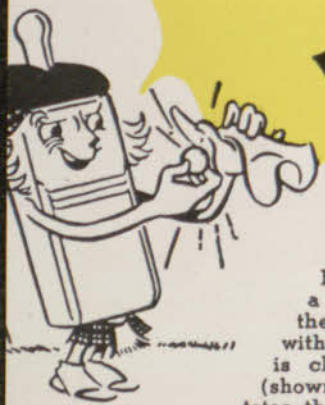
The FAMOUS LEWIS GOLF BALL WASHER



The streamlined washer that combines BEAUTY • EFFICIENCY • LOW COST

Everybody knows how to work a Lewis Washer — just pull up the paddle—insert the ball—and with a few easy strokes the ball is clean. The Lewis Magic Slot (shown in cutaway view below) rotates the ball so that the entire external surface of the ball is exposed to the scrubbing action of the bristles. Brushes have an equalizing spring on the back to keep a uniform pressure of bristles against the ball. Finished in two coats, ivory enamel. Paddle handle, red enamel.

The LEWIS TEE ENSEMBLE

The complete tee unit for the well-dressed and fully-equipped course. The Lewis Tee Ensemble provides a place to wash and dry golf balls; a container for waste paper; and a sign for complete hole information — all combined into one streamlined compact unit. Made up of Lewis Washer, Tee Data Plate, Tee Stake, Waste Container, Towel and Towel Ring. Stake can be set in concrete—and attachments removed for winter storage.

The **LEWIS MAGIC SLOT**

WASTE CONTAINER—Matches design of washer. Hinged cover. Simple thumb screw arrangement allows easy emptying. Finished, two coats ivory enamel.

TEE DATA PLATE—Provides simple, logical means to post hole number, yardage, and par. Individual chromium figure plates mounted on white panel. Permanent, non-rusting. Numbers changeable—send your score card when ordering.

TEE STAKE—Made of indestructible steel, finished in weather resisting paint. Web anchor near bottom insures permanent installation if set in concrete. 5' long.

MAINTENANCE PARTS — Parts subject to wear are easily replaced. Keep some spares on hand for emergencies.

PARTS AVAILABLE INCLUDE:

*PADDLE TYPE BRUSH
*PADDLE TYPE BRUSH WITH SPRINGS
PADDLE WITH SCREW FOR CHAIN
CHAIN ONLY (for Paddle)
*SPRING (for bottom of tank)
THUMB SCREWS (Cadmium Plated)
*NOTE: Be sure to specify whether washer is OLDSTYLE or STREAMLINED

Manufactured by* G. B. LEWIS COMPANY, Watertown, Wisconsin ... *Ask your dealer

LEWIS GOLF BALL WASHERS AND TEE EQUIPMENT

Bill Gordon elected Illinois PGA pres. for 3d term. . . Errie Ball elected sec.-treas. . . . Bill Melhorn conducting indoor school at Crescent Health Club, Brooklyn, N.Y. . . . Walter Dienhart buys Venice (Fla.) CC, improving layout and changing name to Artists' Guild CC. . . Bob Ledger, asst. at Medinah CC (Chicago dist.) in summer will be Artists' Guild pro.

Western Golf Assn's 50 years brought $10,000 from its Open at St. Paul and $9,000 from its Amateur at St. Louis for Evans Caddy Scholarship Fund. . . This year WGA has 59 boys attending 19 colleges. . . Joe Hogan, Western's press agent, says when we were giving a hand to junior tournaments we neglected to mention the Western's Junior championship is oldest junior championship in the nation. . . Sorry, Joe and everybody.

Knoxville, Tenn., Whittle Springs muny course to have name changed to Valley View. . . Waverly CC, Portland, Ore., had a saddle horse, an Afghan hound, a live goose and a couple of pigs as prizes in a mixed foursome members' event. . . Negro golfers have option expiring May 1, 1950 to buy Los Serranos CC, Chino, Calif.

Joe Greco, Brookdale CC, Seattle, Wash., elected pres., Pacific Northwest

Greenkeepers Assn. . . Glenn Proctor, Ranier CC, elected sec.-treas. . . . Eddie Gayer, former pres. of Illinois PGA and a founder of S. Calif. PGA, opens new sports shop in Prudential Bldg. on Los Angeles "Miracle Mile." . . . Lorin Shook leaving Flint (Mich.) CC as pro after 8 years to operate Saugatuck (Mich.) CC, 9-hole course which he's bought. . . Lorin's farewell letter to his Flint members is smartest job of pro letter writing we've seen. . . He thanks them for "8 of the best years of my life" . . . and puts in neat bid for members' business in closing out his shop stock and for Christmas gift purchases.

Very considerate woman is young Miss Carol Anne Alexander, born in Knoxville, Tenn., Sept. 6 just in time to allow Papa Skip to go to England with the winning Ryder Cup team. . . Skip and Bob Hamilton got trimmed, 4 and 2, by Fred Daly and Ken Bousfield, but with Mama Kitty and Princess Carol Anne doing O.K., what else matters? . . . Ridgewood (N.J.) CC giving dinner to George Jacobus, observing his 35th anniversary with the club. . . Mrs. Charles M. Price, Glenview GC (Chicago dist.) elected pres., Women's Western GA. . . Mrs. Lawrence O'Toole, elected 1st vp; Mrs. Barrett Scudder, 2d vp; Mrs.

(Continued on page 118)

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GOLFDOM

THE BUSINESS JOURNAL OF GOLF

OCTOBER • 1949

Turf Round-up of 1949

By FRED V. GRAU

Director, USGA Green Section, Plant Industry Station, Beltsville, Md.

Was the summer of 1949 worse than the summer of 1928? Some seasoned golf course superintendents say that it was. Others say it was the worst **since** 1928. The difference of opinion will be good for many friendly discussions in the "bull sessions." The fact remains that Dame Nature, the one with whom we are always trying to work, never tells us what she intends to do, and this year the boys who were not fully prepared got the royal doublecross.

For some strange reason, explainable in unintelligible terms only by a meteorologist, tropical weather moved north **and stayed there** much longer than it did at any previous time in our memory. Following a short, very wet spring, the weather unaccountably turned sizzling hot while grass roots were still shallow from the wet weather. There was no time for grass to "harden off" for the heat of the summer and to get its roots down for the months ahead. A lot of it just "cooked" in the heat and the drought, and the result was crabgrass in many areas. Even Denver and Salt Lake City were interested in crabgrass control this summer!

The damage to turf in New England can be judged by the staggering losses to crops in that area. Pastures burned out and gave no feed. Potatoes produced half a crop to no crop. This is one year when supplemental irrigation paid dividends, especially on farm crops. With the drought came unprecedented heat and, in some cases, high humidity. This combination has one disastrous result on specialized turf, and that is **disease.** Some superintendents sprayed greens every day for ten days to keep brownpatch in check. **Pythium,** that dread disease of bent turf which every greenkeeper fears (or should fear), appeared on some of the best putting greens. There seemed to be no stopping **Pythium** because no known chemicals seemed to be effective. Everyone just prayed for a break in the weather. Even the improved strains of creeping bent were affected.

Weak Points Revealed

The weather had various quirks in different sections of the country but one thing became evident and crystal clear. **Every weak point in the system was disclosed.** In some cases it was **weak grass.** In others the weakness was shown in **poor soil structure,** in **imperfect drainage,** in **excessive compaction,** and in **management.** The weak points in management were disclosed principally in the (mis) use of **water** and in the attention to **disease control.** Virtually every weakness permitted weeds to develop, and crabgrass

was the principal invader. Goosegrass (silvercrab) wasn't far behind. The boys in Washington, Cincinnati, St. Louis, Tulsa, and Kansas City did not get panicky because normally they get some fiendish summer weather and they expect it and prepare for it. It was the more northern golf areas that got hit worst because in normal seasons they can hold **Poa annua** through the season. This year most of them lost it. The superintendents in the South who have bermudagrass greens chuckled with a justifiable bit of satisfaction to see their northern brethren who have bent greens, toss and squirm and lose sleep on those hot summer nights. A bit of extra heat and humidity doesn't mean a thing to bermudagrass because that is what it thrives on.

The boys who have Aerifiers, especially those who had used Aerifiers during the previous fall and spring, fared much better than did those who "had not." **Oxygen in the soil** made the difference between success and failure in many instances this year when, in other seasons, the lack of air in the soil was not quite so striking in its effects. Not only did Aerifiers work overtime, but Turferators, tubular-tine forks, and even the lowly manure fork got polished this summer in frantic efforts to get **air** into the soil.

Ferguson, my No. 1 man in the Green Section office, attended the Mineral Nutrition Conference at Madison, Wisconsin, on September 1, 2, and 3. There he learned from a noted physiologist that when a plant root is deprived of air it can not absorb water. This, in effect, means that "when a plant has too much water it can't get enough water because it already has too much." A plant, like an animal, can drown, but it isn't the water that kills it—it is the **lack of air!** Now you can appreciate that the Noer-Grau team at the conferences really wasn't crying "wolf" when the subject of **drainage** and **aeration** was expounded.

Sand Important

Putting greens that were built with **lots of sand** came through the summer in near-perfect condition. One that I saw (and there are many others that bear testimony to the value of sand) was a small green that Nelson Monical built on the Portage CC Course at Akron, Ohio, for members to putt on while waiting for their turn on a short hole. He **overdrained** with tile and gravel and **oversanded** with coarse sand in the topmix and **underwatered** in comparison with most greens. On September 8 a sampling tube, which takes plugs out to a depth of 12 inches, showed that many grass roots had **broken off** at that depth! This green was in full sun.

Another near-perfect green was on a 9-hole course in Magna, Utah. It, too, was built on an **overdrained** base. The topmix soil was mostly sand, and we couldn't find the lower end of the roots by ordinary means.

In the Spring 1949 issue of the **USGA Journal** appear some startling data on the physical composition of putting green soils on golf courses over a large part of the United States. The conclusion reached was that **sand** in the topmix was the principal ingredient for success in building putting greens that are easy to keep in near-perfect condition. Up to 85% of sand was found in some greens; up to 85% clay in others. The "sandy" greens suffered the least this summer, other things being equal. Sadly, though, many new courses are being built and finished, and many of the new greens will have to be reconditioned soon because they don't have enough **sand** nor enough **sub-drainage** in them! The lesson is difficult to learn, and many clubs will learn it the hard way. More rebuilding of greens is going on this fall than at any time in my memory. This includes the Washington area, too. Some of the golf course architects are getting a liberal education on the value of sand. Unfortunately, some of them who already are sold on sand have difficulty in convincing the club officials to spend the extra money to do the job right in the first place. When they don't succeed, the club will pay it out in added maintenance and reconstruction costs in the future, but they have to find that out the hard way, too.

Water Use Observed

The misuse of water was the outstanding weakness in management this year. The effects were observable in every section of the United States. Strange as it may seem, **overwatering** was most prevalent where there were definite **shortages** of water. The biggest single thing ahead of us is the **Conservation of Water.** Not only will we be doing agriculture and industry a real service, but we will grow better turf and we will save clubs untold thousands of dollars.

One way to save water is to convert turf gradually to those species which are more drought tolerant. See your 1948 U. S. Department of Agriculture Yearbook **"Grass"** for a more complete discussion.

Another way is to keep the soil open and porous so that rainfall will be absorbed. Up to 85% of a single rain may be lost in runoff, carrying with it much humus and fertilizer.

Fertilize heavier to grow deeper-rooted, denser turf. Turf that is well-limed (acid soils especially) and well fertilized stays

green longer during a drought than starved turf.

Don't let the high-handicap players panic you into keeping the greens soggy so that the greens will hold any kind of shot. When they complain that the greens are hard, maybe the thing to do is to aerify and topdress them with a sandy loam and give them a good feeding. A dense, deep-rooted turf which grows on a sandy loam will hold a well-played shot even when it is on the **very dry side.**

Don't forget also that even a well-played shot from a fairway that is cut too high will be a "balloon" or a "floater," and no one can make the shot hold. A dense, firm, closely-cut fairway will improve shot-making, and the ball will hold the green better because then it is possible to put backspin on the ball.

Overwatered fairways and approaches are all too common and that produces the dull heavy "mushy" shot that will refuse to hold the green. In these areas we also see the most trouble from **Poa annua** and weeds in general.

Grasses Are Appraised

The demand for better tee and fairway grasses continues strong. The Green Section, accordingly, has shaped its research program in that direction.

Bermudagrass is the favorite grass for tees because of its rapid spread, rapid healing, resistance to injury (divots), ease of planting, its tolerance to close mowing, and its low irrigation requirements. Weeds virtually are non-existent in bermudagrass when the nitrogen feeding program is on a high level. No grass suffers more from a **starvation** program than does bermudagrass.

Among the improved strains of bermudagrass the top performers are the Green Section's U-3 for northern climates, and Tifton's 57 for southern turf. Both have been proven and have been released. The next steps are those of larger commercial production and the increased use by golf clubs. U-3 has been successful in trials up to a line running from Norfolk, Nebraska; Chicago; Cleveland; State College, Pennsylvania; and to New York. It rapidly is becoming a favorite in Washington, St. Louis, and New Jersey, where its ability to choke crabgrass without chemical treatments is strongly in its favor. It appears to be a natural companion to **Poa annua.**

Tifton 57 is so free from disease and so aggressive that it invades and chokes common bermuda under putting green, tee, and fairway management. Southern clubs which fail to develop nursery stock of this improved strain are missing a good bet.

Research on the zoysiagrasses continues at Beltsville cooperatively between the USGA Green Section and the Division of Forage Crops and Diseases. Studies include seed production, management, evaluation of strains for suitability to specialized turf, methods of establishment, and combinations with cool-season grasses.

The Z-52 strain appears to be outstanding for golf and lawn turf, and it has performed in a superior manner in ease of establishment and rate of spread as compared with the Z-9 strain mentioned in the 1947 Turf Roundup. Z-52 is so similar in texture and color to B-27 bluegrass that the two appear identical in adjoining plots. The Green Section urges wider testing of this particular combination of a cool-season and warm-season grass. Z-52 is receiving praise from homeowners who have it in their lawns. Turf established from Z-52 seed appears nearly identical to the parent turf, even though there is a wide variation in the appearance of space-planted individual seedlings. It appears that Z-52 will begin to move into home lawns as soon as commercial stock is available. It has been winter-hardy at State College, Pennsylvania; at New Jersey; and at Purdue. Probably it will move much farther north than will manilagrass. It also is performing admirably as a summer companion to **Poa annua.**

In the bluegrass field the B-27 strain is superior in every respect. Coordinated tests during the past two years leave no doubt but that B-27 bluegrass is the one which everyone will want. Crabgrass invasion of B-27 turf is scarcely noticeable, whereas common commercial bluegrass beside it and under the same set of conditions, becomes heavily infested. It will be a boon to homeowners who want bluegrass turf and who want to have a closely-cut turf. Now they can have both. To have crabgrass-free turf with common blugrass one must cut turf 2 to 3 inches high. B-27 does a better job at a half-inch cut. Every effort is being made to increase seed production, but it will take several years to even satisfy the demands of golf courses. It means that the homeowners still will have to wait awhile.

Among the fescues, Alta fescue is taking long strides ahead. Its ability to thrive on unimproved soils and under low levels of moisture makes it a heavy favorite in turf mixtures where fine texture is not important. It has proved itself in athletic mixtures from coast to coast. It is being seeded into many golf course roughs and it is not exactly out of place in fairways. It is an excellent winter companion with common **Zoysia**

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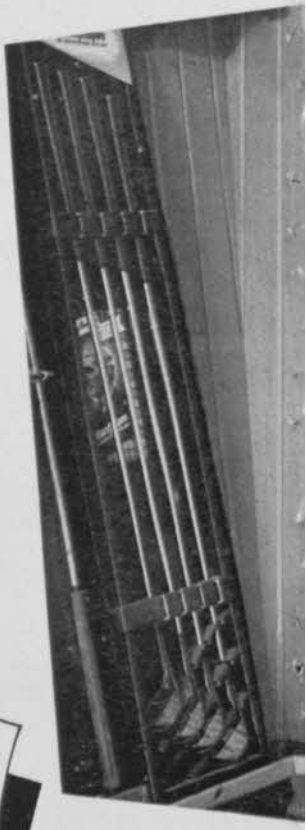

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japonica, and the combination is singularly weed-free. Kentucky 31 fescue is very similar to Alta fescue but the price differential still gives Alta fescue the advantage.

No new red fescues are in production. Illahee, Penn State Chewings, and Oregon red creeper are the preferred buys when choice is available. This picture may change as some of the new Penn State selections now being tested are proven and released for production. The new strains are being tested cooperatively at the Beltsville Turf Gardens, where they have to prove themselves under the brutal weather conditions which we know so well.

Bentgrass Situation

No significant change has occurred in the bentgrass picture. The good vegetative creeping bent strains still are good. Toronto (C-15) is moving ahead and is pushing out Collins (C-27). Arlington (C-1) and Congressional (C-19) still are performing admirably as a team. Old Orchard (C-52) is strong and vigorous and it has many friends. Cohansey (C-7), in spite of its light color, is gaining favor because it is so aggressive and so heat-tolerant. Washington is still good but it is gradually losing its popularity because it is so slow to start in the spring, which gives **Poa annua** a chance.

The brightest spot in the creeping bents is the possibility of a better creeping bent from seed. So far seaside bent is the only commercially-available seed that produces a creeping bent turf. Penn State, in the cooperative setup, is making strides in crossing the better strains of creepers to produce a commercial seed which will result in superior turf. The strongest new selections tested at Beltsville are going into this breeding setup. The future is bright.

Among the colonial bents we still have Astoria, Highland, and New Zealand. There has been no advance in producing Rhode Island colonial. We continue to use these colonial bents because they are the best we have, but something better is long overdue. The Green Section has been helping to finance a program to develop superior colonial bents at the Rhode Island Experiment Station. It is hoped that this program will begin to bear fruit in the near future.

Fungicides Extensively Tested

The most significant step forward in the development of better fungicides was the initiation of the coordinated testing program under the guidance of the American Phytopathological Society. Identical materials are tested by all cooperators, and results are evaluated on a comparable basis. Details are not available so that at this time we can not discuss the merits of many new materials. There has been no significant change in the recommendations for standard materials such as calomel, bichloride of mercury, Tersan, Crag (F-531), and Puratized 177.

Weed Control Results

Since 2,4-D has settled down to the routine job of killing broadleaf weeds, major attention is being given to crabgrass control. Crabgrass flourishes because so few adapted turf grasses are used that are able to compete with crabgrass on its own terms. The **improved** turf grasses will need little or no help from chemicals in the fight against crabgrass. At the present writing there are no improved turf grasses in general use, with the exception of the vegetated strains of creeping bent on putting greens. As U-3 bermuda and the better strains of Zoysia develop along with B-27 bluegrass, crabgrass will cease to be the No. 1 public enemy.

Sodium arsenite is still a good material in experienced hands because it combines insect control with weed control. It is tops for renovating turf. Phenylmercury compounds and potassium cyanate are holding the spotlight in tests at many stations. It is impossible at this point to summarize results or to predict the future. The non-poisonous materials naturally will get public acceptance if they are effective and relatively "fool-proof." It must be remembered that, with many of our ordinary turf grasses, we still don't have a good turf even when the crabgrass is controlled. What is needed is a safe effective chemical that can be used in connection with the establishment of our improved turf grasses. This comes under the head of **renovation.**

One of the best examples of crabgrass control that I saw this year was that done by mechanical means. Flexi-combs were used on the fairway mowers all season, and crabgrass never had a chance to develop either runners or seed heads. The turf was remarkably dense, firm, and upright, and it had been cut under ¾-inch all season. The first combs on fairway mowers that I ever saw were in 1936 at the Merion Golf Club Course, where Joe Valentine had devised a set for his mowers. For some unknown reason the idea didn't "catch on" until recently. It is my belief that combs on all types of mowers greatly will increase in use.

In some areas bermudagrass is not wanted. Work on the control of bermuda with TCA has been published in Oklahoma and Kansas (see the July, 1949, USGA JOURNAL). Results are not perfect yet and the soil remains sterile for too long a time for golf course work