



Trackster raking traps.

Research and Innovation Means Economy

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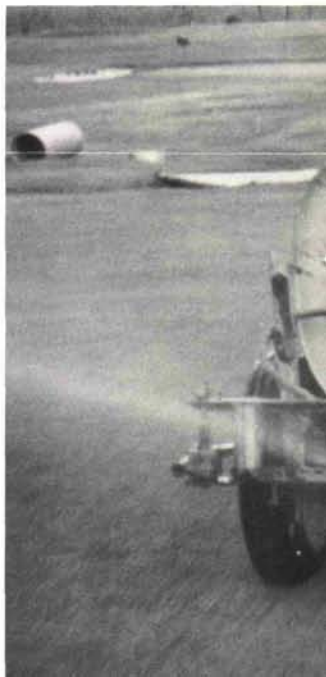
Research and innovations are constantly changing our way of life. New machines are being developed so that one central unit can handle all banking statements for several large cities. Medicine is using research to cure previously "incurable" diseases. People today are living longer because modern sciences have discovered ways to transfer organs from one human to another. Research and innovations are making it possible for employers to use available manhours to a much greater degree of efficiency. The computer can do more jobs more economically than man. Paints are being developed that will withstand weather longer, hold colors better and give better protection to the surfaces to which they are applied.

Initial investments in materials and machines are normally greater than those of yesterday. However, many of the machines are multi-purpose. Many of the materials have been developed to such a degree that it is not necessary to use the quantities or number of applications to obtain the same or even better results.

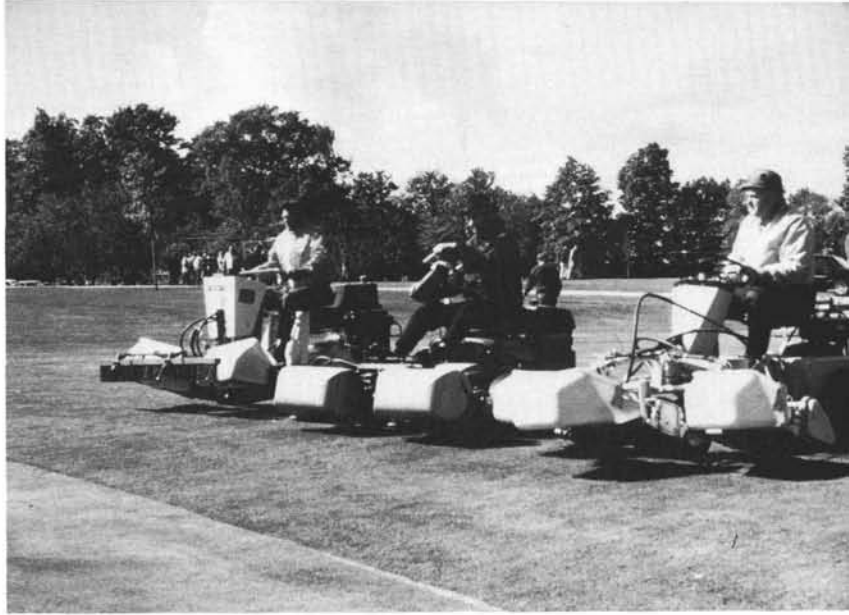
Golf courses are the same as other businesses. Courses must operate on some type

of budget. Wherever budgets are concerned, labor costs play a substantial role in how effective the budget is in achieving the desired results.

New nozzles add speed and accuracy to spraying operations.



Three different triplex putting green mowers.



Manpower is a main concern to golf courses. Good crews are hard to find since golf courses must compete with labor unions' pay scales to retain good, reliable help. Since manpower is more costly, machinery and chemicals must be developed to cope with the situation. Machinery has been developed to reduce the time needed to perform certain operations. They not only save time, but also reduce the number of men needed to do a specific job. This is not to advocate smaller crews, but with the machinery on the market today, a crew of from eight to 10 men can accomplish more work. New machinery makes it possible for one man to mow greens while men who had been used for greens mowing can now be assigned to trim trap edges, repair ball marks on greens, trim around tree trunks and better manicure the course in general.

Triplex mowers are becoming more and more popular. These mowers have made a big

impact on golf course maintenance; time and labor saved by their use is considerable. Now one man can mow 18 greens on Saturday and Sunday or holidays and be finished by the time early golfers arrive. However, there are some drawbacks to the mowers, such as mechanical damage to weak fringes from constant turning of the mower, and the increased grain buildup on greens. Triplex units, as with many new products, were designed to be multipurpose. In addition to mowing greens, vertical mowing and spiking can be done with equal time saving compared to single units.

As noted, the constant use of triplex greens units has a tendency to encourage grain buildup. The speed and accuracy with which the vertical mowing operation can be completed with the triplex units makes it possible for superintendents to better control grain buildup. Increased vertical mowing also helps reduce the incidence of disease by removing the leaf that has a horizontal growth and allowing fungicides to better come in contact with the disease.

Bunkers on many courses are costly to maintain, and until recently all the work was done by hand. With the cost of labor and chemicals needed to maintain a well-groomed, weed-free bunker, the expense is surprising. Recently, power rakes have been developed that offer a tremendous saving in manhours. While visiting one course this summer, we observed a power rake in use. The operation was timed in five minutes; according to the superintendent, it took one man 30 minutes to do the job manually. Therefore he saves 25 minutes in labor on that one bunker every time it is raked. Power rakes are not only a great saving in labor, they also are capable of raking to a depth of three inches, which makes it possible for all bunkers on the courses to play



uniformly. The three-inch raking depth will be of great assistance in weed control.

Research is also paying dividends in areas other than machinery. Better fungicides are being developed to give the superintendent better control of diseases for longer periods of time.

Systemic fungicides have been developed recently that are reported to give excellent controls over dollar spot and the snow mold diseases. Systemic fungicides also have the added benefit that normal rains following application will not wash the chemicals away. In fact, unlike the use of other fungicides, watering helps get the systemic fungicides into the plant. Systemics are not the cure-all by any means, but using them in conjunction with other fungicides can provide a very strong disease prevention program.

Strong chemical programs have been encouraged by improved equipment, which has reduced the time required for spraying. New sprayers with 20- to 30-foot booms, tee jet nozzles, mist blowers and even helicopters are being used to increase efficiency and reduce time needed to apply spray chemicals. More and more golf courses are spraying fairways because of the desire of members to have near

perfect turf. Now, because of the improvement in spraying equipment, fairway fungicide treatments are the rule rather than the exception.

Records of time spent on jobs of every description should be kept by the superintendent. Good records can provide time and motion study information that will be invaluable when trying to sell the green committee on the newer and more sophisticated machinery. Many superintendents have been heard to say, "The only way I can buy anything is to convince the Board that the item will save the club dollars." A very fine article for assistance in establishing a good record keeping program is one by Alphonsas A. Barauskas in the March, 1971, issue of the *USGA Green Section Record*, entitled "You Can Do Something About the Whether."

The superintendent's job today is more demanding than ever. Not only must he possess the technical knowledge to grow fine turf, but he must also keep accurate records of the time spent on each phase of the maintenance program. He must consolidate technical as well as practical knowledge and produce an economic and agronomically sound maintenance program.

SUPER SAM

by Paprocki

