late hours at night
 - 2. Get an average of 5 hours of sleep
 - B. At the mercy of the weather
 - C. If a worker is sick, Superintendent does his work

- 3. Advantages
 - A. Compliments from members when course is in good shape
 - B. Fairly Decent Pay
 - C. You're in charge of other workers
 - D. Usually get a house that is near the course from the club
- 4. Schools and Costs of Education
 - A. University of Massachusetts
 - B. University of Rhode Island
 - C. Penn. State
 - D. Rutgers
 - E. \$3,000.00 is the average cost
- 5. Aptitudes
 - A. Measuring the right amount of chemicals so you don't burn the grass or cause any damages
 - B. Know how to repair and sharpen machines
 - C. Know how to set up sprinkler and drainage systems
 - D. Know the height of the cutting blades for greens, fairways and rough.
- 6. Physical Requirements
 - A. Not in great shape but not in poor shape
 - B. About the average man
 - C. Sometimes have to do without a lot of sleep
- 7. Education and Other Requirements
 - A. Average 2 to 4 years in any of the schools mentioned under schools and costs of education
 - B. Usually work on a golf course while attending school.

As I read John's review of our profession, I couldn't help but think that something was missing. But if his outline is too simple, it is not his fault but ours. John is telling it the way he sees it. For instance, I passed up an invitation to speak to my son's grade one class about my profession, whereas many of his classmates fathers who were doctors, lawyers, etc. did not. But I'm sure that each of us has avoided an opportunity at one time or another to educate others about our chosen profession. I guess we should try harder to have public relations become a way of life for each of us.



Credit: REPORTER, June, 1976

The Impact of Mowing*

Mowing grass is one of the most labor intensive facets of turfgrass management. From 30 to 50% of the annual turfgrass maintenance budget is spent directly or indirectly on mowing. It is one of the major economic factors in turfgrass management. To appreciate the true impact of mowing on turfgrass, it is necessary to understand the physical, environmental, and physiological effects of mowing on the turfgrass community.

The most obvious physical effect of mowing is the decrease in leaf surface area of the grass plant. The leaves of the grass plant are the site of photosynthesis and any decrease in leaf surface area proportionately decreases the plant's ability to produce carbohydrates at the previous rate. Carbohydrates can be pulled out of reserve to support extensive root, rhyizome and stolon structure. However, how many times can carbohydrate reserves be called on to support root, rhizome and stolen structures while the grass plant is recuperating from the shock of a severe mowing? We need to think of mowing primarily as a carbohydrate-depleting management factor. If we abuse the plant through improper mowing habits we simply weaken the plant as the mowing season progresses and pre-dispose it to insect, disease and drought susceptibility. It has been shown that severe defoliation of the grass plant creates extreme effects upon root growth. In cases where 50% of the existing foliage was removed in mowing, only 35% of the roots were producing growth 33 days after mowing(1)

Wound hormones are produced everytime grass is cut. These compounds and phenol oxidase enzymes are involved in wound healing. The production of compounds involved in healing mowing wounds occurs at the expense of food reserves. If you are cutting the grass with a dull mower, you are simply creating more severe wounds that require more wound healing compounds and therefore more stored food reserves. Continuous use of dull mowers deplete that plant of the stored reserves necessary for survival during the stress-filled months of July and August. Eventually the plants ability to heal the mowing wound is impaired by the lack of food reserves and the open wound becomes a site of fungal entry leading to serious disease problems. Every unit of stored energy that must be utilized to heal dull mower wounds is simply one less unit that will be available during periods of stress.

Lowering mowing height severely disrupts the environmental and competitive forces that exist in the turfgrass community. In a mixed community of turfgrass plants, larger plants will become less competitive as the mowing height is lowered. In managing Tall Fescue-Kentucky bluegrass blends for sod production in Maryland, it is essential to realize that lower mowing heights are likely to decrease the Tall Fescue population of the blend. Lower mowing heights decrease the Leaf Area Index (unit of leaf area/unit of ground area) and thereby decrease the plant's capability to intercept and use sunlight. Lower mowing heights increase the number of plants per unit area for some grasses, but it is highly likely that the individual plants in the crowded community become weaker. The weaker plants require more intensive management to be able to withstand periods of stress. Low mowing heights in Kentucky bluegrass often lead to increased weed populations and therefore increased cost created by the need for herbicides. Work by Madison(3) on bentgrass has shown that lower mowing heights increase the number of plants per unit area, decrease the per plant weight and decrease the amount of chlorophyll per plant. It is easy then to understand how lower mowing heights predispose the turfgrass plant to increased disease problems.

Frequency of mowing can have severe effects on turfgrass communities. Juska and Hanson(2) have shown on Kentucky bluegrass turf that more frequent mowing (5X versus 1X per week) reduced total shoot yield, rooting rhizome production and food reserves. The good turf manager should try to mow as high as is permissible for the use being made of the turf. The final selection of mowing height will most likely be a compromise between sound agronomic principles and the desires of the people using the turf. Mowing frequency should be determined by seasonal growth demands on your labor supply.

As summer temperatures begin to rise it is smart to raise mowing height a little to help minimize the deficit between food being utilized in respiration and food being produced in photosynthesis. Higher mowing heights will help decrease disease problems and at the same time increase the likelihood of surviving summer drought as a result of increased root production.

The mower can do great harm to turfgrass stand during disease epidemics not only through its weakening effect on the grass plant, but through its ability to spread disease. If you have a diseased area on the golf course or sod farm, be certain that area is mowed last and the mowers ae cleaned well before you take them into healthy turf areas. The mower is one of the finest disease spreading mechanisms devised by man. It not only drags the spores all over the turf area, but it also makes the wound for fungal entry. During disease epidemics prudent mowing habits are crucial.

As you develop your mowing program for the summer, keep the following points in mind. There are two primary reasons for mowing: (1) provide grass of the correct height or appearance and (2) provide a uniform playing surface. The shorter and more frequent the mowing the more the stress. Long intervals between mowing can lead to excessive shoot removal and cessation of root growth. As temperatures and traffic increase you should try to reduce the frequency of mowing and raise the mowing height. Dull mowers are the turfgrass managers worst enemy. They not only create weakened turfgrass plants and increased disease problem, but they cost you money. Good mowing management SAVES money. Poor mowing management WASTES money.

*From: John R. Hall, Turf Specialist, University of Maryland, June 1973.

References

(1) Crider, F.H., 1955, U.S. Dept. Agr. Tech. Bull. 1102 23 pp.
(2) Juska, F.V. and A.A. Hanson, 1961, Agron J. 53, 385-388.
(3) Madison, J.H., 1972, Practical Turfgrass Management, 466 pp.

GENERAL INFORMATION

RATES PER PERSON:

Ground arrangements	\$273.00
*Air fare	\$286.00
Total cost per person	\$559.00

*AIR FARE: Air fare shown is from Portland to Honolulu back to Portland, tourist class. Substantial savings are realized when arrangements are made from home city to Honolulu back to home city. See table. Let Maupintour make your reservations. (Air fares are those in effect when folder was printed and are necessarily subject to change.)

HOTEL ACCOMMODATIONS: For the days specified at the deluxe hotels shown, your accommodations will consist of sharing room with private bath (unless supplement for single accommodations is paid and these are limited.)

MEALS: The only meals included are breakfast and Luau shown. Meals on board aircraft are included.

TRANSFERS: All transfers are included as shown (includes two pieces of luggage per person).

SIGHTSEEING: All sightseeing is included as shown.

SERVICE CHARGE AND TAXES as normally levied by hotels are included.

TIPPING: All necessary or expected tipping to drivers, bell boys, porters are included.

NOT INCLUDED: Beverages, wines, mineral waters, liquors, items of a personal nature, such as room and valet service, laundry, dining room tips, and all other items not specifically mentioned as being included.

ADDITIONAL SUPPLEMENT for single accommodations throughout will be \$90.00, only a few of these are available.

MINIMUM NUMBER: Costs throughout are based on a minimum group size, and are based on current tariffs.

RESERVATIONS DEPOSIT: Reservations deposit of \$50.00 per person is required to hold confirmed accommodations. Early reservations are recommended as the tour is limited. Balance is due no later than six weeks before departure.

CANCELLATIONS/REFUNDS: Full refund is made on cancellations six weeks or more before departure. Cancellations less than six weeks before departure are subject to \$10.00 booking fee plus communication costs to effect cancellations, whatever nonrecoverable deposits placed and reasonable service charges. No refunds possible for unused portion during course of the tour unless person must cancel tour enroute, and then refunds will be whatever recoverable monies, net, obtained from contractors and hotels. Refunds subject to the rules and tariffs of carriers.

PRE-TRIP INFORMATION: Is provided each tour member and includes bulletins, luggage, clothing, climate and other travel hints. Shortly before departure, each member will be provided a Maupintour Flight Bag, document case, luggage tags and copies of the final summary itinerary.



YOUR HAWAII '77 FARES

When you purchase your air tickets with the Hawaii '77 Tour land arrangements, you may qualify for Tour/Basing Fares which are less than regular coach fares. The savings that you can realize are shown for selected cities in column A below.

\$559.00

\$

Land arrangements and air fare from Portland to Hawaii and return to either Portland or Los Angeles:

To compute your total tour cost, you must add on the fares between your hometown and the West Coast. Tour Basing "add-on" fares are shown in column B below. (Fares from other cities are available upon reguest.) Your add-on fare (from column B):

Your total Hawaii '77 Tour cost:

From	A Tour-Basing Fare Savings	B Tour-Basing "Add-on" Fare
Chicago	\$39.34	\$164.38
Denver	15.35	101.99
Kansas City	9.10	154.46
Miami	57.10	220.74
Washington, D.C.	53.07	223.97

Airfares include taxes and security charges. Subject to change without notice.

MAIL THIS COUPON TODAY With Your Deposit of \$50.00 to Hold Your Initial Reservation On The Hawaii '77 Tour, To:

Golf Course Superintendents Association of America 1617 St. Andrews Drive Lawrence, Kansas 66044

Enclose (\$50 per Name Address City/State	d is my deposit in the amount of \$ _ person.)	
(\$50 per Name	person.)	
Name Address City/State		
Address City/State		
City/State		
	a/Zip	
Departin	g from (Airport)	
Date of 0	Peparture	
Returnin	g to (Airport)	
Date of F	leturn	
List all n	embers of your party:	

For your convenience, major credit cards may be used to pay for the air fare portion of your trip.

GOLF AND SPORT TOURS, SEAIR TRAVEL, INC., HAWAII TOUR

Destinations: San Francisco/Portland/San Francisco/Hawaii and return, January 30 to February 15, 1977

Airline: United Airlines, JFK to San Francisco/Portland/San Franscisco/Hawaii and return; Hawaiian Airlines in Hawaii.

\$550.82*
132.00
46.00
\$728.28
\$396.00
\$332.28

Recommendation: We propose that the New York area group schedule a special, group basis trip to Hawaii from JFK to allow a stop-over in San Francisco to allow the group to attend the Convention in Portland, January 30 to February 5, and, then, continue on from San Francisco to Hawaii for a two island, ten day visit . . . returning to JFK on February 15, 1977.

Proposed Itinerary:

Costs

January 30 departure from JFK to San Francisco and Portland . . . arrive Portland in the late afternoon.

January 31 to February 5... Convention schedule in Portland.

February 5 departure for San Francisco and Oahu, Hawaii . . . arrival in afternoon. The itinerary details are in the following paragraph.

February 10 departure from Oahu, Hawaii to Kauai . . . arrival in the early afternoon. Itinerary details in the following paragraph.

February 15 departure for Oahu/San Francisco/New York ... arrival in the early morning of February 16th.

Hawaii Visit Details: February 5 to 15, 10 Days, as follow:

Hotels: February 5 to 10 . . . Kuilima Resort Hotel & Country Club . . . located at Kahuka, Oahu, Hawaii.

February 10 to 15 . . . Princeville Makai Golf & Tennis Club . . . located at Hanalei, Kauai, Hawaii.

Note: Each of these properties are judged to be the more exceptional of golfing properties on the islands, and certainly among the more "posh" resort areas.

All Inclusive Cost: To include the detail covered on the attached page . . .

\$315.00 per person, half twin accommodation, European Plan

\$475.00 per person, single accommodation, European Plan

Trip Details:

February 5: Fresh flower lei and Hawaiian greeting on arrival in Honolulu . . .

Airport porterage and luggage transfers upon arrival and departure . . .

Arrival transfer via air-conditioned motorcoach from the airport to the Kuilima Resort . . .

Orientation meeting . . . hotel greeting.

February 6: Day at leisure.

February 7: Transfer into Waikiki for the Pearl Harbor Cruise and return to the resort.

February 8 & 9: Days at leisure.

February 10: Departure transfer via air-conditioned motorcoach to the airport for the flight to Kauai . . .

Upon arrival, transfer to Wailua Marina for the Wailua River Cruise to the Fern Grotto and then transfer to the hotel. February 11 to 14: Days at leisure.

February 15: Departure transfer from the hotel to the airport for the homeward flights.

Golf Details: Group, resident rates have been quoted as being about:

Kuilima Country Club: \$7.50 green fee, shared cart \$5.00, tax \$.50 . . . or

\$13.00 per round

Princeville Golf Club: \$8.00 green fee, \$11.00 for 27-holes all day . . . with a weekly unlimited of \$60.00 per couple, \$40.00 single.

Note: Tennis is available at \$2.00 per hour, \$4.00 all day.

Cost Summary:

Add-On Airfare (with Convention credit):	\$332.28
Complete land arrangements, EP:	315.00
Golf bag transfers, complete trip:	8.00
	and the second se

Total Per Person:

\$655.28

Note: In a trip of this type we recommend that it have complete flexibility of meal plan/program inclusions . . . in our opinion the group should not be "locked into" a specific program, especially at resorts of these values in Hawaii.

For further information: Contact Garry Crothers

Get it on the fairway.

(USS)

Vertagreen

Tournament

And it's good for the rough, too. USS Vertagreen Tournament Turf Food was developed especially for fairways that have received phosphate over the years and where soil tests show that no additional phosphate is needed. It is also a very economical fertilizer for use on roughs.

With an analysis of 18-0-9 this great fairway product also contains guaranteed formulated amounts of calcium, magnesium, sulfur, zinc, manganese, boron, copper, and chelated iron. Twenty-five percent of the nitrogen is derived from urea-formaldehyde and the potash is totally derived from the sulfate form, Everything to keep your turf healthy.

Right now is the time to see your Vertagreen distributor for USS Vertagreen Tournament Turf Food. He can assist you with a soil test and show you the advantages of this premium fertilizer—and he'll help you get it on the fairway.



Agri-Chemicals Division of United States Steel P.O. Box 1685, Atlanta, Ga. 30301

See your Vertagreen distributor.



M.G.C.S.A. Box 37 Rye, New York 10580



First Class

A

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



Fungicides 3336 Turf Fungicide A broad spectrum systemic fungicide that prevents and controls all six major turf diseases. Bromosan Turf Fungicide The newest broad spectrum systemic fungicide for those persistent trouble areas. Caddy

PMAS (10%)

Spotrete

Granular Turf Fungicide Cad-Trete Spectro

Herbicides

MCPP MCPP Plus 2,4-D Methar 80 Methar 30 AMA Plus 2,4-D AMA (Super Methar)

Specialties

All Wet Clear Spray Tru-Green Grass-Greenzit

8.

W-A-CLEARY

P.O. Box 10, Somerset, N.J. 08873

Jom IIB A Street BURLINGTON, MASS. 01803 617-273-0143

NEW ENGLANDS ONLY COMPLETE CHEMICAL DISTRIBUTOR

Your New York Representative:

John P. Callahan Coppermine Road Farmington, Conn. 06032 203-677-7054

