

understand how ineffectual the medical profession would be without the benefit of a scientific approach to their problems.

In its simplest terms, a scientific method may be any method that applies a logic of effective thinking, based on applicable science, to the solution of a particular set of problems. Such a method is applicable in an "exact" science, as in the case of the physical sciences, or in an "inexact" science as in the social sciences. Professional management in solving business problems merely combines the logic of effective thinking with the facts gathered by the scientific approach. It differs from traditional management in the manner in which decisions are made, i.e., decisions made under professional management are based on facts developed by a studied approach, as contrasted to predicating decisions primarily on opinions, prejudices and unsound rules of thumb.

Management, as a function in an organization, plans, coordinates, motivates and controls the efforts of others so that the entire organization moves toward specific objectives. It follows then, in the case of a golf course that management is

a function of executive leadership in golf course operations. The managerial functions (of the superintendent) involve planning, coordinating and controlling the activities of others in accomplishing the organization's objectives, within the framework of the policies set up by the club.

If one were to summarize, in as few words as possible, the nature of the management function, perhaps the best reply would be "decision making." Decision making itself is simply the selection of one alternative from a group of two or more alternatives. Among this group can be found the alternative of maintaining "status quo." This possibility should not be underrated, for this, in some cases, may be the best solution. The number of alternatives available, of course, is limited only by the imagination and resourcefulness of the analyst—the manager.

Note: The foregoing paragraphs are excerpts. The full text of Mr. Lilly's paper appeared in the August 1960 issue of USGA Journal.

Importance of the Superintendent in Training and Direction of Workers

By DR. GENE C. NUTTER

Member, USGA Green Section Committee, and Executive Director, Golf Course Superintendents Association of America, Jacksonville Beach, Fla.

A watch is one of the most marvelous and useful instruments of mankind. It commands a position of pivotal importance in this unique age when time is considered our fourth dimension. In a way, this delicately integrated, complexly mechanical organized system acts as the hub of our world—and yet how much we take this essential instrument for granted.

On the other hand, this same marvelous mechanism, when disorganized, disassembled, torn apart and no longer meshed, is of no value to society. All of its jewels, balance wheels and working gears have no value per se. It is the organization of these various and specialized parts which give value to the watch.

So it is with the role of the superintendent in golf course operations. The most beautifully designed architecture,

the most extravagant clubhouse, the most verdant grounds, the biggest name professional or the most famous membership will not long enjoy these advantages unless they have also employed a professional golf course superintendent to insure the useful longevity of their facilities—and their golfing pleasure. The golf course superintendent, like the watch, is often taken for granted. But, also like the watch, he is the real hub of a golf course facility.

Social activities can thrive in town clubs, hotels and restaurants. Yachting clubs can enjoy their activities on the natural waterway of our fortunate land. But gentlemen, a golf course, despite public viewpoint, is not a natural asset. A putting green e.g. is the most advanced and intensive agriculture production known. Only a well trained qualified

superintendent can maintain the delicate balance between successful grass production on the golf course and the adverse effects of the increasing demands of golf. Furthermore, the problems of golf course management are increasing, as evidenced by spiraling interest in golf, the rushing increase in golf cars, and the economic problems of higher cost of labor, supplies and equipment.

A Special Vocabulary

Turf-grass technology has advanced rapidly since World War II. Evidence of this is the specialized vocabulary of the modern golf superintendent which includes such terms as systemic herbicides, broad spectrum and antibiotic fungicides, pelletized and controlled nitrogen release fertilizers, gaseous soil sterilants, calcined clay soil structural amendments, poly-cross bentgrasses and tensiometrically controlled irrigation systems. Industry and turf research institutions have made this development possible. But, only the qualified, professional superintendent can combine these tools with his knowledge of soils, biology, grasses, ecology, business management and labor management to provide the high quality golf facilities demanded of our age.

Thus, I am pointing out indirectly that the superintendent is the focal point of golf facilities. It follows then, that he must also be the focal point in the training and direction of his workers, because the sum total efforts of his workers reflect and become the products of his leadership, technical ability and management efficiency. It logically follows also, that factors which decide the selection, management and attitude of the superintendent—decide or at least have some bearing on, the selection, quality and performance of his workers.

Three Serious Problems

Three serious problems face our golf course superintendents—and GCSAA, as the "Voice of the Superintendent." While these problems are not directly concerned with training and directing workers, they definitely and consequently affect this aspect of the superintendents' work because they have a strong influence on the kind of help available for golf course work, on the working facilities and conditions, and in the final analysis, on the

kind of superintendents. These problems are:

1. To create an awareness by golfers and club members of the problems and ramifications of golf play and player habits on turf condition and golf course maintenance operations.

Golf Cars Affect Turf

The use of golf cars is increasing and every phase of golf is now looking on cars with renewed interest and with keen anticipation of increased revenue. Yet, in all of this enthusiasm, no one seems concerned with the effect of cars on turf wear and tear—a definitely established problem.

In northern areas, later and later fall play has conflicted with standard maintenance practices essential to root renewal of the turf and reconditioning for the following season. Many other such problems could be cited.

There is no question that it is the superintendent's responsibility to educate his members to these facts. Neither is there any question that the superintendent should shift his practices to the interest and desires of his members. However, there are limits to the adverse effects that grass as a biological organism will tolerate. On some courses and under some conditions these limits are rapidly being approached, and future trends and pressures of the game are increasing the rate of this decline.

2. The general lack of knowledge and recognition of the role of the golf course superintendent in golf.

This relates to the first problem, but has the direct effect of influencing the kind and number of men attracted to the superintendents' profession. Because of his behind-the-scenes role, it has been difficult for the superintendent to gain professional recognition or status, even though his work requires knowledge of many biological disciplines, practical engineering, business management techniques and an increasing demand for public relations and administrative ability.

This thwarted recognition of the real superintendent and his profession has prevented qualified young men from becoming superintendents. They are either unaware of this really attractive and challenging profession, or they shy away because of the unfavorable concept of the

work, or the unattractive wages. This problem affects golf club operations and golfers, and any help from the other quarters of golf will be an assist—but not just to the superintendent—but to the game.

Again, this problem affects the training and direction of golf course workers because it influences the kind and quality of available help.

3. The problems of securing and training qualified, professional superintendents.

Here lies one of the real challenges of the superintendent, his profession and our Association. It is a problem so basic and vital that it must be solved before we can logically or intelligently talk about training or directing workers.

Replacements Needed

This problem is driven home in stark realization when we point out certain statistics. The majority of our leading superintendents come out of the grand old golfing era of the '20s and '30s and are now rapidly approaching retirement. Their average age well exceeds 50 years. Very few men entered golf course work during the depression, none during the war years, and few thereafter, until the mid '50s. Consequently, we do not have an adequate reserve of trained superintendents to replace the anticipated 300 yearly retirements. Add to this the 200-300 new golf courses constructed annually that must secure qualified superintendents, and we can foresee 500 vacancies per year. Where do we get qualified replacements?

From our colleges, we would like to tell you, because it is true today, and will be more so tomorrow, that the successful golf course superintendent be a college educated man. Some of our most promising men today have postgraduate degrees because it is very difficult to squeeze into the normal four-year college curriculum enough of the wide range of subject matter required for professional superintendents' schooling. However, the advanced degree is not necessary, if the undergraduate program is well designed, and if the student will supplement this schooling with night school and correspondence courses and other self aides. On top of this college study the trainee must build practical experience in golf course management and the art of golf course

grooming. Then, if he is diligent, energetic and productive, he is in position to become an outstanding, professional superintendent.

Few Turfgrass Graduates

Where, then, do we stand on the number of college graduates in turfgrass management? In 1960 there could not have been more than 50 graduates in turf from all of the colleges and universities in the U. S. Of these graduates, many went into phases of the turfgrass industry other than golf.

So, you see quickly the gravity of our problem, and if you are far-sighted, you can visualize the impact on golf. We are indeed fortunate to have great help and support from the Green Section, which initiated our earliest advance in turfgrass technology and has striven always to improve our knowledge. However, the problems I have discussed here are problems that the superintendent himself must solve.

An Educational Program

GCSAA is moving to improve this situation by developing a three-pronged educational program consisting of: (1) scholarship promotions for undergraduate students, (2) educational programs, such as our Annual International Turfgrass Conference opening next week in Toronto, which are designed to advance the knowledge and professional level of our superintendents and to keep them abreast of the rapidly moving technology, and (3) correspondence courses, now under development, to reach worthy and interested men unable to continue their training at colleges.

As we work to solve our problems, we reiterate that we recognize our responsibility to our own profession and to golf. We emphasize our desire to move ahead as rapidly as possible. At the same time, we enlist the understanding, the patience and the assistance of all departments of golf. Only through the solution of the three basic problems will we really answer the secondary needs of training and directing help. And, only by making you, as golfers, aware of these problems can we solicit and encourage your help. It has been my intent and my privilege to review these problems with you today.