

A unique and courageous program for greens management



Last August Marvin Ferguson, then United States Golf Assn. consulting agronomist for the Southwest, made his final visit to Boulder (Colo.) CC in that capacity.

His later report concluded: "... the greens are very interesting. They appear to be hungry, but they are easily the best putting surfaces I saw in Colorado. Leaf blades are finer textured and there appears to be no mat nor grain."

Dr. Ferguson's opinion confirmed a belief that Boulder CC superintendent Stanley Metsker has held for some time and has been implementing in his maintenance program at Boulder. This, despite the fact that the maintenance program needed to achieve

By Jerry Claussen

the excellent putting surfaces described by Dr. Ferguson, had to be both different and courageous.

Briefly, Metsker believes that trouble comes from overfeeding. Therefore, less fertilizer and less frequent watering encourage deeper roots and discourage coarse leaf blades (grain).

Boulder CC was founded in 1918 and is now at its fourth site. The present regulation 18 holes and par-three nine were opened in 1964 and are part of a residential development. The course was designed by J. Press Maxwell. Stan

Metsker helped in the building and stayed on as superintendent.

The cover of the greens has been Penncross bentgrass since the course's beginning. Green profiles consist of an 8-inch layer of gravel, topped by an 8-inch soil layer and then a 12-inch seedbed layer. The top mix included 60 per cent coarse sand, 20 per cent native clay loam and 20 per cent peat moss.

From the outset Metsker was conservative on his greens feeding program. In 1964 Dr. Ferguson recommended minimum nitrogen applications to discourage "fluffiness" with Penncross.

Metsker has put the theory into

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Dr. Marvin H. Ferguson

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practice and it works. He believes that attempting to achieve dark green color and rapid growth simply wastes water and fertilizer. Physically, the volume of clipping gotten through such a process proves this. With Penncross the byproducts of such a program, he says, are shallow roots and grainy putting surfaces.

Fertilization of the greens at Boulder CC is done with only about half as much nitrogen and water considered the "standard" amount for greens in Colorado.

Physically, the light feeding results in less clippings—two baskets every other day from a 6,000-square-foot green as opposed to two or three baskets a day otherwise—and slightly lighter in color. Metsker adds that his members never complain about the greens, either grain or color.

From a maintenance program

standpoint, better greens lead to or are a result of the following:

- Less fertilizer used;
- Saving in labor costs;
- Less frequent watering;
- No grain problem;
- Absence of *Poa annua*.

Here's how the program works and how it saves:

Fertilizer—Normal application of eight to 10 pounds of nitrogen per 1,000 square feet is used at most courses in the area. Boulder CC greens get about four pounds per 1,000 square feet in four applications. They also get only a half pound of phosphorus per 1,000 square feet. Metsker says too much P only encourages *Poa annua*. Using soil tests as a guide, Metsker included one-third pound of potassium per 1,000 square feet annually. No ureaform fertilizer is used because erratic temperature changes, day-to-day and day-to-night, might cause burning. Acceptable color has been retained by applications of ferrous sulphate (iron) at three pounds per 1,000 square feet as needed.

Labor—Most country club mowing schedules call for greens to be cut six times weekly. Boulder CC greens are cut half that often—Tuesday, Thursday and Saturday. But volume of clippings indicates between-mowing growth is also half the normal rate. The schedule saves 13 man hours a mowing or about \$20. That adds up to about \$600 a season.

Water—The usual practice is to

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water greens every night, about one-fourth inch each application. At Boulder CC, greens are watered three nights a week (except in rainy periods). No labor is saved, since a water man is on duty every night anyway (Boulder CC has a semi-automatic fairway system with quick-coupling heads at greens). Water is not saved either, since each head runs two hours instead of one hour. But less frequent watering drives the roots deeper and discourages *Poa annua*, says Metsker.

Grain—Penncross tends to be fluffy and create excessive thatch under a heavy nitrogen program. Both problems are minimal at Boulder CC. The greens did not have to be aerified at all the first three years. To help water penetrate, they are now aerified in the spring and fall. Plugs are removed. Greens are then toppedressed with a

mixture of 60 per cent plaster sand, 20 per cent peat moss and 20 per cent calcine clay. Metsker has never verticut his greens. They were brushed once last season and spiked once.

Poa annua—After five seasons, only one small patch on one green of annual blue could be found last season. Metsker's goal has been to eliminate it. A pure strain of bent makes the smoothest putting surface. It also looks better, summer and winter, and there is almost no chance of losing a green due to desiccation, heat or disease. Greens have been treated with lead arsenate, also, but a constant toxic level has not been maintained. No fungicides have ever been used.

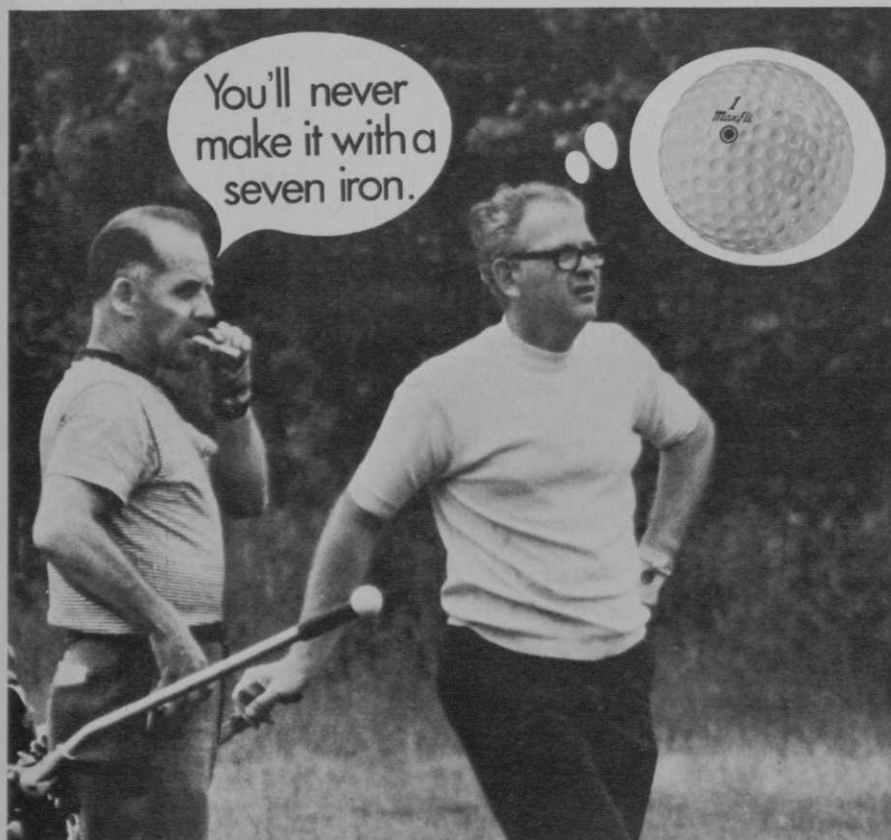
These are the basic elements of Metsker's greens maintenance philosophy. He does not claim that it will work on every course, in every climate, with every grass strain. But he is happy to agree with Marvin Ferguson that they produce the best putting surfaces in Colorado.

The superintendent concedes there are three minor problems caused by light feeding:

- Light color, a relative judgment, unnoticed by golfers;
- Ball marks do not heal as fast as they might otherwise;
- Replaced cup plugs show longer than they would otherwise.

On balance, though, advantages far outweigh these matters. Says Metsker, "Conventional methods are not necessarily the best for Penncross greens. We feel our program has proved itself here. The principles of deep roots and smooth surfaces apply everywhere. It takes more courage not to water than to over-water. But I feel this is what it takes to keep healthier greens. Our roots always go below the depth of the cup-changer. And I have never had a golfer complain about light or grainy greens."

In the final analysis, the golfer's opinion is the last word. At Boulder CC, the golfers are happy. □



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