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Blastoff Extends Season; Blows Up \$50,000 Revenue

Charlie Bartlett devises a blower that sweeps up leaves and sweeps in money at tree-lined Timber Trails course

After mid-September and until the middle of April there wasn't much golf at Timber Trails GC, near LaGrange, Ill. This narrow, tree-lined semi-private course was cramming more than 50,000 rounds into the five-month period between April and September, but beyond this, business came to a near standstill because fairways and roughs were buried in leaves. Nobody had ever devised an effective way to get out from under them once they had started to fall. Timber Trails, its patrons agreed, was a fine place to play during the summer, but with the coming of fall the ever dropping leaves changed this. More balls could be lost than if the course had a water hazard guarding every green.

The income of Charlie Bartlett, Timber Trails' pro-manager, depends to some



Charlie Bartlett opens throttle on blower he designed and revs its output to 130 mph.

extent on the number of rounds played during the season. When he came to the LaGrange course in 1958, he quickly found that his paydays became leaner with the coming of fall, and it was the following May before they began to fatten up again. It's bad enough to work on a seasonal arrangement since a person normally may have to live through from four to six months of lean days if he's in the golf business, but when harvest time is curtailed by such as falling leaves, a remedy is urgent.

Mulchers Too Slow

For two or three seasons, Bartlett went along with the idea of sweeping the course with a chain link fence attached to a tractor. It worked quite well when the leaves were dry, but when they became wet and matted, the fencing didn't do much of a job of picking them up. Two 80-inch mulchers purchased in 1960 were effective enough in reducing the leaves to chaff, but it took at least an hour for them to cover a single fairway. Since 16 of the 18 holes at Timber Trails are bor-



Len Ainey, who has been a big help in the development of Timber Trails blower, mans tractor in cleaning up the rough.

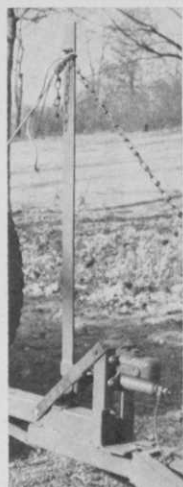


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Low slung blower blasts leaves and sprigs and deposits them some 100 feet away. At right is closeup of hydraulic hand brake. Bartlett plans to convert it to a foot-operated brake.

dered by trees that didn't represent progress. Then, too, it was a problem to maneuver the mulchers in and among the trees in the rough.

About three years ago, Bartlett picked up a cue while watching a Roto Mist sprayer in action. He noticed that it strongly rustled the leaves in a tree spraying operation, and reasoned that if it were aimed at the ground it might solve the leaf problem at Timber Trails. Late that summer, the club invested in a used Roto Mist unit.

More Power Needed

The sprayer was mounted on a truck bed and used in the fall of 1961 at Timber Trails. It didn't perform as satisfactorily as hoped. Because it was mounted so high off the ground, the sprayer didn't pick up leaves within 20 feet of the vent. Able to produce a wind speed of about 100 mph, it blew them only 30 feet or so. Bartlett decided that Roto Mist was right in principle, but it needed to be made more powerful and mounted on a lower chassis. What he wanted was a blower rather than a sprayer.

So, he set about designing a model that he thought would work. A onetime Navy machinist mate, the Timber Trails pro-manager is almost as familiar with machinery as he is with swinging a golf club. Designing a blower that pays its way on a golf course wasn't too much of a task for him.

Just Like the Jet Stream

The model that he designed is a more

powerful version of a tree sprayer. It has a 42-inch fan that is powered by a 30 h.p. Wisconsin engine. The unit generates a wind speed of 130 mph, enough to blow a man off his feet. It is set on a low slung carriage (10-inches high) and the vent opening is only about two feet above the ground. The vent is depressed at an angle of about 25° so that it picks up leaves only four or five feet away. The 130 mph velocity that the Bartlett blower generates is sufficient to blow leaves about 100 feet. The unit is pulled by a tractor.

The blower is mounted on four swivels and is braked hydraulically. When the brake, now hand operated, is released, the jet force generated by the fan rotates the machine 360 degrees. The unit, which cost \$3,500 to machine and assemble was built by General Blower Co., Skokie, Ill. Two clubs in the Chicago area, Cog Hill and Skokie CC, use copies of the Bartlett blower in ridding their courses of leaves.

10-Minute Operation

In operation, the blower assembly is pulled down the center of a fairway. It blasts the leaves into the adjoining rough, makes a turn, and works the other side. Less than 10 minutes are consumed in a single fairway cleaning operation and the entire Timber Trails course can be handled in not much more than three hours. After the fairways are ridded of leaves, the roughs are cleaned up. It isn't un-

(Continued on page 156)

I'll never forget...

The day I was a "green" mower

by Superintendent Mel Warnecke, East Lake Country Club, Atlanta, Ga.



"I was 13 years old when I first went to work on a golf course. It was at Olympia Field Country Club, in Illinois where the superintendent was Fred Kruger who was later to be my father-in-law. I was assigned a push-type greensmower and a number of greens to cut. The grass was extremely long as it had not been cut for several days because of weather conditions.

Wanting to make a good impression, I went about the mowing very carefully taking a long while to complete it. Then returning to the maintenance shed, I proudly approached Mr. Kruger who promptly informed me I would have to mow the greens again. Not knowing that the pin could be removed, I had neatly cut a circle around each cup."

Now he grows great greens...

In 1963 East Lake was selected for the Ryder Cup Matches. Superintendent Warnecke said then: "I've been working on golf courses all my working life, and have been using Du Pont fungicides as long as I can remember. I like them because I know I can depend on their performance every time—cannot consider anything but a preventive program using Tersan® 75 and 'Tersan' OM on my west course.

"For my fertility program, I've been using Uramite® as the base nitrogen for the past three years. With 60 to 70 percent of the budget in labor, 'Uramite' saves time and money."

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your turf with enough nitrogen for the entire playing season with just two applications of Du Pont "Uramite" ureaform fertilizer—one in the spring—one in the fall. It's 38% nitrogen—releases slowly, so feeds steadily without burning.

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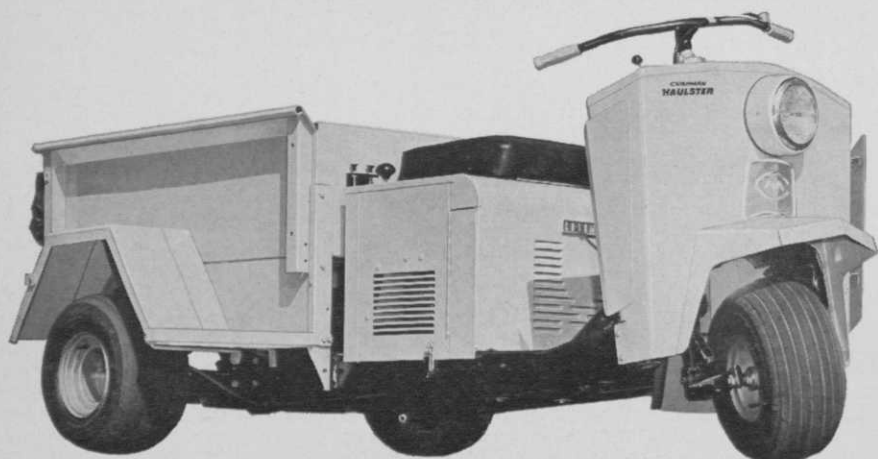
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GRAU'S ANSWERS TO TURF QUESTIONS

BY FRED V. GRAU



Reflections on the Conference

The GCSA's 35th International Turfgrass Conference was by all odds the most successful ever held. By the same token it was the most significant from several viewpoints. The planning committee deserves commendation for putting on the show it did.

STUDENTS: The presence of turfgrass students from Massachusetts and Penn State created an atmosphere never before experienced. Prof. Joe Troll and Dr. Joe Duich deserve great credit for their imaginative pioneering in bringing their classes to the conference. They can well be proud of the conduct of their charges who receive our "A" for deportment, attendance and inquisitiveness. How can I ever forget a two-hour seminar with a group of dedicated students whose questions, direct and piercing, seemed never to end.

The Thursday morning session served notice that both the two-year and four-year courses are needed; also the winter course. Without question the top jobs will go to the trained men, of which there are not nearly enough.

The older heads deserve great credit for encouraging the colleges and the students in their endeavors and for setting a splendid example of doing the most with what is provided. Many are the self-made supts. who had no opportunity for formal schooling beyond high school or grade school — or less.

EDUCATIONAL PROGRAM: The terms "Well Balanced and Complete" fairly well describe the program. The excellent attendance Friday morning demonstrated the drawing power of the last speakers who were of the quality of those who preceded them. Virtually every presentation was a triumph of excellence.

EXHIBITS: Here, too, was "Completeness." Nearly every device for efficient

maintenance was represented. Booths were well manned for the most part and great courtesy and attentiveness were evident. One discordant note was recorded when turfgrass students failed to gain full attention of company representatives at some booths. Since the student of today will be the buyer of tomorrow, no one can afford to pay less than full attention to him.

PERSONAL TOUCHES: We were deeply gratified to find in our room a book by Stewart L. Udall, "The Quiet Crisis," a gift from a fellow who actively has fostered cleanliness and beauty, our good friend Bert Rost, Butterfield CC Hinsdale, Illinois. Bert long has promoted ways and means of preventing the litter on our streets and highways. His device "The Litter-Gitter" has been copied nationally. In his own way he has supported the great conservationists of our time named in "The Quiet Crisis," (Holt, Rinehart and Winston, Inc., 383 Madison Avenue, New York, New York—10017 — \$5.00)

One golf course architect in attendance stopped by to chat — Eddie Ault, Silver Spring, Maryland. A phase of discussion involved the preservation of natural or wild-life areas on the golf course. The obvious answer is "Why Not?" We recall with deep regret a bulldozer pushing its way thru huge beds of trilliums in a frantic effort to develop a fairway on schedule.

Happier moments occur when we tramp thru nearly virgin woods with Eb Steinger at Pine Valley to see a wood duck's nest, or a clutch of newly hatched Mallard ducklings. If only each golf

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Phosphorus: Symbol, P. Major nutrient for plants and microorganisms. Constituent of proteins, essential to life. Phosphate deposits are enormous in Africa, North America and Europe, occurring mostly in association with calcium carbonate as a water-laid mineral.

First production of phosphate fertilizer in 1842 was patented by Lawes and Murray who treated bones with sulfuric acid to make superphosphate or "acid phosphate." Double and triple superphosphates are made by treating phosphate rock with phosphoric acid. The electric-furnace method produces elemental P, a soft gray metal that bursts into violent flame with volumes of white smoke when oxygen is present (Steiniger & Grau, TVA, 1937).

P in the dynamic soil system is said never to reach equilibrium. Soil microflora require P and change it into organic compounds usable by plants. P rarely leaches out of soils. It is needed for transfer of heredity and is present in every living cell. P moves to younger tissue when there is a deficiency.

P in turf soils aids root growth but excesses tend to accumulate when P-bearing fertilizer mixtures are used indiscriminately. An excess of P tends to develop coarse grass blades, stemmy growth and seedhead formation. Optimum N fertilization aids transformation of insoluble P-compounds to usable forms. P and Sulfur (s) have similar cycles in soil and in proteins of plant and microbial tissue. P and Arsenic (As) tend to neutralize each other. High P in soil nullifies the effect of As in reducing poa population and insect depredation.

Young plants respond more to P than mature plants. As little as 1 p.p.m. in the soil solution is considered adequate for plant growth. Good soil aeration improves P relations with microflora and plant uptake. Soil compaction limits P uptake.

One application of superphosphate a year will supply all P needs for most turfgrass areas. Repeated applications of P-bearing fertilizer mixtures is wasteful and unnecessary. Soil tests may show *Low* to *Very Low* reading for P, yet turfgrasses will be amply supplied if N and K are in balance and conditions are favorable for soil microflora.



course could preserve for posterity some of the unspoiled natural beauty of the area! What are a few acres more or less when our fast vanishing wild life could gain a brief moment of rest before "civilization" crowds them into extinction? Cleaming club houses of chrome and walnut may be beautiful, but so is the nest of the ringneck pheasant filled with mottled eggs. What we are trying to say is "Can't we design a little more of *nature* into the new course?"

We were proud to have superintendents and students stop us in the halls and ask questions. Here are a few. What is "Ecology"? Ecology is the study of the relationship of an organism to its environment. In animal ecology we learned that the Brahma cattle were resistant to the

tick which wiped out other cattle in the South. In plant ecology we are learning about the limitations of Bermuda grass coming North and bentgrass going South. We learn why the cattail is at home in the "skeeter pond" and how the cactus can survive in the desert.

In human ecology the variables are many but an example is the effect of overcrowding in the city slums. With overcrowding comes unemployment, too many people with nothing to do, then poverty, crime, disease, hopelessness.

What is fertilizer? Fertilizer is a material which, when applied to the soil, supplies nutrients for plants, improves soil fertility and increases productivity. A fertilizer for turf must do this and more. It

(Continued on page 158)