the formula. The use of some Vermiculite or Terralite in the final mixture is being advocated.

Deeper rooting is claimed for the high sand mixture. For the first several years root systems are deeper irrespective of the soil mix, excepting those of very high silt or clay content. Roots are 12 to 15 inches deep in the two year old greens at Royal Montreal. Their soil mixture is in the 60-20-20 range.

**Moist Land Compacts**

Moist sand becomes hard and compact. In Fla. driving along the sand beach at the edge of the ocean is excellent. When the tide recedes the sand becomes so loose that a car cannot move under its own power.

Instead of rigid, arbitrary specifications, it would seem more realistic to devise testing methods which utilize materials available locally and then construct a mixture which will resist compacting, have a satisfactory rate of water infiltration, and provide the right kind of surface for play. The Howard approach in Tex. is along this line.

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**Al Hyatt, Spalding Chicago Manager, Dies in November**

Albert Ray (Al) Hyatt, Chicago dist. mgr. of A. G. Spalding & Bros., died of a heart attack in his Oak Park, Ill., home in November. He was 57 years old. Mr. Hyatt was born in River Falls, Wis., and started to work for Spalding in 1926 as credit mgr. of the Minneapolis branch. Later, he transferred to sales and in 1937 was made mgr. of the St. Paul branch. In 1940 he came to Chicago, was made assistant dist. mgr. of that branch in 1946 and dist. mgr. in 1951.

Mr. Hyatt is survived by his wife, Ann, and a daughter, Mrs. N. C. Nickerson of Duluth.
FERTILIZE ACRES in minutes ...with ACCURACY!

**BELT BROD-KASTOR**
- Reduces turf fertilizing time by more than ONE-HALF
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BELT CORPORATION DEPT. G ORIENT, OHIO

Accurate Testing (Continued from page 58)

properly, gave a single figure at the end of the season that was a good measure of quality. It was on the basis of his Scorecard that Penncross bent consistently was observed to end the season with the highest rating. The figure on which "ratings" were made resulted from many readings during the season on such factors as "early greening", "density", "disease tolerance", "recovery from disease" and others.

The term "quality" in turf means different things to different people. There is needed a serious revaluation of all the factors that have been studied in years past in an effort to define the term and to translate it for the public. Green color has absolutely nothing to do with the playing of a shot. Assuming equal firmness, resilience and density, a player can stroke the ball as well from brown as from green turf.

It is the spectator who is most insistent on continuous green color. When attempts are made to preserve the green color by irrigation, turf quality (for the golfer) often suffers severely, especially if the grasses present are not responsive to massive applications of water. It seems unfortunate that more people are not aware of research results which prove that green color can be attained more easily and more inexpensively through a program of adequate, balanced high N fertilization. Well-fed grass responds more dramatically to water and requires much less irrigation to accomplish the same results.

Player vs Spectator

To a football player the important factors of quality are firm footing and a firm resilient cushion to reduce possible injuries. Most players prefer brown turf to brown mud or brown weeds. Yet, because the paying spectators demand green color, the qualities that are dear to the player often are disregarded and a weak unadapted grass is planted. Many athletic fields could be solid Bermuda or zoysia if it were not for the color demands. If those in charge would brush up on research results, they would realize that they could provide Quality Turf for players and for spectators. The green paints have been developed to high perfection so that everyone can be made happy.

The ability of a putting green to "hold" a well-played golf shot is a measure of quality. So far as we know, no research data ever has been accumulated on the subject. The normal impulse, when a shot fails to hold, is to yell for water to "soften" the green. It is entirely possible
that the shot was not well played, yet the supt. often is forced to apply more water to grass that already is gasping for oxygen. The soil may be so fine-grained, so dense and so compact that constant saturation is the only device that will permit a shot to hold. This, then, is not a "quality green." It is earnestly to be desired that data concerned with soil texture can be related to, and translated in terms of, the ability to hold a shot even when the soil is dry!

**Recovery From Injuries**

Turf is made to be used. Turf in use will be injured. The ability of any grass to recover from damage, or of any treatment to aid in recovery, are factors that have been measured only partially. The observations and experience of supts. have been reliable guides toward selection of grasses and treatments that produce quality turf under stress. Bermuda has become a prime favorite for teeing areas, even in regions beyond its accepted adaptation, because it recovers so rapidly from injuries during the growing season. Many tees are divided so that a portion provides turf of a cool-season grass such as Merion, which recovers rapidly from injuries during the season when Bermuda makes relatively little or no growth.

**Year 'round Fairway Grass**

Fairways have been somewhat a step-child of research. Greens have dominated. Real progress has been made in recent years, particularly with respect to improvement of existing turf by fertilization. There has been reluctance to proceed with planting warm-season turf grasses in the "twilight zone" where cool-season species have failed so consistently. There is renewed hope that research will come up with a cool-season fairway grass that will be green the year round and will have the quality, toughness and drought tolerance of Bermuda and zoysia.

There is stepped-up activity in research with tall fescue. This grass appears to come close to bridging the gap between warm and cool regions. Recently we inspected fairways of alta fescue that were top quality both for play and for color. Work with strains of tall fescue indicates that it is feasible to hope for one that will be fine bladed, will spread to form dense firm turf and will be deep-rooted and drought-tolerant. With generous N feeding there is no known turf grass that will hold green color for more days in a year, especially with little irrigation.

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**WRITE FOR CATALOG**

PAR AIDE PRODUCTS COMPANY
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January, 1960
Far too little recognition has been given to the scientists who have developed chemicals, machines, fertilizers and tools to a very high degree of perfection. A case in point is the brilliant work of a dedicated scientist in the U.S.D.A., Dr. K. G. Clark. With his devoted co-workers, Dr. Clark spent many years of intensive research perfecting the steps needed to create an excellent slow-release nitrogen fertilizer. After Dr. Clark reached a certain point, it became necessary for industrial chemists to do the all-important research of learning how to translate test-tube results into commercial production of high-quality products that would perform as predicted.

The same kind of a story can be told concerning the development of fungicides, herbicides and insecticides. Millions of dollars for industrial research have been invested in the future, but because only a small fraction has shown up as university grants, many in the turfgrass industry seem unaware of the cost of perfecting a product to such degree that a company is proud to offer it to the market. Many products have been accepted so rapidly that practical use has outrun research.

Not long ago we talked earnestly and at length to a very good supt. friend who was completely discouraged. After several years of practical testing of a new fertilizer materials, he determined that he could give his golfers the best playing turf by using a specially designed high-N formula based upon careful analysis and interpretation of soil tests. Imagine his dismay when he was told that someone higher up thought old-fashioned 5-10-5 would be just as good and considerably cheaper. All the research and effort of the supt. and his helpers was thrown aside and ignored because a clerk with more authority, in ignorance, decided differently. So long as catastrophes of this magnitude are permitted to occur, it will be that much longer before golf clubs can realize full value for what is spent.

In Rounding Up a year like 1959 there seems to be no logical stopping place nor any valid summary and conclusions. Some changes in supts. were made hastily and have been regretted. Most turf troubles were not of the supt.'s making—he did all he could to make the best of a bad situation. Some supts. lost their jobs quite unfairly or were criticized unjustly. Some were not able to do their best because of restrictions imposed.
Jones, Ouimet to be Cited at National Award Dinner

American golf's two amateur immortals, Bob Jones and Francis Ouimet, will share the stage at the eighth annual National Golf Award dinner in New York's Plaza Hotel, Jan. 26. Vice Pres. Richard M. Nixon, also a golfer, will be the principal speaker.

Stewart (Skip) Alexander, 1959 winner of the Ben Hogan trophy for handicapped golfers, is another who will be cited at the Award dinner. Skip survived a 1950 plane crash and came back to play competitive golf and take a club pro post.

Jones, who won 13 U. S. and British national championships, will be given a trophy commemorating the 30th anniversary of his unprecedented Grand Slam.

Ouimet, whose victory in the 1913 Open popularized golf as a U. S. sport, will get the Gold Tee award for his many contributions to the game. An original member of golf's Hall of Fame, he served on the U. S. Walker Cup team as player and captain for 27 years.

Others to be honored include: Robert Hudson, Portland, Ore., for aiding in sponsorship of Ryder Cup matches; Jack Nicklaus and Barbara McIntire, men and women's Amateur champions; Mickey Wright, Women's Open winner of '58 and '59; Deane Beman, British Amateur titleholder; Bob Rosburg, PGA champion; and four Metropolitan champions, Paul Kelly, Maureen Orcutt, Paul Dunkel and Sam Petrone.

Repeat Performance

The cocktail party and style show, sponsored by Bowen, Inc. (Wm. Joyce golf shoes), Munsingwear and E-Z Go Golf Cars at the PGA meeting in December, made such a hit that the three companies will stage a repeat performance on Jan. 26. The party and show will precede the PGA Seniors' banquet which will be held in Clearwater, Fla.

Award dinner. Skip survived a 1950 plane crash and came back to play competitive golf and take a club pro post.

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68-Year Old Wins PGA Ace Contest

Leonard B. Schmutte, retiring PGA vp and chmn. of the 1959 Hole-in-One committee, announced that a retired GE vp, 68-year old J. A. H. Torry, was the winner in the third annual Hole-in-One contest. Torry sank the winning ace on the 190-ya. 11th hole at Burning Tree in Bethesda, Md. He used a 4-wood. More than 115,000 golfers took part in the contest.

Club Managers Faced With Food Service Problems

Daniel M. Layman of the Union League Club of Philadelphia and pres. of the Club Managers Assoc. of America, doesn't think that management problems will diminish in the coming year. But he feels that easing of the Federal Excise taxes will prompt clubs to spend more money on improvements, thus enabling managers to operate their facilities more efficiently and economically.

"Quite a few clubs," says Layman, "have deferred rebuilding programs pending clarification of the tax law on capital expenditures. Now that it has been straightened out, modernization will be in vogue. If club managers are given a voice in recommending changes that will improve efficiency in the operation of their clubs, I'm sure that substantial economies can be effected."

But, Layman continues, managers still will be haunted by rising costs, particularly where labor is concerned. Keeping trained personnel in kitchen and dining room operations is another problem. Practically everyone connected with the food service field, the CMAA pres. adds, bemoans the shortage of skilled employees in these two vital areas.

The National Council for Restaurant and Hotel Education, headed by Matthew Bernatzky, Layman says, has made great strides in recent years in trying to provide solutions to the food service dilemma. But the council isn't out of the woods yet and only a great deal of cooperation on the part of persons connected in any way with club management will insure continued progress.

Royer Elected President of Western Golf

James M. Royer, an insurance executive, was elected to succeed Harold Moore as pres. of Western Golf Assn. in December. A member of Knollwood in Lake Forest, Ill., he was a WGA vp from 1957 through 1959 and is on the nominating committee of the USGA. Elected with Royer were the following vps: William P. Cagney, jr., Norman G. Copland, Cameron Eddy and George K. Whyte; treas., William F. Souder; secy., Ralph A. L. Bogan, Jr.; and counsel, Adelor J. Petit, Jr.

Western Golf now has 415 Evans scholars in school and in 1959, $304,000 was added to the scholarship fund.
Swinging Around Golf
(Continued from page 54G)

pro at Edison club in Schenectady, advisor on course being planned for Ravenna, N. Y. by Charles Fisher, Jr.

Directors of Valley View CC, Albany, Ind., have decided to buy 165-acres as site for 18-hole course... Present 9 will go out when highway comes through... Milford, Conn., residents pushing for a new 18-hole muny course... 18-hole Riverside CC course being planned for Macon, Ga.... Face lifting on Nashua (N.H.) CC course completed last fall... Eight greens were replaced... Indiana gets fifth Par 3 with building of short 9 in Monticello... Park board pres., Leo Donovan, favors new public course for Peoria, Ill.... He wants to get it started next spring... Key West (Fla.) Citizen says city missed boat this year in needed improvements to attract tourist trade... For one thing, a bigger course is needed.

Work started last fall on Wallace Hills, new public course for Maryville, Tenn.... Work in progress on municipal course in Loveland, Colo.... Someone got busy at Macon (Ga.) Telegraph last fall and took census of the state's courses... They were surprised to find that there are 108, 15 in the Atlanta area... 150-acre Bill Brown Health Center, Garrison, N. Y. has been purchased for conversion to a course.

James K. Thomson, for 40 years pro-supt. of Mohawk GC, near Schenectady, N. Y., was honored at a dinner last fall given by 200 former caddies who had worked under him... They included doctors, lawyers, clergymen and businessmen... 850-acre Chattahoochee Plantations real estate project in Marietta, Ga. probably will have a golf course... Conn. State GA has elected William G. Parks pres. for 1960... Burlington Mills Industries to construct Par 3 for employees in Greensboro... Gene Hamm will supervise its building.

Ed Lund is golf instructor at Green Farms Golf, new sports center in Westport, Conn.... Tom Shiel resigns as assistant to Carroll Mac Master at Woodholme CC, Baltimore, to take his family back to Scotland... Tom conceded it was a case of homesickness... Leo Chizinski, pro at Chippanee CC, Bristol, Conn., for 15 years, was honored at a testimonial dinner, given by members, last fall... Shortly before, he had finished as runnerup for the state PGA title... John Kellar, pro at Berkshire Hills, Pittsfield, Mass., also was given a "night" by club admirers... Air National Guard builds Par 3 at Collins Field, near Alpena, Mich.

Whitefish, Mont., to expand present 9 to 18... Arrowhead CC, Chillicootie, Ill., contracts for construction of first 9 of its course... Romie Erdmann now pro at North Shore CC, Milwaukee, succeeding Ed Landeen... Erdmann was at North Hills, Menomonee Falls, where he was Tom Milward's asst.... Ben Harmon of Santa Rosa to design and build Fredericksen CC course, near Orland, Calif.... Public Golf Course (Continued on page 106)
Combine Jacobsen, Worthington Sales Organizations

Consolidation of sales of the Worthington Mower Co., a subsidiary of Jacobsen Manufacturing Co., Racine, Wis., under the direction of Charles A. Livesey, Jacobsen vp, sales, has been announced by Pres. Einar A. Jacobsen. Worthington, the country's oldest producer of large acreage grass mowing equipment, was purchased by Jacobsen in 1945. Manufacture of Worthington products will continue in Stroudsburg, Pa., under the supervision of H. G. Sanborn, Jr., general mgr.

With the combining of Jacobsen and Worthington sales, Livesey announced a reorganization of the Jacobsen sales dept. and creation of new divisions for consumer and commercial products. Orville R. Lawson, former Eastern div. sales mgr. has been named general sales mgr. of the company. John W. Reihman, salesman in Southeastern N. Y., has been appointed field sales mgr. Frank C. Ranney has been named to the newly-created position of consumer products mgr. Prior to his promotion, Ranney was Western div. sales mgr. Previously in charge of sales promotion, Roger J. Thomas has been appointed to the new post of commercial products mgr.

Exhibitors at Clearwater

Exhibitors at the annual PGA meeting in Clearwater, Fla. in Dec., included Wilson Sporting Goods Co., The MacGregor Co., Bowen, Inc., E-Z-Go Golf Car Co., Munsingwear, Golcraft, Inc., Acushnet Process Sales Co., First Flight Co., Spalding and U. S. Rubber Co. Bowen, Inc., maker of Wm. Joyce shoes, Munsingwear and E-Z-Go sponsored the most elaborate show of the conference, a cocktail party at which Joyce shoes and Munsingwear apparel were modelled and E-Z-Go cars were on display.

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Soft, smooth-skinned Terra-Tires, manufactured by Goodyear, provide insurance against damage to fairways by golf cars. Because of high flotation and low ground-bearing pressure of Terra-Tires, cars, it is said, can be driven through sand traps (not a recommended practice) without digging into the sand. The tires will not sink into the turf or leave ruts even when fairways are rain-drenched.

**Flexibility is Feature of Uscolite**

Uscolite plastic pipe, made by U. S. Rubber Co., is noted for its flexibility, according to the manufacturer. Light in weight, it is said to be easier and quicker to install with less manpower than many types of pipe and because of its flexibility, it can be curved without fittings. Uscolite has high impact resistance and is said to be absolutely impervious to corrosion by soil or water. Complete information about its use for courses can be obtained by writing to Dept. USCO, U.S. Rubber Co., Rockefeller Center, New York 20.

**Two West Point Appointments**

Appointment of Horace C. Shuman as vp and general mgr., and William J. Leighton as sales mgr., has been announced by Tom Mascaro, pres. of West Point (Pa.) Products Corp. Shuman came to West Point last year from Conoflow Corp., and Leighton formerly was a territory mgr. for F. J. Stokes Co. of Philadelphia.

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BUYER'S SERVICE • P. 103
Schram Succeeds Carlson as Comptometer President

J. A. (Jack) Schram, head of the Burke Golf div. of the Comptometer Corp., Chicago, has been elected pres. of the parent firm, succeeding A. E. Carlson, who resigned the latter position because of poor health. Comptometer acquired Burke last year. Schram attended University of Illinois, served four years in the Air Force and is an officer and director of several companies including PGA Distributors. He says that Comptometer will continue its acquisition and diversification program which was begun in 1958. Carlson will remain as a Comptometer director.

Spalding Makes Change to New Catalog Format

For easier reference and visibility, A. G. Spalding & Bros., has gone to an 8½ by 11 inch size for its golf professional catalogs. The new catalogs are handled for filing. Cover is four-colored and features the famed Spalding bird atop the Dot. Among the many features are greater detail on the construction of the clubs; emphasis on the new Distance Dots to which an entire page is devoted; a golf bag section in full color; a page on the Spalding Tee-Slax and Walking Shorts; and pictures and biographies of consultants.

New Nyracord Compound Strengthens AMC's Floor Matting

Ameritred, American Mat Corp's new floor matting, is made of the newly developed Nyracord compound which is said to offer unequaled resistance to wear, scoring, denting and puncturing. It also helps reduce noise, is slip resistant when wet or dry and is easy to clean. It comes in various colors, rolls 35-in. wide, 3/16 ins. thick and 40 ft. long. Descriptive literature can be obtained from American Mat, 1802 Adams st., Toledo 2, O.

3-SECTION ROLLER

An 80 inch roller with full oscillation for all sections. Water ballast 12-gauge welded steel rollers with rounded edges. Sand and dirt resistant alemite equipped hardwood bearings. Filled weight 600 lbs. per section. Frame of heavy welded steel construction complete with ball type hitch and mud scrapers. Painted rust resistant dark green.

2-SECTION ROLLER

Shipping weight, 480 lbs.


Also, we have five-section rollers

For fast, clean-plug aerifying — THE NIGHT CRAWLER — now available — plugging ½'' holes spaced 2 inches by 3 inches apart.

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FOR FINER GREEN MAINTENANCE

Use the entirely new

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The World's finest, fastest and safest sprayer and liquid fertilizer applicator.

KEEP YOUR GREENS GREENER AND CLEANER.
1-Will apply all liquid insecticides & fungicides.
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Time required 5 to 10 minutes for each green.
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Gibbs Named Sales Manager of Dunlop Sports Division

Appointment of Paul Gibbs as sales mgr. of the sporting goods div. of Dunlop Tire & Rubber Corp., Buffalo, N. Y., was made in November. For five years prior to his promotion, Gibbs had been asst. to the late Vincent Richards, vp of the sporting goods div. At the same time he also served as Eastern regional mgr. Since joining Dunlop 23 years ago, Gibbs has been very close to both the golf and tennis business. At one time he served as tour manager for Vinnie Richards, Bill Tilden, Fred Perry and other noted tennis pros. His office is at Dunlop's New York headquarters.

West Point to Introduce Battery Operated Greensmower

One of the new products to be introduced at the CCAS Houston show will be the battery operated Lectro Greensmower (Model WP-3) that has been developed by West Point (Pa.) Products Corp. It runs from a 12-volt industrial storage battery made by Auto-Lite that is rechargeable from 500 to 800 times. Of aluminum construction, it has roller chain drive, dual wheel powered transport and is equipped with a 12 blade reel, 20 ins. wide that will drop out for easy maintenance. The mower runs up to 4 mph and weighs 132 lbs. 60-70 and 90-amp batteries, weighing from 49 to 66 lbs, are available. Tom Mascaro says the Lectro has been thoroughly tested and will be ready for spring delivery. These advantages are claimed for the mower: No vibration and thus no compaction; simple on and off switch; constant, even power and 50 per cent reduction in noise.

B-Spee-D Firm Markets Light, All Purpose Sprayer

B-Spee-D Mfg. Co., PO Box 4634, Portland 2, Ore., makes the following claims for its sprayer and liquid fertilizer applicator: (1) Can be used to apply all liquid insecticides and fungicides; (2) will apply all liquid fertilizers and wettable and granular powders; (3) will wash all grass cuttings, leaves, etc., from greens. The sprayer weighs only 14 lbs. and there is no tank to be carried with it. The applicator can be raised or lowered so that it is no trick to spray the turf as well as flowers and shrubs.