Drought, divots, disease deterioration and a dissatisfied membership were what the golf committee at the Philadelphia CC, Gladwyne, Pa., was offering in 1964.

On January 1, 1965, Warren Bidwell left the security of prestigious Olympia Fields CC, Olympia Fields, Ill., and accepted the challenge. Within two years, Bidwell had eliminated the five "Ds" and had recreated the championship golf course which was the home of the 1939 U.S. Open.

With unlimited funds and increased manpower, many superintendents could have equalled Bidwell’s feat. But, he had neither. He had to work within the same budget as his predecessor and with the same number of help. Bidwell, who has served as consultant to many golf courses, recognized the solution to Philadelphia CC’s problems could be solved by the simple procedure of management attention. “The membership wanted a championship course,” he says, “so I told them it would take me three years. I was able to do it in two years and not go beyond the old budget by managing the figures available. I spent money for the priority items: irrigation, fertilizer and fungicides.”

To understand the challenges facing him and his grounds crew one has to go back to the pre-Bidwell days at Philadelphia CC. The lack of irrigation combined with a long drought had seared the fairway sod. The plant battle on the fairway was not what bluegrass or bentgrass would predominate, but whether the silver crabgrass could overshadow the *Poa annua*. The infestation of the fairway with crabgrass and *Poa* resulted in the members, those that were still playing the course, not bothering to replace their divots. The course became so deteriorated that the members were ashamed to bring guests to play the course. Although the greens were in playable condition, the 103 sand traps on the course had more grass in them than the fairways or the narrow, 10-foot wide tees.

Bidwell embarked on a complete tee and fairway renovation program. “We had to renovate,” he explains, “because the original choice of grass was poor, the course needed upgrading, and *Poa* and crabgrass had to be eliminated with timely chemical applications. The antiquated irrigation system had to be replaced because it was incapable of providing the minimum moisture requirements needed to successfully grow good turf.”

Bidwell found his solution to the *Poa* and crabgrass fairways in Penncross creeping bentgrass. “Original-ly,” he says, “Penncross was thought of only as an excellent grass for greens and tees, rapidly replacing the vegetative method of planting. In fact, it was written into 90 per cent of all new course construction. But, the very advantages of Penncross, its rapid vigor and growth, prevented many superintendents from considering it for seedling fairways. Thatching was a big worry,” Bidwell says. “However, with the development of grooving tools and the thatcher-seeder, this problem was brought under control.”

He began overseeding his fairways with Penncross to crowd out the *Poa* and weaker grasses. By using verticutting and topdressing, plus eight to 10 pounds of nitrogen per 1,000 square feet, Penncross was properly maintained.

And to give the members something to think about, Bidwell left a 90-foot strip of turf on the third fairway exactly as he had found it while renovating the remainder of the fairway. “This served as a very graphic reminder of the condition of the course before Warren came here and what he could do for us,” says Francis Poore, chairman of the greens committee at Philadelphia CC.

One fairway that was 80 per cent crabgrass in 1965, is now 80 per cent (Continued on page 42)
bentgrass. In addition to overseeding, Bidwell recognized that divots are a way of life for the golf course superintendent. Although it can lend itself to an eyesore situation, he uses the seed and soil method to replace the brown divots. He does this approximately eight times a year using a minimum of domestic rye for immediate greening.

A final fairway turf problem had to be solved. Original plantings of bermudagrass had a foothold in several fairways, but it “froze out” creating ugly patches on the already scarred fairways. “By using Tupersan,” he says, “we were able to eliminate bermuda and not interfere with the normal germination of the Penncross bent seed.”

The extremely narrow tees at the Philadelphia CC also posed a problem. The course, built in the 1920s, was designed to accommodate approximately 12,000 rounds a year. Construction in those days emphasized small greens and tees. Then came the boom in golf. Philadelphia CC has 400 golfing members and had over 30,000 rounds played on it in 1970. The wear and tear on greens and tees, not built for this traffic and punishment, was inevitable.

Looking at the grassless tees in 1965, Bidwell realized they would have to be greatly expanded. He established a 22,000-square foot sod nursery on part of the course to resod and expand the tees. One section of the nursery is for greens, one for tees and one in a state of preparation. The nursery is all Penncross and the grass is cut to putting green specifications. He then lifts the sod and expands several tees a year (some he quadrupled in size) replanting the nursery for future tee expansion. It is not used strictly for tees. He has used the sod nursery to replace one green which was hit by nematodes.

Perhaps the most difficult task facing Bidwell when he took over the reigns of Philadelphia CC was in irrigation. A complete upgrading of the irrigation system was necessary to meet the needs of the new Penncross turf. But in addition to the irrigation system, the parched turf also needed more water. The totally inadequate irrigation system and supply could not meet the needs of his turf renovation program so a manual irrigation sys-
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 recognized professional on turfgrass, as a youth he worked on farms and joined the GCSAA in 1934. He was president of the Midwest GCSC 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 grasses 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.