tem was installed and a 4,000,000-gallon lake was built.

This lake, recharged from natural springs, not only provided the water needed to maintain the course, but enhanced the scenic beauty of the course.

Bidwell's attitude towards turf management also extends to his grounds crew which he inherited in 1965. Of his staff of 12, all of the living members of the original crew are still with him. In addition, he has five turf students on his staff during the summer giving them a "practical" education. He even has a dormitory on the course.

Perhaps the biggest change in Philadelphia CC was internal.

"He's not addressed as 'hey, greenskeeper' as are some superintendents by the members," says Poore, "but, as Mister Bidwell. The members hold him in their highest esteem because they know what he has done for the club. With the increase in inter-club tournaments, our course is continuously being compared to others by the visiting members. In turn, our members compare our club with visiting clubs. We are no longer reluctant to have anyone else see and play our club," Poore says. "On the other hand, we take great pride in showing off our course and the achievements of our superintendent."

Bidwell is one of the few remaining "rising up through the ranks" superintendents. His education comes from the school of "hard knocks." A recognition professional on turfgrass, as a youth he worked on a course and joined the GCSAA in 1934. He was president of the Midwest GCSA in 1964, a past director of the GCSAA and is a member of the Quarter Century Club.

Bidwell's philosophy towards his green committee and the membership emphasizes the communication and rapport which every superintendent should possess. "A professional golf course superintendent," he says, "is a man dedicated to his golf course. Golf course maintenance has never been, and never will be, an eight hour, five day a week job. A superintendent must devote his mental and physical energies to the growing season, sometimes working seven days a week. If he's not willing to make these sacrifices, then he's in the wrong business."

agronomists seem to be in direct conflict with the requirements (and demands) of the game of golf. We read that root systems are best when grass is cut high, but the golfer wants the turf cut closely. Nitrogen seems to reduce root systems, but if we do not use nitrogen fairly liberally, we don't have thick turf and good green color. Root systems are restricted with frequent mowing, but how else can we maintain playable turf? What's a person to do? (Virginia)

A—Your questions will gain a lot of sympathy. Sometimes I feel that instead of research reports saying, "mowing bluegrass at one-half inch restricts root systems" the researcher might better have learned to say, "when mowed at one-half inch a bluegrass turf had the deepest root system when fertilized with N pounds of nitrogen, when irrigated R times a week at I intervals with Q quantities of water and when aerated at I-I intervals. The variety of bluegrass under these conditions had the heaviest root systems and tolerated high temperatures."

What I've tried to say is this: Place the different varieties of grass under the precise conditions that are demanded by the game, then adjust management to determine which features are detrimental and which are favorable. The idea of setting the mowers high to grow grass is not what golfers want. This should not be construed to mean that we are critical of research work being done; it is just that we need better interpretation for actual playing conditions.

Q—The proposed restrictions on mercury, cadmium, arsenic and other long-time friends of good turf are causing considerable concern. Will we have acceptable substitutes for controlling weeds, diseases and insects? Will they be available in time? Where do we look for relief? (Illinois)

A—First, keep in close touch with your county agent and your turfgrass specialist from the state university. They keep in close touch with such developments, and if they don't know all the answers, they know where to get them. I am confident that the chemical industries will find acceptable, efficient, bio-degradable materials that will not add to pollution.