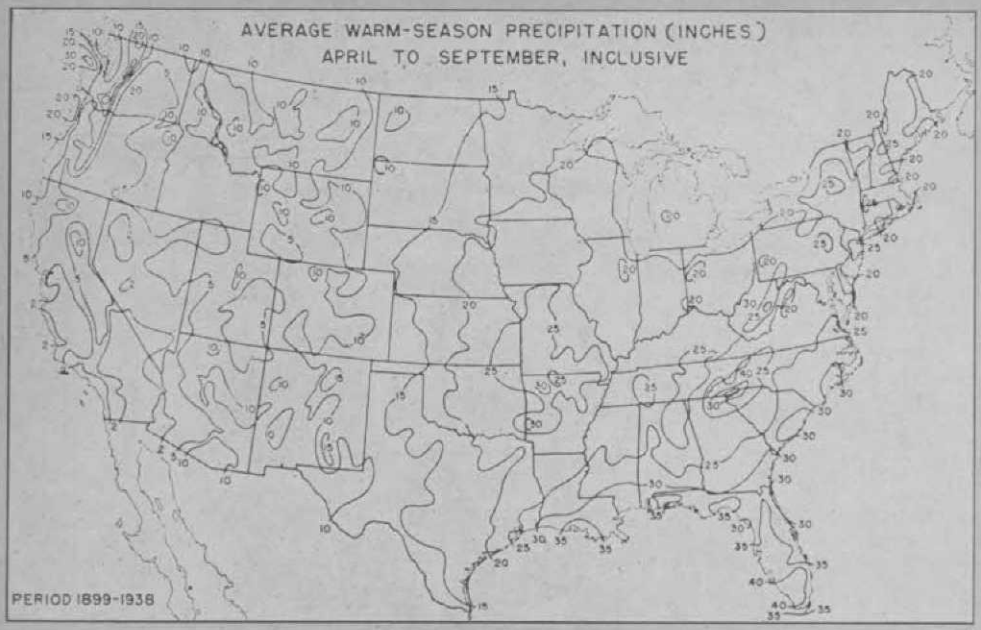

Don't Depend Too Much on the Rainfall Pattern

By ROBERT C. MUELLER

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Shown here is a map of the U. S. with the average warm season precipitation. In many areas of the country the average warm season precipitation looks great enough to properly maintain an acceptable turfgrass cover on a course. One thing these averages do not show is the timing and frequency of the rainfall . . . and this is most important. Nor do they tell how much fell; how much ran off without soaking into the soil. The beautiful lush green areas of the western slopes of both Oregon and Washington have annual precipitation figures of 40 to 100 inches. But the timing of the rainfall is so poor that extensive irrigation has to be carried on throughout the summer months to maintain a healthy turfgrass cover on golf courses.

The general Midwest area, where warm season precipitation ranges from 20 to 30 inches, means that there could be as much as 120 days out of the approximately 180 day growing season with no rainfall. Periods of 7 to 14 days with no rainfall are a common occurrence enough times during the year to hold back turfgrass growth to the point that it loses traffic resistance.

Much of the area of the state of Florida has 30 to 40 inches of rainfall during the warm season. But much of the state has very porous soil with low moisture-holding capacity . Irrigation is the only means of keeping turfgrass green through periods of high temperatures and no rainfall.

Two Factors Involved

So when you go out to look at the 13th fairway or the hilly area around the seventh and eighth holes, at least two factors might be causing the brown, uninviting, sick turf — inadequate timing of rainfall for optimum growth of the turf, or soils of low moisture-holding capacity that cannot maintain satisfactory turf from one rainfall to the next.

What is the answer to these low soil-moisture problems? The obvious answer is irrigation . . . to maintain proper mois-

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Rainfall Pattern Unreliable

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ture conditions throughout the growing season for top quality turfgrasses. Grass plants can use as much as 1000 lbs. of water to produce 1 lb. of dry matter. Proper irrigation — the right amount of water at the right time is one of the major keys to beautiful, healthy turf.

Have Worked Out Well

There are two basic types of sprinkler irrigation systems that have proved very satisfactory for courses:

1. Buried main lines with portable sprinkler laterals.
2. Buried main lines with buried sprinkler laterals.

As the name implies, the first type involves a buried main line running strategically through the course with special hydrant risers to which portable sprinkler lines can be attached. The sprinkler lines can have special couplings that make it possible to couple and uncouple the lines readily for moving to other locations as the watering cycle requires. This is the type of system used extensively in agriculture throughout the world.

It also is possible to use hoses with sprinklers attached. These can be moved from one location to another as required by the watering pattern. Both of these portable sprinkler line systems have the highest labor requirements of all the types.

Used Most Extensively

The other basic type of sprinkler system is used most extensively for all turf areas. This type embodies both buried main lines and lateral or branch lines to which the sprinklers are attached. This system, of course, is permanently buried. The sprinklers can be moved from one location to another around the course by means of quick-coupling shut-off valves. The valves are installed at each connection location for a sprinkler.

Perhaps the greatest breakthrough in turfgrass irrigation system design is the fully automatic system. This too is buried with large pop-up sprinklers attached to the various lateral or branch lines. The pop-up sprinklers are completely controlled either hydraulically or electrically from a control panel.

Locked Against Tampering

The control panels can be pre-set, so that sprinklers will operate on the proper timing sequence throughout the course

on a pre-determined cycle to provide the correct timing and amount of water necessary for each condition of soil, topography, and grass plant requirement. Some areas might require water every day . . . others, only every other day. Thirty minutes here . . . two hours, ten minutes there. Whatever the requirements, the panel can be pre-set for a week at a time. They can be locked, too, to eliminate tampering. One landscape architect maintains that the panel should be welded shut after the controls have been set. Locking should be sufficient . . . that's just his way of emphasizing his point of no tampering.

It is obvious there are varying labor requirements, life expectancies, initial costs for the different types of systems. Consider all factors in your economic analysis . . . initial cost, installation, water, labor, upkeep, life-expectancy and replacement costs. The important thing to you, in your analysis, is the cost per hole per year for the life of the system.

The field of sprinkler irrigation system design is a highly technical one. Design factors of soil, plant-water requirements, labor, turf traffic, topography must be taken into account in designing the system. Make certain that you get a fully qualified designer who will provide a sprinkler system to meet conditions on your course.

Edison's Project Day

For the last 30 years, Edison CC in Rexford, N. Y., has had a "project day". Members form a group and pick a course project to be completed. It is chosen from a list prepared by the golf committee. The work is done in the morning and in the afternoon a tournament is held.