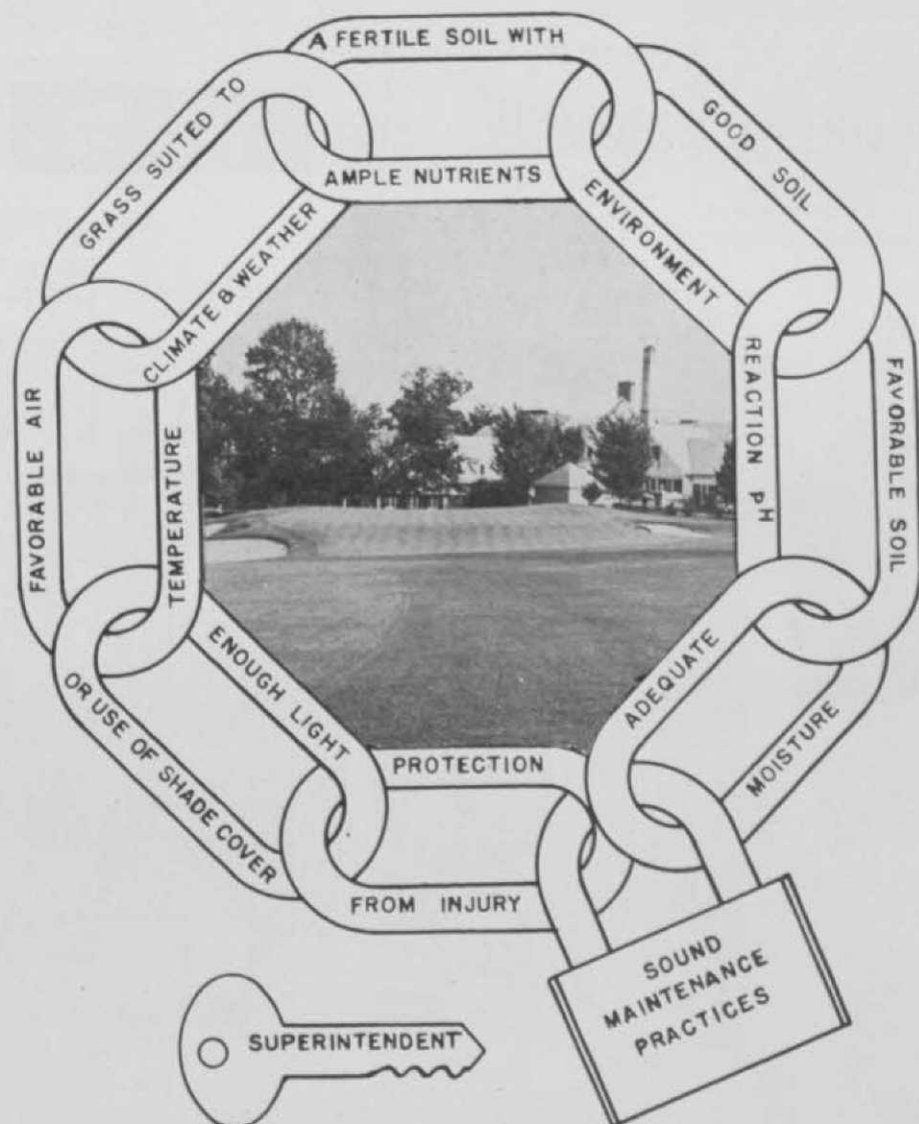


LAW of the MINIMUM

It goes back to what a 19th century scientist
said about soil and its weakest link

By CHARLES G. WILSON*



Knowledge Is The Key to Perfect Turf

Sound Management Locks In Good Turf

TURF, like a chain, is no stronger than the weakest link of management factors. This basic law of plant science is called "The Law of the Minimum." Wherever your location, it is one or a combination of weak links in the above chain that causes turf damage.

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● A Fertile Soil with Ample Nutrients: 14 plant food elements are essential to healthy growth. Failure to replenish these

Here Is A Summary of The 10 Basic Factors on Which Successful Turf Management Hinges

periodically results in soil bankruptcy. Often the fertility link is the weakest one.

● **Good Soil Environment:** The very best natural soils are deep and uniform in physical make-up. Thin layers of dissimilar material (hardpans in agriculture) cause trouble whether they be clay, sand or peat. A medium sandy loam with 10 to 20 per cent organic matter by volume is best for greens. Native soil must be used for fairways. Good turf is dependent on using the right amount of fertilizer and water on the right grass regardless of soil type.

● **Favorable Soil Reaction:** All grasses grow best in a soil that is neither too acid nor too alkaline. Soil tests provide this information. Favorable reaction improves tilth, essential plant food availability, and prevents some elements from becoming toxic. Samples must be taken at a constant depth of two ins. and results interpreted by a turf-grass agronomist to be meaningful.

● **Adequate Moisture:** Soils and grasses differ in moisture needs. The secret to the moisture link is applying the right amount at the right time. Excess moisture encourages diseases, weeds and compaction. It wastes fertilizer, causes shallow rooting and unhappy golfers. Too little results in dormant or dead turf.

● **Protection from Injury:** Weeds enter when mechanical damage, diseases or insects thin out the turf. Education is the welding seal on the "protection from injury" link. Teach golfers and employees to vary their traffic patterns and train the mechanic to keep mowers sharp. Protection from diseases and insects requires proper identification and preventive or timely treatments.

● **Enough Light:** Grasses need light to grow. Some need more than others. Bermuda and Kentucky bluegrass will not thrive under shade. Zoysia and St. Augustine in the South, and fescues, bents and annual bluegrass in the North, do well under partial shade. Moisture and fertilizer requirements are higher under shade because of tree root competition.

● **Favorable Air Temperature:** The most troublesome greens are surrounded by

dense trees or shrubs that shut off circulation. Grass on the low-lying green in such locations wilts and dies during hot weather. Annual bluegrass dies first; bent also may go.

● **Grass Suited to Climate and Weather:** Grasses must be suited to the climate and weather. Bent is not suited to Florida. Bermuda has no place in Alaska. Reverse the picture and one has a strong link in place.

● **Sound Maintenance Practices:** The padlock used to lock in perfect turf is sound management. The key to this padlock is the supt. Ability enables him to use each link in the chain as a check-off list to correct or prevent turf trouble.

● **Law of the Minimum:** In the 19th century, the German scientist, Von Liebig, stated it this way: "Plant growth is regulated by the factor present in minimum and rises or falls accordingly as this is increased or decreased." It applies equally to the vast geographical area that is the U. S. In fact, it applies to the entire universe.

● **Increased Knowledge is Answer to Perfect Turf:** Since fundamental factors of plant growth never change, successful supts. long have made it a habit to meet annually and review new concepts and techniques as well as old and proved practices. Their 28th National Turfgrass Conference and Equipment Show, being held this month at the Kentucky Hotel in Louisville, has been arranged solely for this purpose. Appropriately enough, the theme is "Management." The progressive supt. knows that attendance and interest in the other fellow's problem will enable him to do a better job at home. Many leading golf clubs feel the same way. They make sure their supts. attend by defraying expenses.

Paul Heads SCGCSA

New president of Southern California GCSA is Jack Paul of Los Angeles CC. He succeeds Jack Baker of Valley Club, Santa Barbara. Other officers are: Rod Barker, Sr., Fullerton G&CC, vp; Elmo Feliz, Griffith Park, LA, secy; and Joe Martinez, Bel-Air, LA, treas.