

THRU THE GREEN

EDITOR

JEAN LADUC
1356 Munro Avenue
Campbell, CA 95008

OUR OBJECTIVE: The collection, preservation, and dissemination of scientific and practical knowledge and to promote the efficient and economical maintenance of golf courses. Information contained in this publication may be used freely, in whole or in part, without special permission as long as the true context is maintained. We would appreciate a credit line.



PRESIDENT

RODNEY KILCOYNE
Diablo Creek GC
140 Norman Avenue
Clyde, CA 94520

VICE PRESIDENT

BRIAN BAGLEY
The Villages G & CC
304 Green Valley Rd.
Scotts Valley, CA 95066

SECRETARY-TREASURER

DAVID SEXTON, CGCS
The Meadow Club
P.O.Box 129
Fairfax, CA 94978

PAST PRESIDENT

MICHAEL GARVALE, CGCS
Palo Alto Hills CC
3000 Alexis Drive
Palo Alto, CA 94304

DIRECTORS

MICHAEL BASILE
Santa Clara Golf & Tennis
5155 Stars & Stripoes Drive
Santa Clara, CA 95054

ROSS BROWNLIE

Sharon Heights Country Club
2900 Sand Hill Road
Menlo Park, CA 94025

ROBERT COX, CGCS

Canyon Lakes Country Club
640 Bolinger Canyon Way
San Ramon, CA 94583

RANDY GAI, CGCS

Claremont Country Club
5295 Broadway Terrace
Oakland, CA 94618

OFFICE

1745 Saratoga Ave. Suite A1
San Jose, CA 95129
(408) 865-0360

PRESIDENTS MESSAGE

I would like to thank the following members for their fine performance as our chapter's team in the Dow Elanco California Trophy. Sam Singh, David Sexton, Mike Higuera, Mike Phillips and Roy Frederickson finished third at the State Meeting tournament held May 5th at Ojai Valley Inn. Their efforts resulted in a five hundred dollar contribution from Dow Elanco to our chapter's Scholarship and Research Fund. The Southern Cal and San Diego chapters won %1500 and %1000 for 1st and 2nd place. They posted some great scores! Next year the State Meeting will be hosted by the Sierra Nevada Chapter so we should have a legitimate shot at winning next year.

Scholarship and Research is a term which is always used as a catch all phrase for a lot of different things. I would like to summarize what our chapter's interpretation of Scholarship and Research is. To begin with we have two separate funds, one for each. Scholarship is generated from the fees collected from the five dollars charged to play golf at the meetings; two of which goes to Scholarship, three to prizes. The trade show associated with the Institute generates about 1/3 of the revenues as does golf. The final third comes from donations such as the drink cart, hosted by affiliates and other benefactors. This years funded amount is \$4500. Don Naumann and Joe Rodriguez are charged with awarding of scholarships.

Research is funded with \$4500, which is generated from the profits of the Institute. This amount would not go far if it were not for Dr. Harivandi and Dr. Hagan and the U.C. Extension Service. The money is being used to supplement the only viable turf research in our area, the turfgrass evaluation plots in Sunnyvale and the San Jose Field Station. I have a feeling with the state of finances in California there will not be many new research programs unless we help.

The ideal situation for Scholarship and Research would be to have enough money to conduct research beneficial to our industry. The Scholarship part of it would be to pay students to work on the research. There are more than a couple of superintendents who got their start working for Dr. Davis and Dr. Madison.

There seems to be some support among the Affiliates for a tournament to raise funds for such an endeavor. Some chapters raise as much as \$20,000 a year to support this kind of effort. If we are to generate this kind of support it will be a major undertaking. A goal worth achieving and much needed.

Speaking of Tournaments the upcoming Superintendent /Pro should be a good one. The US Open qualifying at Lake Merced proved it's ability to humble the best. Mr. Tonelli is not going to make it that tough for us; is he? If you haven't sent your entry in yet, please contact Mike Basile, there may still be some openings.

Last but not least, the affiliates have received a solicitation in the mail regarding advertising in our Newsletter. I have been asked by the editor to remind them that without their generous support many things we don would not be possible. Your ad in the newsletter helps to defray the costs associated with printing and mailing. It is a directed and specific way of reaching the membership with your product or service. Please give it some consideration.

Rod

NATURAL ORGANIC

Milorganite

PENTA-12ER

ASSOCIATED CHEMICALS INC.

Fertilizers

FRANK HICKS
Sales Representative

Office (408) 422-6452
FAX (408) 758-8133
Res. (408) 270-5694

P. O. BOX 1330
SALINAS, CA 93902

Golf Course &
Landscape
Construction

Daylen

INCORPORATED

2559 So. East Ave.
Fresno, CA 93706
(209) 233-3345
FAX (209) 233-2086
Lic. No. 437584

Dale L. Siemens
President

TO BUY OR NOT TO BUY

One of the most important, often overlooked aspects of a golf turf maintenance operation is reel mower sharpening. A properly ground, and adjusted mower promotes healthier, better looking, more playable golf turf. Cleanly sheared grass blades are less susceptible to fungal diseases than grass blades that are chewed off by a dull, or improperly adjusted reel. A good crisp cut also helps eliminate that late afternoon gray appearance during warmer months.

A dozen years of working as a golf course mechanic has taught me several things about grinding reel mowers. As a novice in the industry, I was taught the line grinding, or single blade technique. This method took the better part of a day to sharpen a set of tri-plex greens reels. Due to wear on the grinding stone each time a pass was made on a reel blade, it was almost impossible to grind a reel in a true cylindrical shape. It did however do a passable job most of the time.

I first saw a spin grinder in operation at a trade show in 1982 or 83, and was immediately impressed with the speed and accuracy with which even heavy duty fairway reels could be ground. I inquired about the price of the spin grinder, and sadly realized that it wouldn't fit into our budget. A year or so later I made a move to another country club with a somewhat larger operating budget. Within a year we had purchased a spin grinder, and a new bed knife grinder for our shop.

Several years and another country club later, I began to realize that turf equipment was becoming much more sophisticated than it had been a few short years earlier. The addition of turf groomers, advanced hydraulics, and the use of multi-cylinder liquid cooled engines, where air cooled single cylinder engines use suffice, were starting to require more time devoted to equipment repair and maintenance, leaving less time to spend on my reels.

Eventually, I wound up as the assistant superintendent, and mechanic at one of the busiest public courses in the Santa Clara Valley. With the additional responsibilities of an assistant I found barely enough time for routine maintenance, and repair let alone grinding reels. In addition our limited shop space really doesn't allow adequate room for a spin grinder, or a bedknife grinder.


To solve these problems we engaged a professional, mobile reel grinding service. This service offers one day turn around time on most makes of mowing equipment. While breaking down reels for grinding, many times the need for additional parts is encountered. Our grinding service usually has parts on hand for virtually any type of reel repair. Generally they do not charge extra for simple repairs.

I also find that not having to deal with maintenance on a spin or bed knife grinder saves additional time, as well as the cost associated with parts for these machines. I once had to wait over a month to receive a replacement traverse motor from England.

Engaging a sharpening service may seem expensive on the surface but when you factor in the cost of grinding equipment, (16 to 25 thousand dollars) plus the mechanics time, and maintenance on the grinders the cost is fairly minimal. Using a qualified professional also eliminates the need for training the golf course mechanic to grind.

Obviously a professional service isn't for every one. Each golf course, and country club has its own unique needs. Working together the superintendent, mechanic, and professional reel service can easily tailor a program suited to your individual mowing needs.

Article by Bob Walker



STEVE PASALICH
 P.O. Box 129
 137 MARINE VIEW DR.
 DILLON BEACH, CA 94929
 707/878-2727 • 707/795-4199


Russell D. Mitchell & Assoc., Inc.

**IRRIGATION SYSTEM DESIGN
 CONSULTATION
 SUPERVISION
 EVALUATION**

2760 Camino Diablo (415) 939-3985
 Walnut Creek, CA 94596 FAX 932-5671

ANDERSEN ASSOCIATES

TEE MARKERS & STEP-UP SAND RAKES



4" Solid Polypropylene Balls as Indestructible as our Step-Up Sand Trap Rakes

ANDY WILL SHOW YOU:
 20 Valley Drive
 Orinda, CA 94563
 (415) 254-3816

WESTERN



FARM SERVICE

Emil A. Yappert
Turf Specialist

405 W. Beach Street
 Watsonville, CA 95076
 (408) 724-2201
 Mob. (408) 499-0911
 Res. (408) 684-1420
 Order Desk 1-800-726-5873

*The Best People. The Best Products.
 The Best Service.*

FERTILIZER LABELING NEEDS ACCURACY

One of my pet peeves has to do with fertilizer. There are lots of different nutrient analyses around and some use different nitrogen sources. That's not the problem.

The language on the front of the bags is what concerns me. Words such as organic, long-lasting, non-leaching, slow release or controlled release may be misleading.

There are nitrogen materials that have these characteristics, but just how much of the more expensive and usually more desirable forms of nitrogen must be put into a bag before it can be labeled with one of those words? Is it fair to use "slowly soluble," for instance, if only 1 percent of the nitrogen actually meets the criteria?

How about some company that has 50 percent slow release nitrogen in its bag? That's a much better turf fertilizer than one with only 1 percent slowly soluble nitrogen. Do they both get to use the same wording on the bag?

If the public reads and understands the guaranteed analysis on the back of the bag, folks would know how different the two fertilizers actually are.

Many states have fertilizer laws that dictate that the material must have at least half of its nitrogen in a slow or controlled release form to be called a lawn or turf fertilizer and use words such as slow release, non-leaching, etc., on the bag.

Such laws prevent inexpensive soluble fertilizers from being sold as slow release. Not all fertilizers should be used on lawns. With the current movement toward producing slower leaf growth rates, fertilizers that are slowly soluble or controlled release should be clearly identified to the public.

Another concern about fertilizer is the claim that a product is organically grown. An "organic anything" simply contains carbon. Inorganic chemicals do not contain carbon.

Some fertilizers claim to be organic, and, I think, use the term to suggest that the material is slowly available, non-leaching, non-burning and long lasting. It may indeed be all of these, or it may be none.

Depending on specific state fertilizer laws, the word organic on the bag does not necessarily mean all the nitrogen is from an organic source. Only a check of the analysis (listed on the back of the bag) will indicate the percentage of organic matter.

Not all organic nitrogen is slowly soluble, either. Urea is organic and also fairly soluble. In fact, urea is synthesized from ammonia and carbon dioxide. It has a salt index much higher than natural organics.

My biggest problem with the claim that organically fed plants are better is simply that plants can use nutrients only in their inorganic forms. For plants to use nutrients contained in organic chemicals, those chemicals must first be converted from an organic form to an inorganic by microorganisms in the soil.

Inorganic chemicals are just as natural as organics and are mostly derived from parent material, the stuff the earth is made from.

What could be more natural than that?

Credit: Bill Knoop is Extension Turfgrass Specialist, Texas A&M University. Article seen in Divots, May 1992.

G C S A A ANNOUNCES TRADE SHOW CAMERA POLICY

The Board of Directors for the Golf Course Superintendents Association of America (GCSAA) has determined that photography on their trade show floors will be restricted in 1993.

Beginning with GCSAA's International Golf Course Conference and Show in Anaheim, CA. on January 23-30, only photographers wearing GCSAA-issued armbands will be permitted to take still or video cameras on the show floor.

"At the request of our Industrial Advisory Council (IAC), the board felt that this was the best course of action," said GCSAA President William R. Roberts, CGCS. "There was a need to assist the manufacturers and protect the proprietary nature of their products." GCSAA's IAC is comprised of 14 exhibitor companies.

Only photographers with journalistic-or publicity-related responsibilities will be eligible for a GCSAA photo armband. The new photography regulations also require a photographer to receive verbal approval from the supervising exhibitor at the booth before photographing an exhibitor's booth or display.

The new camera regulations for both GCSAA conference and trade shows will be mailed later in the fall. For more information, contact GCSAA Public Relations at 913-832-4470.

PRS
SINCE 1941

PUMP REPAIR SERVICE CO.
SALES • SERVICE • REPAIRS
ALL PUMPING SYSTEMS

Representative for:
SYNCRIFLO PACKAGE PUMPING SYSTEMS

405 ALLAN STREET
P.O. BOX 34327
SAN FRANCISCO, CA 94134

Dave Archer
(415) 467-2150

AUTOMATIC RAIN COMPANY
Landscape and Irrigation Supplies

CONCORD (415) 825-3344	MENLO PARK (415) 323-5161	PLEASANTON (415) 484-1170	SAN JOSE (408) 287-7882
SALINAS (408) 757-1045	VACAVILLE (707) 447-7773	SANTA ROSA (707) 584-7272	NAPA (707) 255-7575
MERCED (209) 383-3330	FRESNO (209) 431-8007	SAN RAFAEL (415) 454-4313	

HIGH TECHNOLOGY PESTICIDE APPLICATION EQUIPMENT
INDUSTRIAL CLEANING SYSTEMS AND PRESSURE WASHERS
SALES, SERVICE, PARTS AND DESIGN

CAREY KREFFT

NSTC
NEW SPRAYER TECHNOLOGY COMPANY
1950 BURROUGHS ST.
SAN LEANDRO, CA 94577

510/483-7394
800/327-6832
FAX: 510/483-5080

SONOMA GOLF RESULTS

Two Man Team

First Place

Dave Michael, Tom Law 61

Second Place

Mike Scalaero, Mark McCallum 63

Third Place

Pete Galea, Charles Leider 64

Low Gross

Joe Faulkner 77
Pat Cain 79
Mike Ligon 79

Low Net

Chuck Weatherton, Jr. 67
Allan Mooser 70
Mike Scalero 71

NAUMANN'S NORCAL NEWS

John Martin has left San Jose Municipal Golf Course to become the new supt. at California Club in South San Francisco. John is being replaced at the Muni by his assistant **Gary Carls...** **Tim Sedgley** has left Oakhust CC in Clayton to become the supt. at the Royal Melborne Club in Chicago, Illinois. The RMC is a private CC developed by Greg Norman...The City of Santa Cruz has finally completed their exhaustive search for a new supt. and have decided on **Don Paul**. Don has been the Assistant Supt. at Marin CC under

HELP WANTED

Seeking qualified individual for an Assistant Superintendent position at an 18 hole private Country Club. Applicants must possess a thorough background in turfgrass management. Necessary experience should include a general understanding of irrigation systems, personnel management, operation of various forms of turfgrass equipment and other practices related to golf course maintenance. Certification in pesticide management preferred.

Send resumes to: The Village Country Club
4300 Clubhouse Road
Lompoc, CA 93436
(805) 733-1559


A LOOK AHEAD

July 13 Lake Merced-Supt/Pro
August 14 Marin CC
September 14 Pasitiempo CC
October 9 Sierra Nevada Chapter joint meeting
November 11,12GCSANC /UC CooperativeExtension Golf Course Institute
December 4 Christmas Party

FOR SALE

Vicon spreader & Cushman mount Turfco topdresser in new condition - \$1,000
Inquire: Chuck Pratt
Sequoyah Country Club
(510) 632-2903

Chuck Dal Pozzo
Technical Representative



ProTurf Division
The O. M. Scott & Sons Company

H.V. CARTER CO. INC.
GARDEN, GOLF COURSE AND TURF EQUIPMENT

SACRAMENTO 95815
2309 Lexington St.
(916) 927-3824
FAX (916) 927-0635

MAIN OFFICE
1700 E. 14th St.
OAKLAND 94608
(415) 536-8300
FAX (415) 536-4038

FRESNO-93722
3366 W. Sussex Way
(209) 224-7626
FAX (209) 224-0476



SPRINKLER IRRIGATION SPECIALISTS INC.

Serving The Green Industry Since 1953

Pacheco Dublin Santa Clara Sacramento Shingle Springs
(415) 680-7620 (415) 829-6040 (408) 988-3223 (916) 452-8041 (916) 677-0357

Novato Santa Rosa San Mateo Modesto
(415) 897-1171 (707) 526-1171 (415) 349-0316 (209) 521-6011

The Store With The In-Stock Guarantee

INORGANIC ROOTZONE AMENDMENTS

As long as turf has been grown, turfgrass managers have amended soils with materials that are supposed to increase drainage, enhance compaction resistance, reduce nutrient losses, provide more plant-available moisture, and promote root growth. Some products claim to do all of these at once! The beneficial effects of high-quality organic matter sources (reed-sedge peat, rice hulls, compost, sphagnum moss) on the physical and chemical characteristics of both clay and sandy soils has been documented by years of testing and field evaluation. Similarly, the negative, potentially disastrous effects using poor quality organic sources, or of improper mixing of even high-quality organics, have been observed by most turfgrass managers.

Less well-documented, both by university testing and actual field use, are the effects of many of the non-organic rootzone amendments. Such products include: zeolites, calcined clays, and diatomaceous earth products (Isolite). Some of these products have been around for years - and we still can not agree on how much (or little) benefit they provide as soil amendments. We see increasingly more of these types of products on the market now, under many different trade names. Many are marketed on a local or regional basis. Some suffer from inconsistency in composition or performance, either as a result of natural

variability or because of a lack of quality control during manufacturing. The large number of available products, in combination with product variability, create difficulties for researchers and turfgrass practitioners who wish to evaluate and compare these materials for product performance.

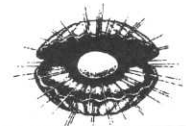
Zeolites, naturally-occurring aluminosilicate minerals, have been investigated for a number of years because of their potential to reduce leaching of N-fertilizer from coarse-textured soils and to reduce irrigation requirements of plants growing in zeolite-amended soil. Natural zeolites would appear to function well in this capacity due to their unique chemistry that provides selective absorptive capabilities for certain nutrient cations, a high cation exchange capacity (CEC), and high moisture-holding capacity. In particular, clinoptilolite zeolite (CZ) demonstrates the ability to selectively retain the ammonium (NH₄⁺) and potassium (K⁺) ions, thus reducing their leaching potential. In a 1986 report from the University of Arizona, Ferguson and co-workers found that creeping bentgrass germination, establishment, and root growth were significantly enhanced on sand amended with CZ on a 5 or 10% volume basis. Clipping yields and N-use efficiency also increased significantly where CZ was used and a soluble N source (urea) was the fertilizer source.

water use decreased, when CZ was present in the rootzone mix. These findings agree with those of a number of other studies conducted with CZ materials, showing that the high affinity for the ammonium ion reduces the potential for conversion of ammonium to nitrate (NO₃⁻). Nitrogen is most easily leached from turfgrass rootzones when in the nitrate form. By keeping fertilizer N in the ammonium form, N leaching losses are minimized and fertilizer is used more efficiently in the turf system. Loss of potassium (K⁺) is similarly reduced when CZ is present in the soil mix.

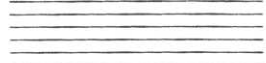
The abundance of high-quality deposits of natural zeolites found throughout the Western U.S., with their unique chemical and physical properties, make them (especially clinoptilolite zeolite) attractive as an amendment for coarse-textured soils. Because research on CZ use is limited, and long-term use in the field has not occurred, it is wise to approach CZ use with caution. While initial results look promising, the long-term physical stability of zeolite under high traffic must be investigated.

A recent study published by Drs. Jeff Nus and Stan Brauen also noted superior establishment of bentgrass when CZ was used as an amendment to sand at 5, 10 or 20% (volume/volume) rates. In their study, the 10% volume mix significantly improved water retention when compared to sand only.

At Cornell University, Dr. Marty Petovic has found that the incorporation of CZ into sand can significantly reduce nitrate leaching (as compared to unamenable sand). Clipping yields of creeping bentgrass increased, and




**PACIFIC PEARL
OYSTER SHELL**
NATURE'S BEST CALCIUM



John Mazura
North Coast Division Manager

Bus: (707) 762-7251
Res: (707) 274-1875

Jerico Products
100 East "D" St., Petaluma, CA 94952



Pacific Sod
A Division of Pacific Earth Resources

600 N. 2nd Street, Suite 3
Patterson, CA 95363
(800) 692-8690

Brian Snow
Sales Representative

TES **Turf Equipment Services**

A Mobile Service and Repair Facility

Ben W. Showard

7432 Highland Oaks Dr. Bus. [415] 426-8968
Pleasanton, CA 94588 Res. [415] 426-9062

Cardella's
GARDEN SUPPLY INC.

PLANTER MIX • TOP SOIL • SAND • GRAVEL
DECORATIVE ROCK • FIR BARK • FERTILIZERS
PROFESSIONAL CUSTOM BLENDS • NURSERY

2027 E. BAYSHORE
PALO ALTO, CA 94303
R.A. "BOB" BUDELLI 415/321-5913
VICE PRESIDENT

Contact:





WEST STAR
DISTRIBUTING, INC.

2438 Redley Court • Hayward CA 94542
(415) 887-1222 • FAX (415) 785-3576

Sprinkler Systems & Turf Maintenance Equipment!

Also, CZ often contains high levels of exchangeable sodium. The sodium will leach out of the rootzone over time, but may initially create some toxicity problems if sodium-containing CZ or other zeolites as a topdressing component must also be investigated before that use can be recommended with confidence.

Calcined clays have been used as soil amendments and topdressing materials for years. A good deal of research on calcined clays had been conducted at Purdue University in the '60's. The use of these materials as a rootzone amendment or a topdressing material was found to produce putting and tee surfaces that allowed for rapid water infiltration and percolation. Because of their clay structure, the calcined clays possess high CEC's. While calcined clays can hold a great deal of water, the amount of retained water that is plant-available will vary with product composition and particle size. Some materials supply little plant-available water, even when fully hydrated. When used as a component of a rootzone mix, calcined clay is typically added at a rate of 10% on a volume basis. When used as a topdressing, turf managers have used topdressings containing 10% calcined clay/90% sand, up to 100% calcined clay, with

success.

Recently, work conducted by Dr. Hank Wilkinson and associates at the University of Illinois found that some calcined clays can hold 80% or more of their weight in water, and that more than 20% of the retained water may be plant-available. They found that water-holding capacity of soil may be increased by adding calcined clay, but that the water-holding advantage (plant-available moisture is lost as the soil becomes moderately dry.

The major concern with the use of calcined clays over the years has been with their stability under traffic, and the potential to cause layering problems in greens. The concern is especially valid when calcined clay is used as topdressing. The capability to produce uniformly-sized, physically stable particles increase the potential usefulness of calcined clays. In some cases, especially where good-quality sand is unavailable, their use has allowed the superintendent to successfully modify greens and tee surfaces without rebuilding. In a few situations, however, their use has resulted in the production of excessively droughty rootzones (when particle sizes are too large) or layered soils (where the clay particles have disintegrated

and migrated in the rootzone).

A diatomaceous earth product, Isolite, is currently being evaluated as a soil amendment (for both sand and clay soils) at Colorado State University. This material absorbs large amounts of water quickly, but is also able to maintain a favorable balance of aeration porosity while doing so. Application rates being evaluated range from 1 to 3 pounds of material per square foot, incorporated into the surface 4 inches. Moisture release curves indicate that Isolite can increase the amount of plant-available moisture when mixed with a good-quality sand. This material also demonstrates the potential, when mixed into heavy clay soil, to increase the soil's resiliency and compaction resistance.

Credit: Article taken from "The Reporter". Article by Dr. Tony Koski, Extension Turfgrass Specialist, Colorado State University.

Ph.(408) 728-3520 **Cambridge** FAX (408) 722-2247
SPORTSTURF SYSTEMS - WEST, INC.

Sportsturf
Drainage

1022A San Andreas Rd.
La Selva Beach, CA
95076-9639 USA

Charlie Kollmeyer
Operations Manager
Lic. No. 569065



MARTINS'
IRRIGATION SUPPLY, INC.

DISTRIBUTOR OF SPRINKLER AND
IRRIGATION SUPPLIES

FRANK & ELAINE MARTIN, Owners

420 OLYMPIA STREET
SEASIDE, CA 93958

(408) 394-4106



I. F. "GEORGE" MOORE
Bus. (510) 685-6685
Res. (415) 595-5597

JENKINS MACHINERY CO.
1848 Arnold Industrial Place, Concord, CA 94520
CA/NV (800) 642-2456 FAX 510-685-9303



Don Naumann

510 Salmar Avenue • Campbell, CA 95008 • (408) 374-4700
(800) 827-TURF Mobile (408) 234-4571 Fax (408) 374-4773

COUNTRY CLUB
Sales, Inc.

830 LATOUR CT.
NAPA, CA 94558

(707) 255-2828
(800) 252-6660

**GOLF COURSE
RENOVATION**

Jim Duhlg Terry Stratton
(415) 229-1060

CONTRA COSTA LANDSCAPING, INC.
P.O. BOX 2069 • MARTINEZ, CA 94553

**INTERNATIONAL
SEEDS, INC.**

Breeders and Marketers of
World Class Turf Seed

"Seed - the Gift of Life"®
Halsey, Oregon