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to weeds
and disease
in turf.



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with new hydraulic dump body

Now the 18-hp Cushman Turf-Truckster becomes a miniature dump truck for use everywhere on the course!

Think what you can do with this new all-purpose vehicle:

- carry and dump dirt or sand or gravel anywhere on the course!
- top-dress greens accurately, smoothly and quickly!
- gravel paths!
- replenish sand traps!

The oversize bed holds and dumps a big 1,000-pound payload. Specially-designed tailgate controls dumping accurately. Dump box is raised and lowered by big hydraulic lifting cylinder, which is operated by the driver without leaving his seat.

Hydraulic cylinder is operated by Turf-Truckster engine through special power take-off. When not in use as a dump, Cushman Turf-Truckster can be used to haul men and materials anywhere on the golf course. Big bed holds two green mowers with plenty of room to spare.

Specially-designed tailgate opens at the top in the conventional manner, and also swings from the top for dumping, at the touch of a lever near the driver's seat. The tailgate can also be removed entirely and made into a personnel seat across the dump body. Thus the vehicle can comfortably carry three men plus equipment anywhere on the golf course.

Ask your Cushman Distributor for a free demonstration of this newest Cushman Turf vehicle!

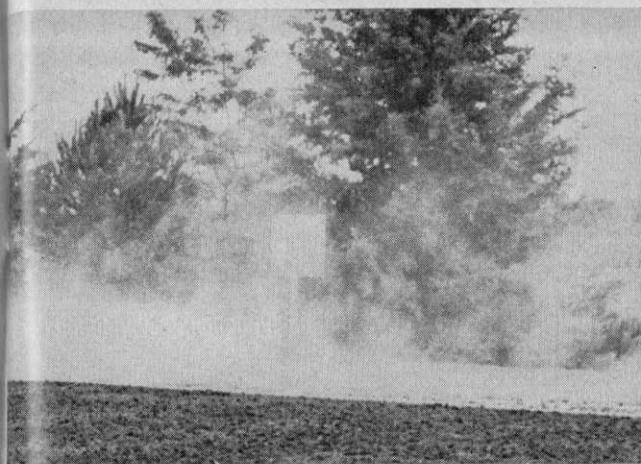
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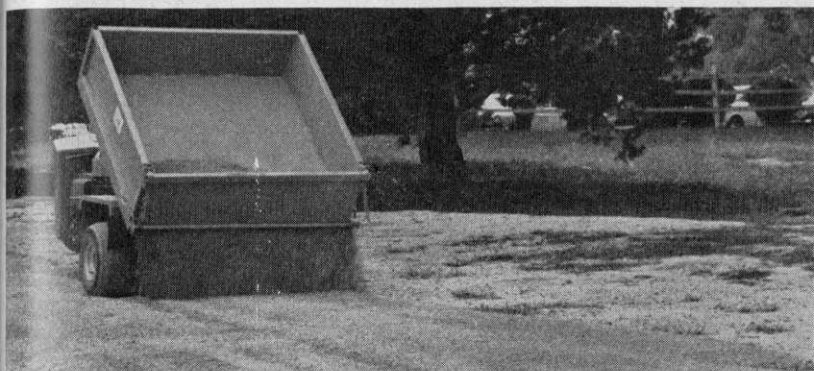
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Top dressing a golf green with calcine clay. Cushman Dump Body lays an even layer of the top dressing material; drag can be attached behind vehicle if desired. Tailgate opening is adjusted for controlled spreading. Wide 9.50 x 8 Terra Tires on the rear protect the turf.



Graveling a walk. Controlled tailgate gives smooth distribution of gravel.

Replenishing sand in a sand trap (below). Turf-Truckster drives everywhere on the golf course without danger to turf.





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GRAFFIS SWING

continued from page 10

thawing in spring were named as sources of much turf trouble in summer.

National Golf Day this year to be on Memorial Day, May 30, with Billy Casper as National Open champion and PGA champion Al Geiberger playing to set the score against which National Golf Fund entrants will play for their \$1 entry fee . . . Contestants' rounds may be played any time during the two weeks preceding Memorial Day . . . Entries whose net beats the low score of the Round of the Champions will receive a bag tag telling of their feat . . . The \$1 entry fee goes into the National Golf Fund for distribution to caddie scholarships, turf research by USGA, to the GCSA for aid to turf scholars, PGA education and welfare funds, military hospital golf programs, and amputee tournament expenses.

Golfers on Washington and Oregon courses are getting a bonus in valuable new ideas in management of their courses from an inspection trip 22 of the states' course superintendents made early this year to courses around San Francisco and Monterey and several courses en route from Portland in a chartered bus . . . The bus for a week cost about \$40 a man and other expenses run total per man cost to between \$150 and \$200 . . . Cliff Van Poucke, for the past 12 years pro at Woodridge GC, Lisle, Ill., now is the club's manager.

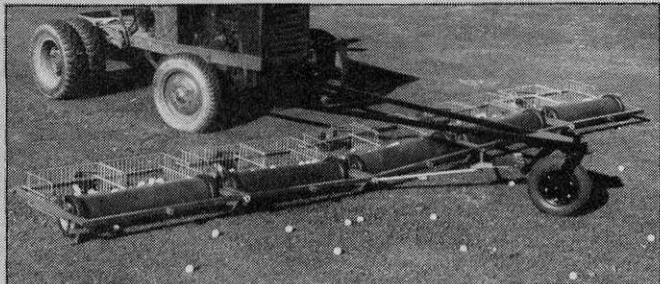
Alameda, Calif., remodeling its municipal course to plans of Sarazen, Muirhead and Caldwell . . . Desmond Muirhead did the designing and Ken Caldwell is in charge of construction . . . Bob Spence returns to Port Royal Plantation GC, Hilton Head, S.C., as pro . . . He was there in 1963 and 1964, coming to the club when the course, designed by George Cobb, was being built . . . Golfers rarely realize or appreciate the time unpaid officials spend in working for them . . . Chicago District GA tournament chairman Ralph C. Peterson and

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RANGE

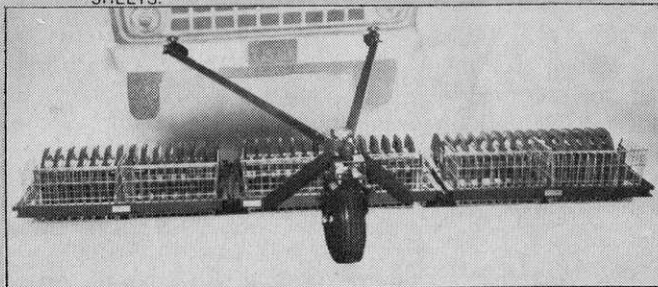
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GRAU'S Answers to Turf Questions

By FRED V. GRAU

The first golfers holed out on smoothed sand or smoothed oiled sand; or perhaps on rough, pebbly, weedy meadow grass cropped short by sheep where first, before putting, the worm casts and sheep droppings were swept aside with birch brooms. Many have been the changes until the near-perfect weed-free smooth putting carpet of grass was achieved through trial and error, scientific know-how, and the development of sophisticated mechanical equipment.

The first grass putting greens undoubtedly were only closely-mowed portions of meadow-grass turf. Historically these meadows were composed of fescues, blue-grasses, redtop and native bentgrasses with clumps of orchardgrass, redtop and sweet vernalgrass interspersed. The grasses that showed promise of developing a dense solid turf were 1) red fescue, and 2) native bents. Until recently a popular seed mixture for putting greens has been red fescue and Colonial bent. A Michigan superintendent asks if he can successfully oversee his *fescue* greens with Penn-cross bent seed.

When I became Extension Agronomist in Turf at Penn State in 1935 I saw some very acceptable fescue putting green turf in the northern part of the state. When Pennlawn creeping red fescue was being evaluated at Penn State there were excellent putting surfaces of this grass cut at $\frac{1}{4}$ inch for three years. The plots were adjacent to bentgrass plots so, finally, the excess water finished the fescue. When water shortages are felt more deeply in our economy, we may

once more see fescue putting greens. We have learned much in 50 years.

Probably the first vegetative selection of a native bent was made about 1910-12. It did not stand the test of time and use but it was a beginning. Seed of South German mixed bent was exceedingly popular for many years until imports were cut off during World War II. Selections from these mottled carpets are in wide use today, some good, some mediocre. Some greens became nearly pure velvet bent which grew and spread from a mere one-quarter of one percent of the seed mixture. Velvet, it seemed, thrived on adversity, low fertility and moisture stress.

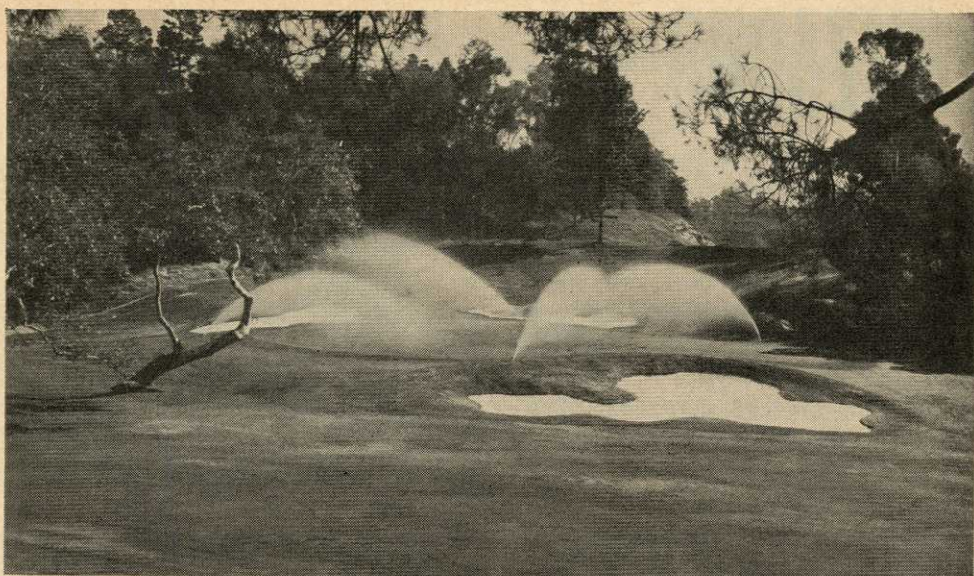
One of my assignments in 1931 when I was research assistant with the Green Section was to make selections of surviving patches of velvet bents on greens near Atlantic City where the course had been closed for three years with zero maintenance. There were some excellent strains surviving.

With water and fertilizer applied "too much and too often" the velvet bents passed out. Some survive in the New England region but they do not enjoy wide popularity.

Once there was a velvet bent green in St. Louis that was beautiful. It was treated *just like* the creeping bent greens. One August the temperature shot up to the high 90's while there was a series of afternoon showers. I attended the inquest after which there was no more interest in velvet bent.

A well-to-do member of a golf club

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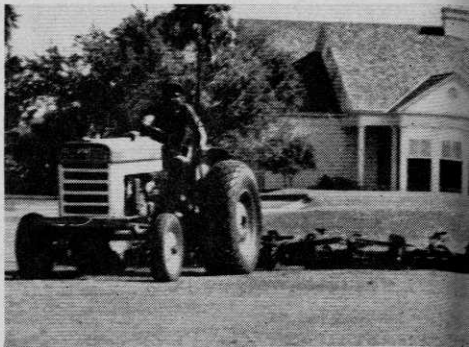
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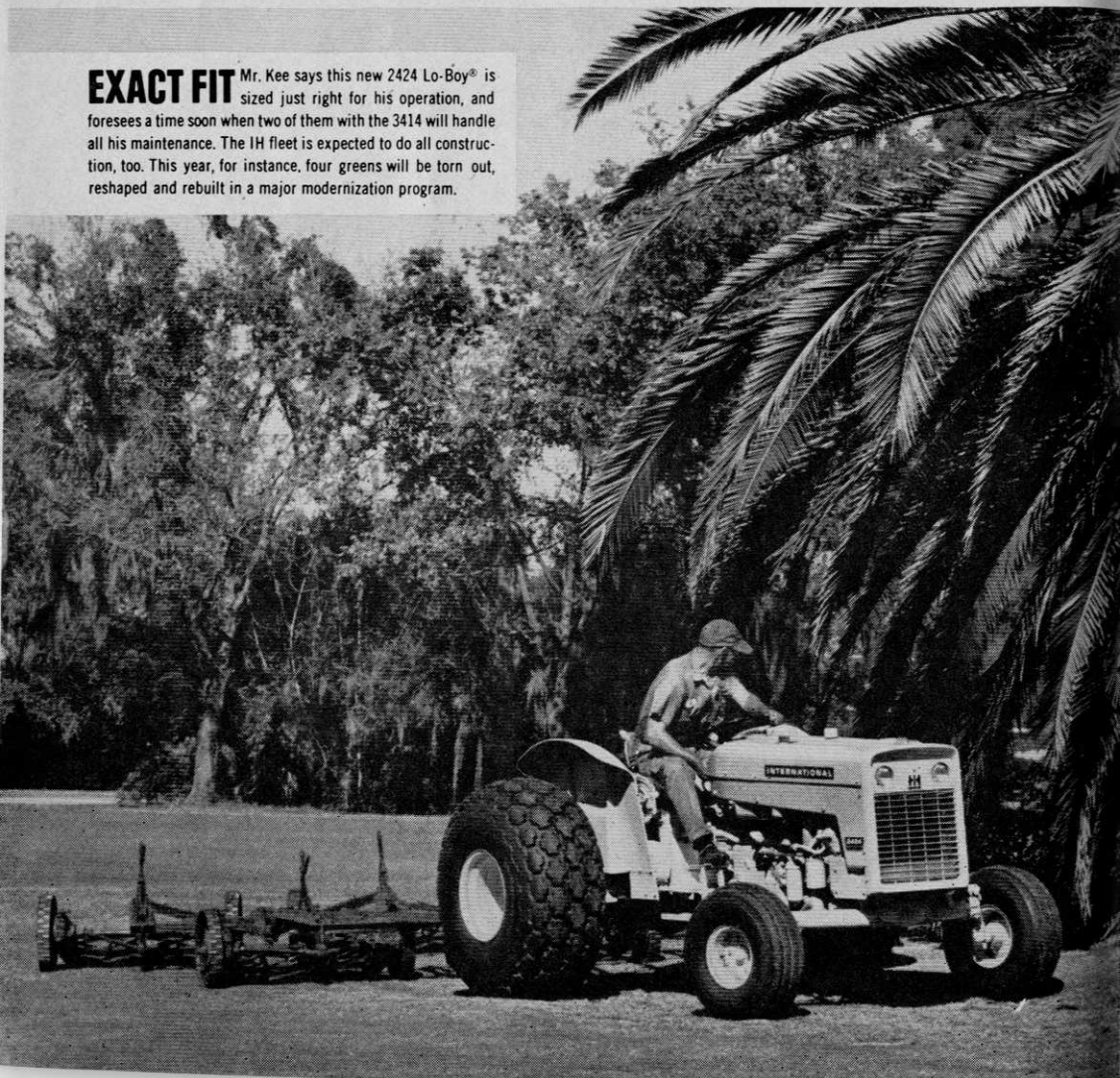
WHIZARDS

Small International® fleet handles all the

Palma Ceia Country Club observed its 50th anniversary at Tampa, Florida, last year. Its annual tournaments include the Florida Seniors and the Gasparilla Festival. Members are challenged by huge, ominous traps and by more than 500 trees—a dozen varieties ranging from banana and mock orange to holly and weeping willow. All fairways are underground irrigated and kept clipped to one-half inch. Superintendent Kelly Kee says, "My members insist on seeing that ball from tee to green." Palma Ceia is one of the most demanding, high-maintenance mowing jobs of any club in the country. That makes Mr. Kee an International man. All International.



EXACT FIT Mr. Kee says this new 2424 Lo-Boy® is sized just right for his operation, and foresees a time soon when two of them with the 3414 will handle all his maintenance. The IH fleet is expected to do all construction, too. This year, for instance, four greens will be torn out, reshaped and rebuilt in a major modernization program.



year round maintenance at demanding Palma Ceia Country Club

OLD FAITHFUL

This is one of two 5-year-old IH tractors which have carried the mowing load for five years—gang mowing fairways and flail mowing the rough. Mr. Kee says, "We haven't had a total of 3 days down time since we got them."

What about your course? Demanding? Your IH dealer has an exact fit for any golf course maintenance problem. Usually the best answer to be found. After all, he represents the most complete line of tractors and flail, rotary and cutter bar mowers in the industry. Talk to him soon about a demonstration. International Harvester Company, Chicago 60611.



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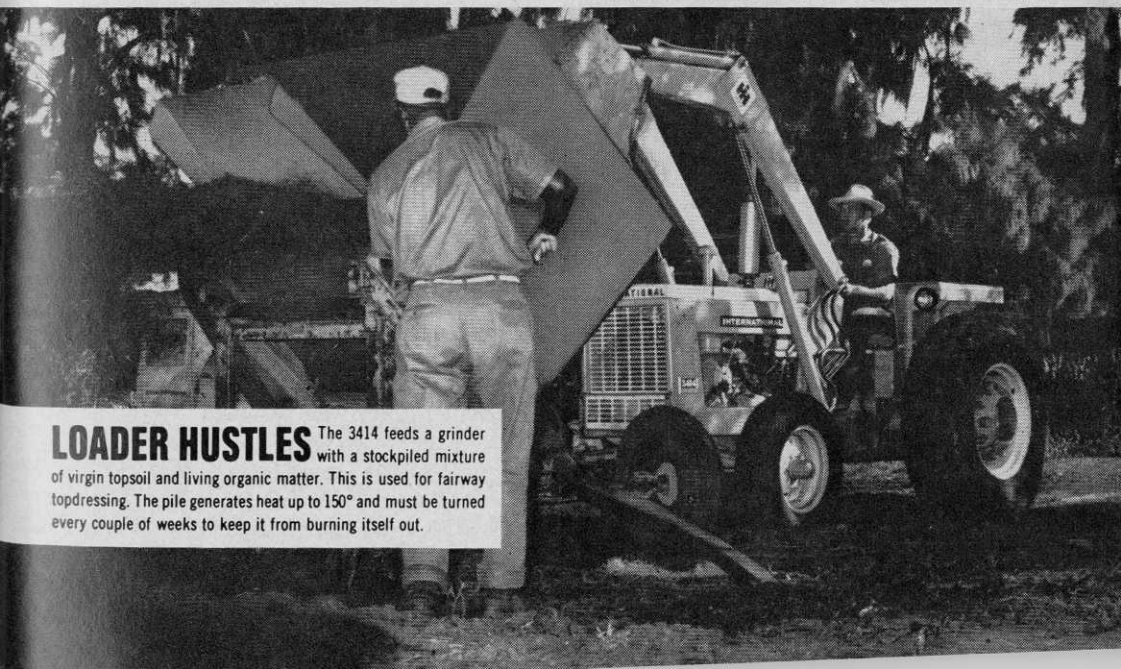
Mr. Kee has been in turf work for 43 years, supervises 15 men year-round at Palma Ceia. Of his 3414 loader tractor he says:

"We bought that one on competitive demonstration—looked at others just to make sure we weren't wrong sticking with International. And we weren't. The 3414 was tops. We use it for everything. It handles topsoil, pulls the aerator, gang mows, and serves as a scraper on our maintenance roads. We use it with a disc for rebuilding tees, pull out posts and stumps with a chain, and even carry sand a bucket at a time from a central pile to our bunkers. That way we avoid the compaction of a truck."



LOADER HUSTLES

The 3414 feeds a grinder with a stockpiled mixture of virgin topsoil and living organic matter. This is used for fairway topdressing. The pile generates heat up to 150° and must be turned every couple of weeks to keep it from burning itself out.



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GRAU'S ANSWERS

continued from page 16

near Philadelphia so much admired a velvet bent green at his club that he commissioned the golf superintendent to plant his 2-acre lawn to sprigs of this beautiful grass. Without the expert care that it needed it was soon riddled with diseases, chinch bugs and sod webworms and, of course, reconverted to bluegrass and fescue.

The first vegetative creeping bentgrasses that I knew were Washington, Metropolitan and Virginia. This was 1927 at Lincoln, Nebraska. Virginia was so grainy that a predictable putt was next to impossible except that, downhill, you could count on the ball rolling off the green. A good name was wasted on this worse-than-useless grass.

Metropolitan was somewhat better but not by much. The blue-green color was distinctive—also the excessive fluffiness which caused the best mowers to scalp. To the best of my knowledge the last Metropolitan greens are at the Des Moines (Iowa) Country Club and they are on their last legs.

Washington bent was the best of the three. Many excellent greens of this grass exist today. Unfortunately a number of different types of "Washingtons" emerged, probably as seedlings from nurseries where seedheads were tolerated. Not all of them were good, therefore this name grass gradually lost favor.

Few people realize that true Washington bent is a "hot-weather" bent. It starts slowly in spring, is at its best during summer, then turns purple with first frosts. *Poa annua* is a natural cool-season companion to Washington. No effort ever should be made to upset this.

During the 30's many selections of creeping bentgrass were collected at Arlington, Virginia, then moved in 1940 to Beltsville. They were assigned "C" numbers. Later many were to be named by the staff of the Green Section. C-1 came from Atlantic City; C-7 from Pine Valley; C-19 from Congressional; C-60 was

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GOLFDOM