

in Eisenhower's day. We've had to stock up quickly and do some fast rearranging in the store. This season we've moved more tennis goods than we have in the past two years combined."

The highly specialized interests of tennis buffs have for many years been shunted to the back courts, so to speak, at many clubs. Playing surfaces accented by "bird baths," rusting fences, moldy canvas backings and rotting nets, symbolic of the attitudes of certain course managers, have stood in mute evidence to confirm the decline of club tennis. Popularity peaks, such as that seen during the Bill Tilden domination of American tennis during the mid '20s had profound effects on tennis life at many clubs. A flurry of court construction satisfied the demands of this small group whose numbers were confined to the affluent ranks of the country's sporting life. No less dedicated than today's players, there was, however, no reflection of the mass concerns we find among today's "action" oriented sports enthusiasts.

This peak was short lived. Tennis, and many golf clubs themselves, were abandoned along with anything that touched on luxury when the Depression struck. Since that tragic era, there have been resurgences of tennis popularity, but never on the grand scale of today's impending boom. With the rebirth of the economy, club life has revitalized. Tennis, stepchild to golf at most locations, even during peak periods such as the late thirties and through World War II, usually received financial consideration after the course, pool and clubhouse needs were met. The largest single budget item, if by no other measurement than acreage, must be the course itself. Care and feeding of the grounds are mandatory. Naturally, bar and dining facilities have been maintained at levels necessary to the daily dispensing of food and drink at most clubs. Extra care and expense have gone into attractive surroundings. Atmospheres showing great concern for creature comforts are commonplace. Club members displeased with badly mixed cocktails, unappetizing food and ineffi-

cient dining room service have been known to threaten what they considered justifiable homicide. As we all know, the 19th hole is more important to some members than the playing condition of the course itself. Swimming pool installation and maintenance rank high in generating club member indignation should they not be carried out on schedule. Protests and demands for improvement in these areas have been vigorous and effective in forcing change.

Now tennis, oddly enough, a sport utilizing physical moves contrary to most of golf's muscle coordinations, might be said to be muscling in on the hallowed grounds of a club's course, pool and other facilities.

While the whispered reactions and almost polite dialogues of tennis are contained within the 36 by 78 foot rectangle of the playing surface, the voices seeking equal club treatment for tennis are becoming increasingly loud and demanding. No longer a country club stepchild enjoyed by a few hard bitten aficionados, tennis is coming into its own in a blistering display of unleashed impatience with the status quo.

"We can no longer ignore the one third of our members who are demanding we take some action to provide tennis," a club manager in the Miami area said recently. "Had we been able to predict the popularity of tennis in recent years we would have made provision in allotting space for our various activities. Our members seemed happy with the large area we set aside for the pool and cabanas. There were no complaints about our excellent driving range, practice traps and teaching tees. We also have a large putting green. Now we are seriously considering cutting back some of these golf facilities to make room for tennis courts. Estimates received from two court contractors will put our investment in the neighborhood of \$45,000 to \$49,000 for the four courts we'd like to install. That doesn't include removal and leveling or any kind of separate clubhouse or shower building." The manager went on to explain that even though an assessment of the

membership would be a requirement before serious planning could begin, the forces behind the tennis lobby were very strong and had convinced the rest of the membership that tennis should be available to all. He summarized what might be the plight of many clubs interested in the possibilities of installing tennis courts when he said, "We have no land left for expansion, so we'll have to sacrifice something."

The warning signs announcing the arrival of tennis activity as an integral part of club life are quite evident. That tennis might be an extremely desirable adjunct to the life of the club should be weighed carefully by management.

Awareness of the demand for tennis courts, particularly on the part of the young, who are less concerned with the social status of being a member of "the club" and who are responding to these demands in meaningful programs for the installation of new courts or the expansion and improvement of existing ones, should be high on priority lists in planning for the future. The growing popularity of tennis in general and an evaluation of its impact on the life of the particular club should be considered in any financial plan under study.

Many clubs, of course, have already recognized the signs of the upsurge in tennis interest and have taken what they felt was appropriate action. Where there has been a recognition of the needs and desires of the young people of the community and among the children of existing members, there are assurances of continued family involvement. Parent and child relationships are occasionally strained because of dad's preoccupation with his golf game. As a result resentment toward the club has grown. Understanding this and taking into account youth's tremendous interest in tennis should motivate some financial inquiry into building courts or expanding and repairing those now operating.

Although in most instances the emphasis will continue to be on golf and in providing the best possible playing conditions for the

continued

TENNIS *continued*

members, the forward thinking management recognizes that the youngsters must be attracted to the club through devices other than excellent golf. The frustration of waiting out priority use of the course itself, especially on weekends, by their fathers and other adult males among the membership, can be a great deterrent to youthful interest in golf and club life. Many clubs still subscribe to the old theory that the course belongs to the men on weekend mornings. Children and women are relegated to second-class status or to restricted hours of play. Extremely busy schedules and other interests of young people should be taken into account by management. Playing time for an average 18 holes, especially at a very busy layout or on weekends of heavy traffic, cannot match the accelerated pace of today's youngsters. Although demanding tremendous stamina to match its furious playing pace, tennis is far less demanding of time and may be said to be more appropriate for the younger set. Tennis memberships, having the dual purpose of offsetting court costs and attracting new members, have been tried with great success at several locations.

Juergen Schumann, general manager of the Inwood CC, undertook a program specifically designed to attract new members through the introduction of special tennis memberships. Inwood, steeped in history and one of the oldest clubs in the country, hardly seems the place for such an aggressive plan. The site in 1921 of the PGA Championship and host to the U.S. Open in 1923, Inwood, which juts out into the backwaters of Jamaica Bay across from John F. Kennedy Airport, may be leading the way in forward thinking about tennis programs. Most clubs with existing tennis facilities offer them only as part of the over-all club plan. This may hold true even where separate green fees are charged for golf. A rumbling among members who don't play tennis relative to lack of financial support on the courts has begun, according to recent surveys. Spot checking would indicate that the plan initiated by Inwood's Schumann has a great

deal of merit and could help forestall the impending revolution in club life. As tennis construction increases and assessments go hand in hand, committees responsible for the balance sheets will be hard pressed to explain why tennis programs should not be at least partly self sustaining.

Tennis memberships at Inwood have their own pricing structure, which may be absolutely necessary for the future plans that Schumann has. "We now have four courts, but if the response to the new plan is as we hope," he said recently, "we will expand the facilities. There are about 90 acres of unused land that can be put to use." Inwood not only has an excellent tennis program, but room in which to expand. That in itself may be unusual. Very few clubs, particularly those close to population centers, can boast of available land. As to the pricing plan, tennis privileges start at \$75 annually with an initiation fee of \$375 for 18 to 24 year olds to double that for the next group, the 25 to 29 year olds. These are the junior categories, and there are no bonds. Regular memberships range from \$500 annual dues to \$700 with initiations of \$1,500 and \$3,000 respectively. Beach privileges at \$25 go with each tennis membership. All club accommodations are included, except of course, golf.

Recent development of synthetic surfacing materials, such as acrylic fibers, plastic grass and rubber, has put the installation of tennis courts within reach of many club budgets. In years past the tennis purists, who dictated the terms of investment, were united in their insistence on the finest form of playing surface, notably grass. Traditionally, grass provides the best surface for the expert player, which can be attested by the fact that major tournaments are played on a cool, glareless green lawn. The All England Club of Wimbledon and the West Side Tennis Club at Forest Hills would appear strange indeed, particularly under the penetrating eye of the color television camera, if matches of world importance were suddenly seen contested on cement. Expert grass conditions, however, require continual maintenance combined with an agrono-

mist's touch. Upkeep is costly. Not unlike good golf greens, grass courts need top dressing, fertilizing, mowing, reseeding and in instances of damage, resodding. Limited usage can also be predicted for grass surfaces since they tend to dry slowly even after light rains. During wet weather grass courts may be off limits for days at a time. Damage caused by sliding on the slick surfaces can close the courts down completely for major repairs. Clubs anticipating extensive usage should consider installing other surfaces. Perhaps the strongest motivation to consider is initial installation cost; \$20,000 to \$25,000 per court is not unusual for grass as opposed to synthetics, which can range from \$7,000 to \$17,000.

Purists notwithstanding, the United States Lawn Tennis Assn. reports that over 90 per cent of tennis throughout the world is played on clay courts. "Clay" is a rather loose term, however, and is applied to many variations of the old standard clay court. Clay itself varies in texture and color depending on the geographic location of the source material. It is also less quick to drain than the top dressing products available today. Good drainage and fast drying surfaces due to the porous nature of the top dressings are distinct advantages. An imperceptible "tilt" built into a well-constructed court assures run off of water, but has no effect on playing conditions. Glareless color is ready mixed into these dressings.

Clay courts require daily maintenance too. Dragging, watering and rolling combined with almost daily restriping of boundary lines, either by painting or use of leaded lines, are constant chores. Many geographic and weather conditions affect play and maintenance on "clay" courts. Consultation with the experts, the course construction companies in a given area, is a must if clay surfaces are to be considered.

In the general category of concrete and asphalt surfaces is found the largest concentration of court construction today. Motivation? Initial costs run as low as \$6,500 and upkeep frequently consists of little more than sweeping down. These

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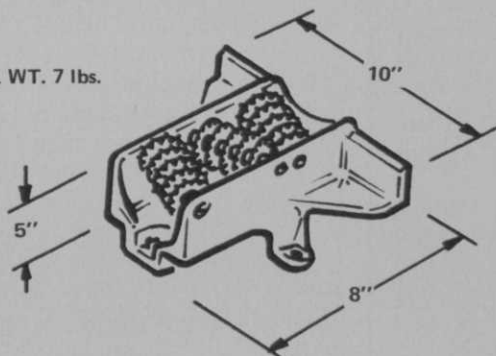
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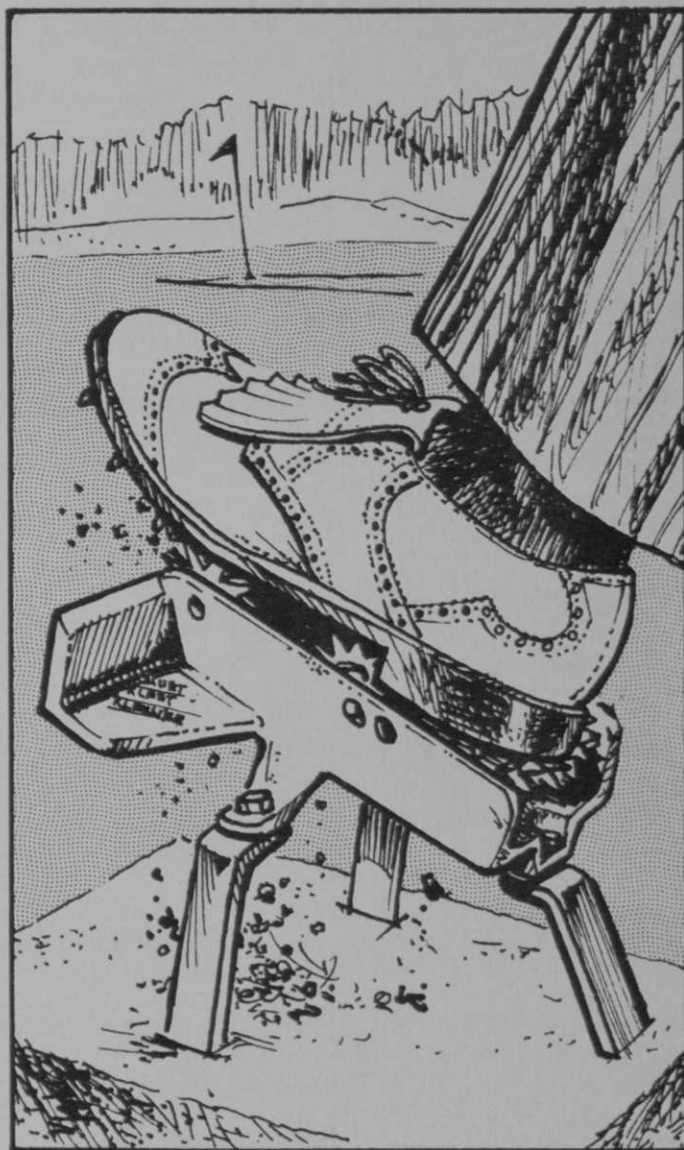


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TENNIS from page 62

"all weather" courts that require refinishing as seldom as every five or six years are extremely desirable from a budget standpoint. Resiliency is built into the surface in an asphalt mixture to which is added mineral aggregates, granules, asbestos, cork, fiber or other materials. Each supplier of the basic material the contractor uses has his own formula, most of which have been developed to withstand numerous weather conditions.

Research and development by companies, such as Borden and 3M, in creating ersatz surfaces that present playing conditions comparable to fine clay courts can even be tailor made to control speed, bounce and underfoot spring. These newer surfaces require a base installation usually consisting of eight inches of stone bed, water bonded and with drainage pre-installed around the outer edges of the court. Application of the playing surface is generally a pouring process as if floating on a continuous slab. The result is an unmarked color bonded surface virtually impervious to heat, foul weather and gouging by the more aggressive racket wielders. Interest in synthetic surfaces runs high because they do provide the tennis player with ideal conditions: no glare, rapid drying, true bounce, non skid texture. Additionally, maintenance costs are minimal, hence there should be serious inquiry by budget planners into these new surfaces.

Motivated by the obvious growing demand for court space, not only at golf clubs but in municipal recreation areas and racquet clubs dedicated exclusively to tennis, many manufacturers are striving to perfect playing surfaces of greater quality and longevity. There have been instances of certain synthetic materials being withdrawn from the market, according to the USLTA. Lack of durability and adherence to the base surface have been mentioned. Thorough investigation at actual locations using the surface under consideration and close consultation with your tennis court contractor are strongly recommended.

In most areas old, established

firms with years of experience in installation and repair are available for estimates and planning discussions. Generally, courts are built as a complete package including all fencing and backstops. Needless to say site selection for court construction is one key to sound financial planning. Use of an existing section of level parking lot, for instance, rather than bulldozing through a wooded or hilly area should greatly reduce construction costs. Strategic border planting such as a row of stately poplar trees to mask court fencing and canvas side curtains might be considered for separation from the rest of the parking lot. Recent inquiries indicate that fast growing poplars cost \$1.50 to \$2 for two-foot tall trees when purchased in quantity. Part of any financial plan for tennis courts should include appropriate hedge or row tree planting, particularly if the installation is to be in a dominant section of the club grounds. Green canvas, tennis' traditional backing, which is affixed to chain link fencing, needs the aesthetics of foliage.

A typical installation providing three doubles courts, which automatically includes three singles courts within its boundaries, needs ground space that measures 120 feet deep by 150 feet wide. Actual court dimensions are 36 feet by 78 feet for doubles and 27 feet by 78 feet for singles, but between each base line and the backstop there should be an additional 21 feet for tournament play. Additionally, between a court's side line and the fence not less than 12 feet is needed. Space between courts to accommodate net posts and provide separation from neighboring players can also vary, but eight feet to nine feet would seem average.

Costs of any typical court setup may be broken into categories such as surveying, clearing and leveling, preset drainage system, base construction, surfacing, fence and backstop erection and net post installation. Each category within the over-all project has a sliding scale of prices dependent on an evaluation of recommendations from the contractor. Obviously, subcontracting should be ruled out because you would be dealing with a type of construction foreign to

most club members. In most cases the professionals prefer to package the entire project. The variables where you can help to control costs are in the kinds of surfacing and equipment to be used. Obviously, one grade of fencing costs more than another or one type of canvas backing material is less expensive than the next. Most contractors will work along with the planning committee in preparing an estimated total cost.

There are so many other variables such as climate, site selection and location, differing budget structures and the needs of a particular club in terms of usage that it is virtually impossible to pinpoint the actual costs of court construction. Or to strike averages. Estimates cheerfully given, that old cliché in the construction trades, has true application in the business of installing tennis courts. Your best guide to any financial stability is to find a reliable builder and weigh his estimates as they relate to budget.

Night tennis should be considered in planning stages and initial layout. Light towers will require additional space, which must be pre-planned even if installation is to take place in the future. In striving for additional revenue producing uses of a club's facilities, night tennis would appear to be an ideal offering. Night ball games and lighted golf courses have absorbed leisure time for many years. With the increasing demand for more tennis facilities, extended playing hours on the courts may provide a solution toward meeting the demand.

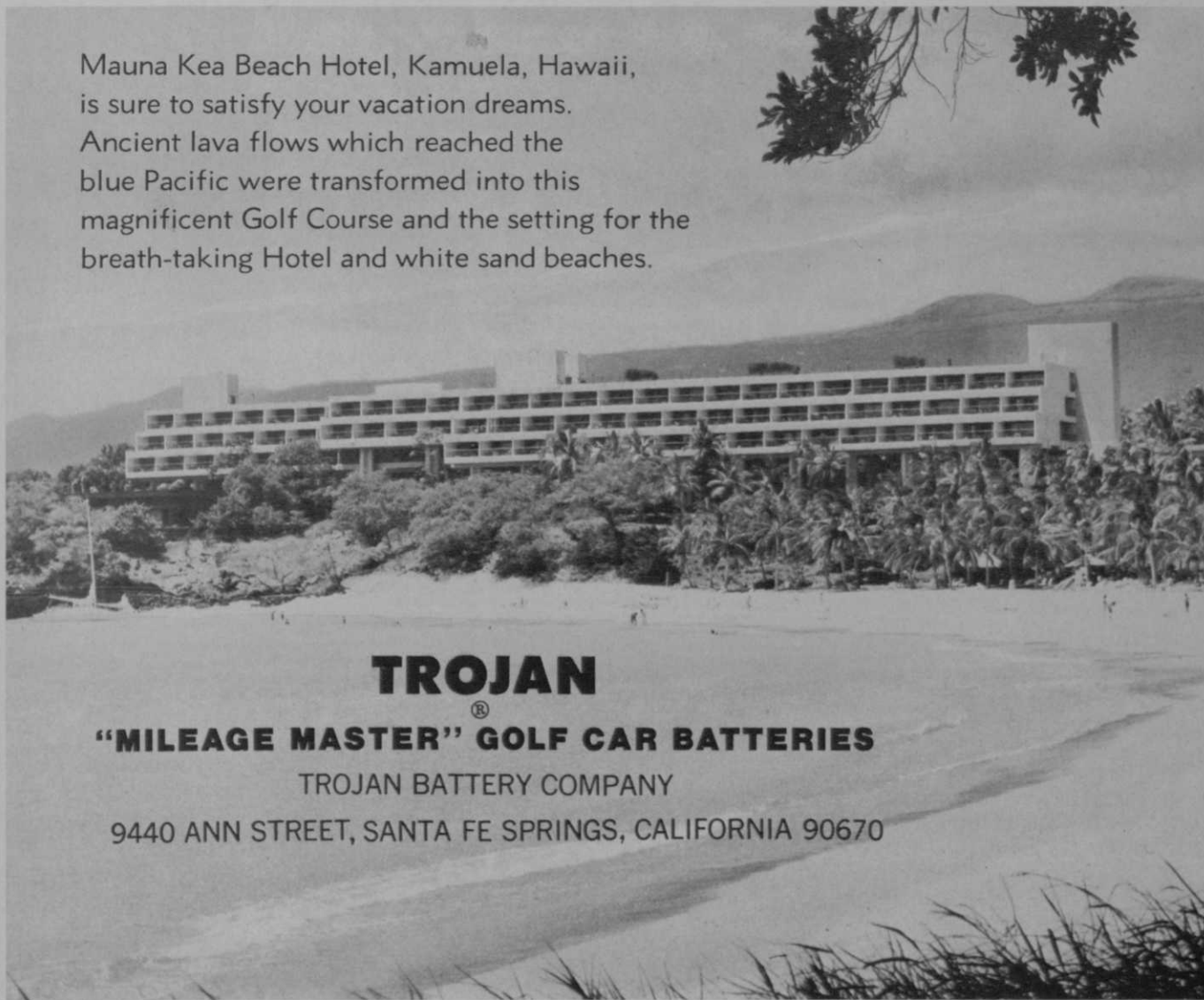
Tennis exploding onto the country club life will not be a sometime thing this time around. There are too many voices expressing desires for "action" sports. Dissatisfaction from women and the youth group demanding equal time and financing of their pastimes cannot be ignored. The status quo has got to go may become the cry this year.

Budget planners who can recognize the obvious signs of the impending revolution would do well to listen and plan accordingly. They would also do well to recognize that tennis and golf combined has worked in years gone by to make club life the meaningful experience each member expects. □



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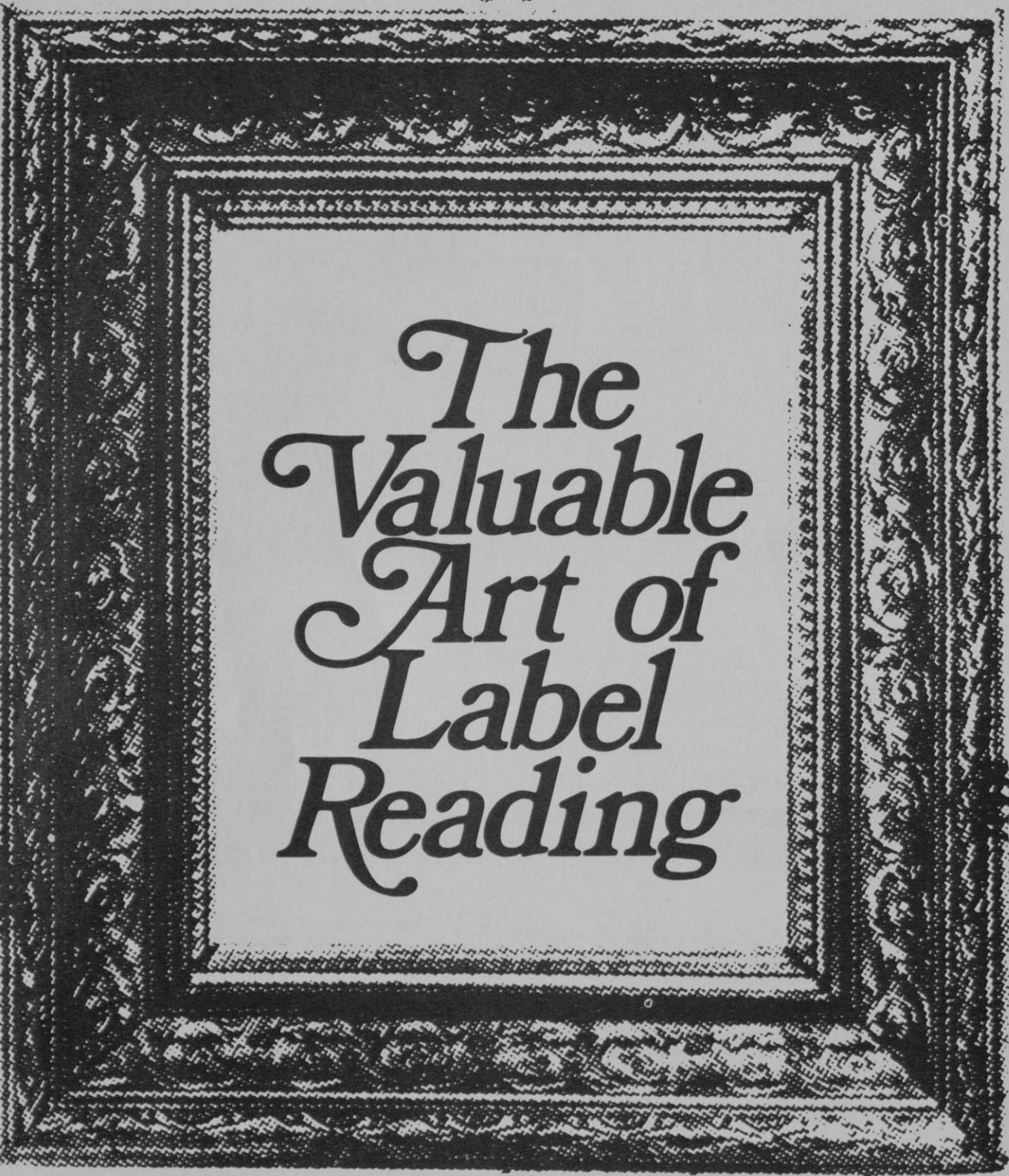
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The Valuable Art of Label Reading

The label on a turf chemical product, whether it's an herbicide, insecticide or fungicide, tells the superintendent how to use the product safely and effectively. So, simply, the first step for the superintendent is to read the label to determine how he can get the best results. The second, but not so simple step, is interpreting the information to fit the particular needs of

Superintendents may not be getting the most from their chemical dollars, simply because they are not reading properly the product labels

by JOHN T. WADDINGTON

HERBICIDE COORDINATOR, DIAMOND
SHAMROCK CHEMICAL COMPANY, CLEVELAND

his golf course. For example, most chemical labels give more than one rate. An herbicide label may read: "Use 15-20 pounds per acre in 40 gallons of water." Or a fungicide label may state: "Use 2-4 ounces per 1,000 square feet for control of Helminthosporium leaf spot; 4-6 ounces per 1,000 square feet for control of dollar spot."

The superintendent's initial reac-

tion to the alternative amounts may be to use the lower rate. The reasoning is sound: The less one uses, the less it costs. But it doesn't work that way when dealing with turf chemicals. The different rates are listed on the label for several important reasons.

Chemicals are used throughout the United States under widely varying conditions, such as soil type or the kinds of weeds present. The severity of a turf disease also can affect the amount of chemical that will be used. That's why there's a rate range on the label. Let's qualify the first step. Superintendents should read the *entire* label to better understand the exact way to use a given product under his particular set of circumstances.

Use exactly the amount recommended on the label, no more or

less. Under-applying the chemical may do the job, but only for a short time; over-applying a chemical could ruin the course.

One cost-conscious superintendent under-applied his chemical to save money. He ended up wasting both time and money because he had to redo the job. Often, too, problems are not detected until it's too late. In cases where a pre-emergent chemical is used to control crabgrass or *Poa annua*, the superintendent will have to wait until the next year to re-apply and look out for weeds in the meantime. This type of situation seems so unnecessary when one considers that the dollar difference between the full rate and the "cut" rate only saved him \$1.50 an acre. The extra labor cost to go back and redo the job comes to more than \$1.50 an acre.

The opposite is the superintendent who thinks that if 15 pounds is recommended, then 18 pounds should really do the job. This type usually ends up with burned greens or fairways somewhere along the line, not to mention his high chemical costs. Although it's foolish to cut the rate to save a couple of dollars, it's equally as bad to waste money by over-applying. The danger in over-applying a chemical is the chance of damaging the course as well as exposing the environment to excessive chemicals.

Although chemicals are recommended with safety margins, some chemicals can burn turf at only two times the highest recommended rate. So make sure you use just the right amount and periodically check to make sure that your sprayer is calibrated correctly.

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The following briefly discusses the extensive testing that a product must undergo before it can be registered for use on turf. Additional testing is required before a product can be registered for use on food crops.

Scientists, working with agricultural pesticides spend from three to five years developing and testing a given compound before an application for registration is submitted to the Environmental Protection Agency (EPA). The final label is representative of the testing necessary to determine that the compound will work effectively and safely when used as directed.

A potential compound is first evaluated under controlled conditions in greenhouse tests. These tests determine if the compound has activity and on what type of pest. If a compound passes these tests, it is then taken to the field and tested under actual conditions—the same conditions that exist on a golf course.

At this stage of development, samples are given also to university, state and Federal researchers for further evaluation. This enables the company to examine results obtained from using the compound under widely varying conditions and climates. Behind the scenes, still another

type of testing goes on.

Potential products are put through a series of toxicology studies. This is where the scientists determine the degree of safety to the user as well as the potential effects of the compounds on the environment. The following categories summarize the areas in which testing is required for registration:

1. Human safety and hazard
2. Fish and wildlife safety
3. Fate of the pesticide: (a) fate and movement in soils and (b) fate and movement in water.

These categories may involve dozens of different tests, both in the laboratory and in the field, depending on the particular test chemical and its proposed usage. The length of time of these studies varies from a few weeks to two years or more. In the laboratory, scientists test to determine how much of a given chemical causes death or adverse side effects when eaten, applied to the skin, eyes or taken up by breathing of laboratory animals.

In general terms, the degree of toxicity of a chemical is referred to as an LD₅₀. LD₅₀ stands for the lethal dose it takes to kill 50 per cent of the animals in the test group. Therefore a product with an acute LD₅₀ of 10 would be 10 times as toxic as

a product with an LD₅₀ of 100.

The numerous toxicology studies can take months, even years to complete to satisfy governmental requirements before a chemical can be registered for use in the United States. It's a sobering experience to review the many tests that may be required before registration of any new product. All pesticide labels will contain warnings, as well as words in bold print, such as danger, warning, caution, depending on how toxic a given compound is to the user.

The product has proven its efficiency. The scientists are sure it will not endanger the user or the environment. All facts and data are gathered and submitted to the EPA for approval. If the facts show that this product will help solve an important problem safely and effectively, the EPA will register the product. The product cannot be sold until accepted by EPA and a registration number has been assigned to the product. This EPA registration number must always appear on the container. The product can be sold and utilized only for uses as stated on the label.

Once the product has satisfied all EPA requirements and has been granted label registration, it is put on the market.



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LABELS from page 67

Companies that manufacture agricultural pesticides spend time extensively testing and comparing their chemicals before and after they are put on the market. From these tests, efficacy data is taken and usually filed. Universities and other research facilities that perform comparison tests and hold field days often publish the results. Superintendents can ask their universities or chemical suppliers for these results, especially if they are using a product for the first time. With a little effort, the individual superintendent can collect this data. Or the local superintendents' associations could collect and print up in a binder the comparative data on products used in their area. Most distributors and suppliers would be willing to supply copies of their comparative data.

By comparing test results from several years, the superintendent can determine the one or two products that have performed consistent-

ly well in his area. This helps eliminate the guesswork out of selecting the best product for the job.

Finally, the terms ecology, environment and pollution have all become part of our daily vocabulary, and rightly so. Everyone is concerned about the increasing problem of pollution as the world's population continues to rise. However, reason needs to be applied in some areas. In some cases we must decide what kind of pollution is least desirous rather than think in terms of no pollution. For example, aren't mosquitoes a form of pollution, especially to those people sensitive to mosquito bites? How about dead turf from a disease or insect damage? What about a significant reduction in food production that could result if various pests are not controlled? However, the misuse of chemicals to control the above forms of pollution also is a hazard, and this is just one more very important reason to closely follow label directions. □

GRAFFIS from page 9

agricultural college short courses, superintendents' regional meetings and the Green Section, superintendents have had an unusually good and voluntary training program for nearly 50 years. Club managers have had excellent schooling at Cornell, Michigan State, Houston and Denver universities for years and a valuable program of regional workshops. Beginning in the '50s, the PGA had winter short courses at Dunedin, Fla., and in California. These schools developed the seminars and other educational sessions over the past few years. Sectionally, there have been many practical spring business sessions for golf professionals and their assistants.

There has been very little along these lines for officials of private, public and daily-fee courses that employ the pros, superintendents and managers. You can't expect a private club official who is giving his time and successful business experience to take any special schooling for a job that is a sacrifice and that he will hold only a year or two.

For golf jobs that will be open in 1973, there will probably be more good men available than there will be good jobs. What the answer is to

the imbalance between jobs and men I don't know, but I believe that finding the answer is going to test the value of the general management policy of golf club operation.

By the way, isn't the United States Golf Assn. Green Section's *Turf Management* more than overdue for a revision and up-dating? The first edition, edited and largely written by the late H. Burton Musser, was published in 1950. I recall there was one revised edition published. Progress in golf course methods, materials and management soon made parts of the revision museum pieces.

During the past several years there have been many changes in construction methods, machinery, pesticide, fungicide and herbicide use, grass strains, automatic watering and other areas.

The Green Section staff already has about three times the work an expert team of this sort could be expected to handle, but it always seems to take emergencies in stride.

With so many students now being schooled for the management of golf courses and other fine turf areas and the GCSAA certification program calling for a standard up-to-the minute manual, a revision is urgently needed. □



23D CENTRAL PLAINS CONFERENCE, Manhattan, Kan., October 18-20.

SPRINKLER IRRIGATION ASSN. ANNUAL CONVENTION AND MANAGEMENT SEMINAR, Del Monte Hyatt House, Monterey, Calif., October 29-31.

ANNUAL INSTITUTE ON PARKS AND GROUNDS MAINTENANCE, Muehlebach Hotel, Kansas City, Mo., October 30-November 2.

3D ANNUAL GEORGIA GCSA/UNIVERSITY OF GEORGIA TURFGRASS SHORT COURSE, Center for Continuing Education, University of Georgia, Atlanta, Ga., November 5-7.

PANHANDLE TURFGRASS ASSN. FIELD DAY., Oldham Recreation Center, Vega, Tex., November 6.

THE NEBRASKA TURFGRASS CONFERENCE, Kellogg Center, University of Nebraska, November 20-22.

27TH OKLAHOMA TURFGRASS CONFERENCE, Student Union, Oklahoma State University, Stillwater, Okla., November 29-30.

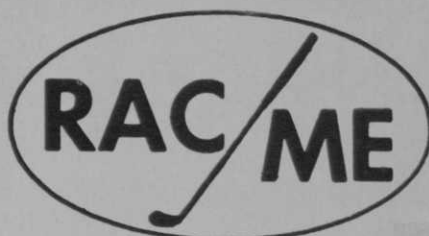
GOLF COURSE SUPERINTENDENTS ASSN. OF AMERICA TURFGRASS CONFERENCE AND SHOW, Statler Hilton, Boston, Mass., January 7-12, 1973.

PROFESSIONAL GOLFERS' ASSN. MERCHANDISE SHOW, PGA National GC, Palm Beach Gardens, Fla., January 20-23, 1973.

VIRGINIA TURFGRASS CONFERENCE, Sheraton Motor Lodge, Fredericksburg, Va., January 30-31, 1973.

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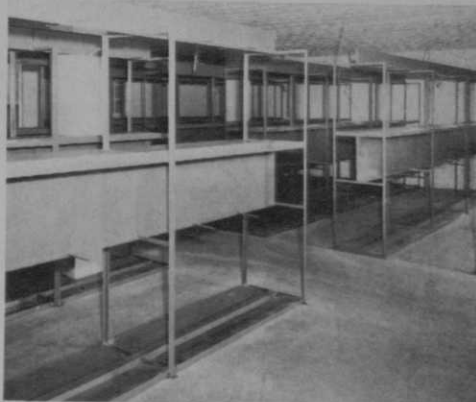
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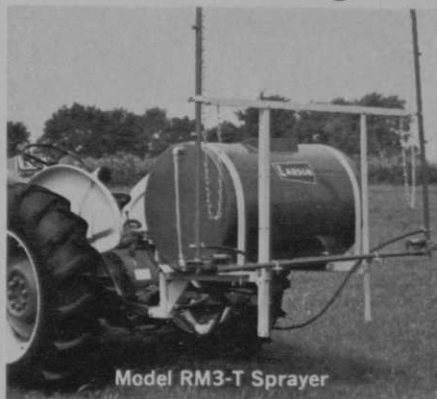


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BEARD from page 25

communities, however, the one-inch cutting height is most favorable. Many golf course fairways in the United States are maintained at this height. This is one of the key contributing factors to the presence of annual bluegrass in these fairways along with the high quantities of irrigation water being applied.

The final observation supports two earlier pieces of research that have shown, contrary to the popular concept, that annual bluegrass root growth and development is just as good as for Kentucky bluegrass and creeping bentgrass. The general concept that annual bluegrass is a shallow rooted species has probably arisen from the conditions under which it is frequently found. That is, it grows and can survive better than the other two species in compacted, poorly drained soils. These conditions result in a shallow root system. However, if the three species are grown under comparable soil, environmental and cultural conditions, there is no significant difference in long term rooting. This piece of research goes one step further and shows that during the initial establishment period annual bluegrass actually has a better rooting capability than Kentucky bluegrass or creeping bentgrass. This factor may be quite important in contributing to the capability of annual bluegrass to encroach into Kentucky bluegrass and creeping bentgrass communities. □

GOLF WORLD SOLD

SOUTHERN PINES, N.C.—*Golf World Magazine*, for more than 25 years published under the Harlow banner, has been sold to Beckwith Enterprises, Inc., of Princeton, New Jersey.

The publication was sold by Lillian Harlow, widow of the publication's founder, Harrington Harlow. President and publisher of the golf news weekly is Edmund Beckwith Jr., whose New Jersey company is a management consultant firm in the financial and technical fields. Editor Dick Taylor has been elected vice president and editor-in-chief.