

very morning. But there it was for the whole world to see, a definite disarrangement of the two strains.

The next season the disunion was more pronounced. C-19 which is the more aggressive, altho neither strain is known for its aggressiveness (this includes the C-27) produced larger areas. On our last visit we could not distinguish any of the Arlington.

From now on Mr. Superintendent will have to treat his greens as he would any other Congressional greens, which isn't too bad as Congressional makes beautiful greens, if properly maintained. He will have to treat it for brownpatch, fertilize it to force growth to lessen clover and poa annua, and at least once a year rake it out or use a Verti-Cut or similar machines.

The strains will disunite much earlier if over-watered. C-1 cannot take excessive watering and will thin out or disappear entirely. This may be the reason that mixed greens in the dry southwest do not detach so readily as in the moist midwest.

Now the thought arises, if the more aggressive strain has any or too many objectionable features, then it seems that we are much worse off than we would have been had we planted something better in the first place.

Tree Planting Plan Fits Aesthetics and Golf

By VERNE WICKHAM

GOLF course architects and builders have a problem of making the golf course that's an open space in a commercial or residential area a landscaping achievement as well as good golf architecture.

Many golfers who haven't much of an idea about the planting design to control and reward wise shot-direction get keen enjoyment out of the beauty of courses. The genius of the golf architect and landscape artist in making a course look like it is naturally beautiful presents an especially valuable blend of essentials in the case of the thoroughly well-designed course that is bordered by residential or commercial areas.

Trees, flowers and shrubbery added to the broad acres of green grass present a pleasing picture amid the blacktop and cement, brick, plaster and mortar of the city and the addition of color to the picture is rapidly finding favor with golf course planners and engineers as they

scurry to botany books and nursery catalogues to find trees that can supply the needed color.

The mid-west, south and eastern courses blaze with color in the Fall of the year but in California and Florida, where many so-called tropical trees can be used, the trick is to find trees that will supply year round color.

In the planting schedule for the new Eaton Canyon golf course near Sierra Madre, Calif., up against the background of the blue San Gabriel Mountains, officials of the Los Angeles County Department of Parks and Recreation selected a list of trees which when grown promise to supply almost year around color to the sporty nine-hole course. More than 20 varieties were selected in the 700 trees needed.

The area already had some native oaks, sycamores and eucalyptus and to this is being added, much like an artist puts color on a canvas, leaves, blossoms and color.

Several types of all-year green-leaved trees were selected to give contrast and color. The Italian stone pine with its bright green needles is being planted near the Virginia oak with its dark glossy leaves for contrast purposes. The grey green of the Canary Island pine provides the background for the eucalyptus ficifolia (flowered). The flame tree with its showy bright scarlet clusters gets its background compliment from the grey green of the Canary Island pine.

Some of the fairways will be bordered with two rows of trees on staggered lines with the lighter or grey green trees near the fairway borders and the darker, more glossy-leaved trees forming a background. Trees with as near year-around color as possible will be spotted behind the greens with heavy planting back of them to give a good background to the approach shot.

The complete list of trees selected for the Eaton Canyon job follows: Catalina cherry; Golden acacia; Italian Stone pine; Flame tree; Sycamore-London Plane tree; Canary Island pine; Sweet Gum; Chinese Zelkova; Orchid tree; Japanese Privet; Flowering almond; Idaho Pink locust; Virginia oak; magnolia; Coral eucalyptus; Scarlet eucalyptus; Strawberry tree; Redbud, and Arizona cypress.

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"Uramite" was applied to fairway turfgrass in early June 1954 at the rate of 15 lbs. per 1,000 sq. ft. The area (right) was fertilized with a conventional soluble fertilizer as a check. In October 1954, the area (left) that had received the "Uramite" showed excellent color, density, and freedom from weed infestation.



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Brainy, Hard Work Builds Muny Course Saving Money, Time

THE 9-hole municipal course at Woodward, in northeastern Oklahoma, presents an interesting, helpful example of rapid construction of a good course at moderate cost, and under testing conditions.

The course already has proved to be a substantial civic asset to Woodward, a town of 7000 population. In addition to contributing greatly to pleasurable living in the community and providing the young people with facilities for a sport that greatly extends the scope of their social activities, the course has figured in attracting industry to the town. Recently a garment factory, employing 400 workers, selected Woodward as its location, with the attractive course being the factor that gave Woodward the edge over competing towns and cities.

In constructing the course a year was saved by methods that allowed building to begin in March and which had the course in play in August the same year.

The course is a sound commercial enterprise for the city. In a typical 9-day period of good spring weather the course had more than 400 green-fee players, of whom 130 were from out of the city.

Construction and maintenance of the Woodward course proved that it no longer is logical to regard greens in this section of the country to be sand affairs, but that properly built and handled, grass greens can be standard.

Bob Dunning, of Bob Dunning-Jones, Inc., of Tulsa, Okla., and Joe Osborne of Woodward who collaborated in building the course, with Osborne nursing it successfully through surprisingly fast turf development despite adverse conditions, tell of this achievement in providing a town of 7000 with a course that many a much larger community envies.

Osborne says:

"When we started our course we figured it would cost about \$1000 per green to build it which would have been about right except that we got our sand and soil material free, as well as our dirt moving equipment.

"We also got the city to pay about \$1000 per month for four months for com-

mon labor. I might add that we ran into every type of adverse weather condition that I'm sure cost us several thousand dollars.

"Following is an itemized list of our approximate basic costs:

Peat moss	\$ 1,800
Muskogee golf course gravel	400
Water pipe	2,800
Extra dozer rental	500
Equipment from Dunning-Jones (including valves and sprinklers)	4,500
Misc.	750
	<hr/>
	\$10,750

"We got free, items valued as follows:

Heavy equipment rental	2500
Labor paid by the city	4000
Sand and soil	3000
	<hr/>
	9,500
Probable value of course (not including land)	\$20,250

The equipment bought from Dunning-Jones did not include a 5-gang fairway mower which we already had. (About \$2000 of equipment later was bought.)

1000 Green Fees in Less Than Month

"We opened our course on August 1, 1954, and had approximately 1000 players before the course had been in play a month. We charge 75 cents on week-days and \$1 on Sundays. We also sell memberships for \$50 each, or \$75 for a family membership. We feel that we will have adequate income because of the wide acceptance of the course and the game. We pay our pro \$200.00 a month and he has the concession rights for the course and is entitled to any other money he can make on the course such as giving lessons, selling clubs, balls, etc.

"We also furnish him with living quarters in the clubhouse for his family.

"The clubhouse was given to us by the city and is a remodeled army barracks 75 ft. long.

"We don't have any system for watering the fairways but hope to, someday.

Famous Golf Holes

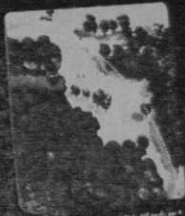
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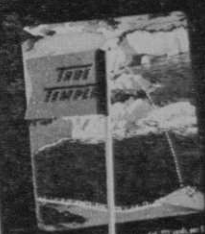
The Hole at Pebble Beach, Pebble Beach, Calif.



The Hole at Pebble Beach, Pebble Beach, Calif.



The Hole at Pebble Beach, Pebble Beach, Calif.



The Hole at Pebble Beach, Pebble Beach, Calif.

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Explain how True Temper shafts provide extra power and directional control. And make sure your stock includes an assortment of weights, lengths and flexibilities necessary to fit your customers. If you have not received this sales-making display, write us today for your free copy. True Temper Corporation, Golf Shaft Division, Geneva, O.

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We have planted buffalo grass in the fairways, and it comes along good with rain."

Bob Dunning takes the story from there. He says:

"Probably the most remarkable thing about the Woodward course is the little time that was spent in constructing the base of the greens yet they are good sized greens and required a good deal of soil movement. For instance, No. 3 green has a little over 8000 sq. ft. of putting surface, required approximately 4000 cu. yds. of soil movement for the construction of the base.

"The other thing is the rapidity with which the turfgrass developed under adverse conditions. The construction was started in March and the course was opened August 1.

"In this area we brought in 36 greens in 1954 from spring seeding. A few years ago we might have established a single green or two or three greens at a golf course during the spring and summer but to bring sets of greens to good playing condition would have been considered next to impossible.

"In 1952 Oakhills CC greens at Ada were seeded on May 29 and on June 3 it was 106 degrees yet the greens were opened in the late summer in good condition. In 1954, besides Woodward, the 18 greens at the Western Village Motel, Tulsa, along with the other 9 hole course, were established during the summer.

"Here, in Oklahoma at least, you can give a great deal of credit to the introduction of PMAS for crabgrass control and new and advanced methods of using fertilizers and fungicides. Some of these

greens were fertilized as many as three times a week during the seedling stage at very light rates to develop the grass rapidly. This development also takes the grass out of the damping-off stage at a much earlier date.

"I wish to give credit for helpful advice to Dr. William Klomprens of The Upjohn Co. In a letter to me he stated "treated seed in sterile soil is the only insurance against damping-off. It is known, however, that damping-off becomes worse if new turf has been watered regularly for a period and then the water taken away."

"The bases for the Woodward municipal course greens were constructed in a ten day period around March 15. During this time the weather ranged from mild, balmy weather to dust storms reminiscent of the dust bowl of the 1930's with wind 60 mph and gusts up to 85 mph. Visibility at times was cut to less than a few hundred feet.

"Soil movement by wind after placing was most severe and it was not unusual for the wind to cut a foot of soil off of the shoulders of the greens during the night, causing molding and contouring of the greens to be most difficult. There never was a chance to establish turfgrass on the shoulders, aprons and approaches during the summer. The greens were reseeded and developed rapidly.

"The period between March 25 and April 15 was spent in mixing and placing the prepared topsoil on greens and although some mild weather was encountered during this period high winds again handicapped this operation and farther

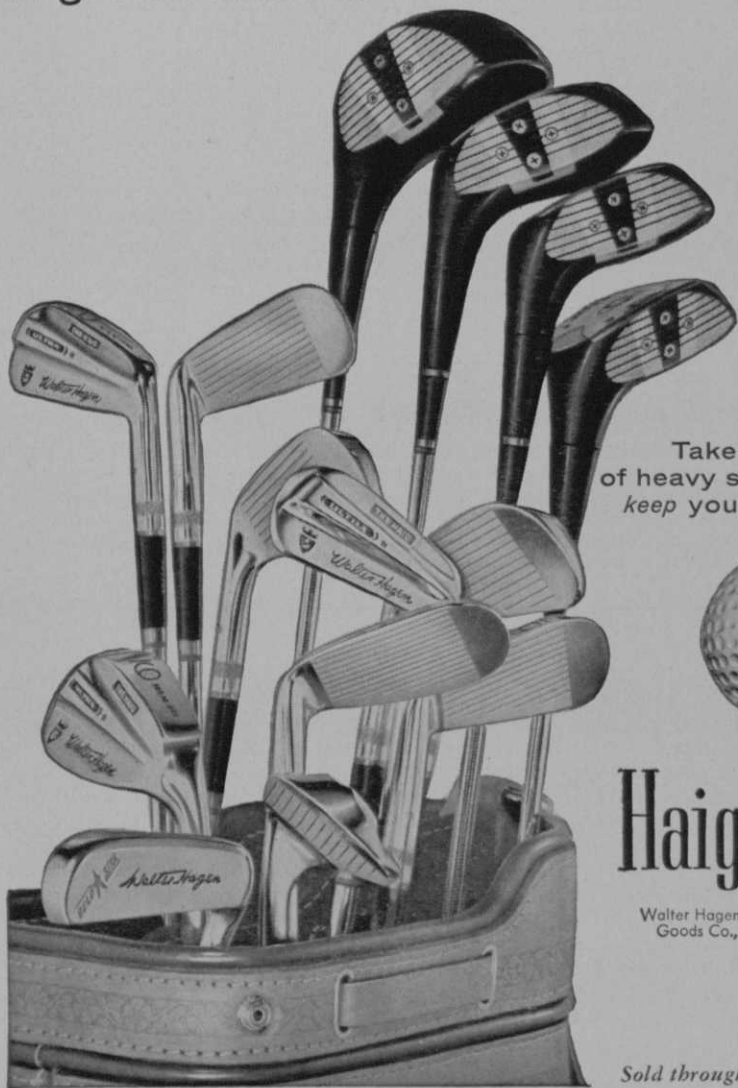


This view of the 6th green at the Woodward, Okla., municipal course, shortly after seeding, gives you an idea of the nearly impossible job of watering in a 40-mile wind, during the later stages of course building.



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MULTIPLE TEES MAKE MANY COURSES AT PINE HOLLOW

The above sketch of a section of the de luxe new Pine Hollow CC, on the former estate of Consuelo Vanderbilt at East Norwich, L. I., shows interesting use of multiple tee design by architect Bill Mitchell. The course can be stretched from 5,634 yds. to more than 7000 yds., but distance change isn't the whole deal; careful study of the various tee locations provide many changes of shot requirements. Location of a large, well-maintained practice area convenient to the clubhouse and first tee, is another architectural factor of value to Pine Hollow members.

cut away at the shoulders and contours of the greens. During this time the sprinkling system was installed. Each green has four Buckner quick coupling valves with one each for the tees and a sprinkling system on the fairways is contemplated at a later date. The smallest pipe used was 2 in.

"The greens range in size from 4900 sq. ft. to 8000 sq. ft. of putting surface. Mixing of the prepared topsoil and the incorporation of the fertilizer was done off of the greens and before placing.

"Seeding of the greens started around April 15 and extended into early May, the work being delayed again because of high winds and the latest freeze on record for Oklahoma. The high winds caused some windrowing of seed and later blow-out of seed and seedlings which necessitated

over-seeding; also spot seeding. Even then some bare areas were left on the greens that had to be filled with topdressing later. Greens developed rapidly as a forced fertilizer program was initiated.

"There was some loss of grass from damping off as an unexpected humid period, even with severe drought conditions that were experienced, settled into the state. Warm, humid air came in from the Gulf causing high humidity and extremely high temperatures of over 100°. Even so, the greens developed rapidly through the week of June 18. From this time to June 28 greens continued to develop. There was good root development all during this time.

"It had been thought greens could be opened July 4; however, by this time the

drought had become so severe and the heat so intense that a severe water shortage was experienced by the City of Woodward. The shortage was caused by a lack of pumping facilities and the slowness of delivery of pumps which were on order.

"A ban was placed on watering lawns and some felt that the water shortage was caused by the golf course. Of course this reasoning was groundless in that the amount of water consumed by the golf course was small in comparison to what was used by the rest of the city. During this period the greens were entirely without water for 48 hours.

"Tank wagons were used for a period of time in watering and the meager amount of water that could be used between midnight and 4 o'clock in the morning pulled the greens through. They can be thankful for the deep roots the grass had developed during establishment period. Sprinklers were completely useless and were detrimental because of inadequate pressure.

"Fertilizing and the use of fungicides had to be discontinued for a period of time as the shriveled seedlings were easily damaged from the lack of water. With occasional high humidity and adverse conditions for developing seedlings damping-off continued.

"I wish to make a statement here and stick out my neck and say this is one disease that is severely aggravated by drought or dry conditions after the turfgrass has been adequately watered. We have all seen fungi working in the desert. With the installation of the new city pumps the water supply was somewhat increased but even so the opening of the golf course had to be delayed from July to August 1. A great deal of credit should go to those who were in charge and worked in the development of the Woodward greens during the unprecedented period of adverse conditions.

"I had forgotten Klomparen's letter until he came down to the Oklahoma turf conference and I mentioned the damping off and he called my attention to his letter.

"One of the main reasons we have developed our fertilizing system has been to jar the grass out of the damping-off stage. At Woodward this became very important; when water had to be restricted there was loss of seedling from damping off.

"We are not advocating spring seeding or planting of bent grass in the southwest but there are times, due to circumstances,

that it has its advantages and becomes nearly a necessity when a whole year can be gained by this procedure.

"All of the Woodward greens have at least 12 in. of prepared topsoil which was mixed off of the green before placing and during this operation fertilizer was incorporated. A fibrous peat was used for organic matter and the amount was 15% by volume.

"After the Oklahoma Turfgrass Conference the following out of state guests made a trip to Woodward with Nick Knott and myself: Fred V. Grau, Jim H. Watson, Jr., Marvin Elstad, John Darrah and Scott McLaren. Nick made the following notes on the comments and remarks they made: That it was amazing to see turfgrass on greens in such a short time, to be exact 5 months from the time that construction was started until they were opened and 8 months to the time of their visit. 'What made this even more remarkable was the fact of the water shortage experienced in Woodward; also the drastic drought that is being experienced by the whole state. In Woodward's case the normal rainfall per year is 25 in. and drops off rapidly from there westward.'

"The smoothness of the greens was also commented on and their overall structure, beauty, utility, reality in shape of the mounds and the greens themselves as drainage had been given first consideration throughout construction."

New Name Is New England Golf Course Supts.' Assn.

The Greenkeepers' Club of New England, in its 30th year and the oldest organization of its kind in the U. S., recently voted to change its name to The New England Golf Course Superintendents' Assn.

The decision was unanimous.

New England newspapers gave much space to the change. The Boston Daily Globe made the change a page one story.

ENGLISH RETURNS TO USGA

John English has returned to the USGA as asst. to Joe Dey, the association's executive sec., a position English occupied prior to his recent service with the International Golf Assn. established by John Jay Hopkins.

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