

Here is a fast, easy reference to the most frequently asked questions about automatic irrigation

Automatic Irrigation: Ask the Experts

By the EDITORS and FRED V. GRAU

The following questions, which were gathered by Dr. Grau from superintendents, represent the areas most puzzling to superintendents. GOLFDOM asked the major manufacturers of irrigation equipment to answer at least one question. The responses, therefore, are solely the opinions of the individual manufacturers.

Question: Are present mains usually adequate or must all new lines be installed?

Answer: This would depend on the requirements of the golf course. The amount of water and pressure needed will vary with each course due to the layout. After the quantity and pressure are determined, the municipal water authority should be consulted. Quite a few courses use existing water facilities. Where pressures are not adequate, a booster pump can be used.

(Certain-Teed Products Corp.)

Answer: Generally, a manual system will have mains that are oversized for an automatic irrigation system. The reason for this is that much larger volumes of water are required per fairway on manual systems than automatic systems. It is virtually impossible for the irrigator to run around the golf course and manually move each individual sprinkler(s) down each fairway, nine or 18 fairway outlets (let's say) No. 1, No. 2 and perhaps one-half of No. 3. These sprinklers all operate for a particular period of time and apply a



prescribed amount of water.

The number of sprinklers that the irrigator uses depends on the capacity of the pump and the gallonage required per sprinkler. Because it is running several sprinklers on the fairway, the main must be sized to carry the gallonage required to run all sprinklers at one time. An automatic system is designed and programmed so that one or possibly two sprinklers are operating simultaneously on each nine or 18 holes of the golf course. Thus, the main on an automatic system can be sized to the gallonage required to run one or two sprinklers.

The above shows why the difference in cost between an automatic and manual irrigation system: piping materials are considerably higher for a manual system than automatic system. But the automatic system equipment (valves, controllers, and so forth) run the cost of the automatic system up more than the manual system. The justification for the automatic system is the savings in labor and assurance that the pro-

per amount of water is being applied at the proper time.

(Johns-Manville Sales Corp.)

Question: Which is better—double row or single row outlets?

Answer: There are many variables which enter into the above question, but logically a double row system is better than a single row system. Wide fairways indicate a need for double row sprinklers, but narrow fairways with high and variable wind conditions may also require double row sprinklers. If the sprinkler is to cover the fairway, and wind conditions are generally favorable, a single row system is totally adequate (and certainly less costly to the golf club).

(Johns-Manville Sales Corp.)

Answer: Most of the better golf courses used double row outlets. The double row outlets provide a better distribution of water and also keep the fairway clear of sprinkler heads.

(Certain-Teed Products Corp.)

Question: Will the system cut itself off in case of a down pour that comes during the night while the system is operating?

Answer: There are automatic shut-off devices on the market today that can be connected to the automatic controllers which will shut the system off in the event of rain. There are a number of factors that should be taken into consideration before this step is tak-

continued on page 50

ASK THE EXPERTS

continued from page 48

en, however. For example, will a rain shut-off device provide uniform distribution over the entire golf course? Will the rain shut-off device turn off the system if there is insufficient rainfall? Many superintendents prefer to "read the weather" and make their own decision rather than rely on a mechanical device. Central control systems on the market today enable the superintendent to cancel an 18-hole automatic system by merely flicking three switches in his office or pump house. Often it's better to allow the system to continue through one complete cycle rather than shutting it off in the middle of a cycle so that uniform distribution of water is obtained over the entire course. Naturally, in the event of a heavy down pour, he will want to turn off the system. This is one important advantage of a centrally controlled system. He does not have to drive over the entire golf course turning off the satellite controllers.

(Toro Mfg. Corp.)

Question: What are the guidelines of responsibility on the part of the firm making the installation? Should they come back to repair sunken lines, broken pipes, etc.?

Answer: The answer to this question will depend upon the written agreement between the golf club and the contractor prior to installation. Most contractors will assume responsibility for repairs to the system for an agreed upon period of time after date of installation. The contractor's responsibility, of course, would be limited to repairs required as a result of the installation. Modifications or additions would not fall into this category.

(Toro Mfg. Corp.)

Question: How many pumps and what type and size are needed for an average 18-hole course?

Answer: We prefer a multi-pump

system as opposed to a single pump. Two pumps minimum, one small pump (200 g.p.m.) and a larger pump (600 g.p.m.). Many times a three pump system is desirable. Multi-pumps give stand-by operation should a pump fail, and also give greater flexibility to the system.

(Rain Bird Sprinkler Mfg. Corp.)

Question: Are there any guarantees that the system will not be under-designed?

Answer: The best assurance that the system will not be under-designed lies in the choice of an experienced and qualified sprinkler system designer with references from previous golf course installations from his designs. Once chosen, give the designer every assistance in determining the particular characteristics at the course, such as water sources, soil conditions, exact width, shape and length of fairways, greens, tees and other areas that will need water, wind conditions, number of hours per day that sprinklers can operate without interfering with play. Much of this information furnished by the superintendent can be very helpful to the designer in avoiding any misunderstanding that could result in a deficiency in the system or an over-design resulting in unnecessary costs.

(Buckner Sprinkler Company)

Question: What is the extra cost of an automatic system compared to a standard system? What is the extra cost of two rows of pipe in the fairways compared to a single row?

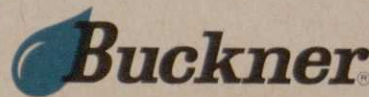
Answer: There is wide variation, but generally the cost will run two to 2 1/2 times more for an automatic system. The two row system will run approximately 15 per cent to 20 per cent more than a single row system.

(L.R. Nelson Mfg. Company) □

Editor's note: In the months to come, GOLFDOM will be publishing more questions and answers concerning on automatic irrigation systems.

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