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Removes uniform cores up to 3" long

Shown with optional core processor.

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The tines of the Greensaire II cleanly penetrate the turf in an up-and-down motion, removing 36 cores—up to 3" long—from every square foot of turf. Yet the process is so precise that the holes it makes should not affect the true roll of a ball.

Powered by a tough 8-hp engine, the Greensaire II takes a full 24" swath and lets you aerate up to 8,000 square feet per hour. And, with four sizes of interchangeable tines, you can achieve precisely the amount of aeration your greens need.

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nutrients, they were evaluated from two standpoints.

1. Their *immediate potential* , as indicated in Table 1, which shows that the use of clay to replace 25 percent of the sand is best, followed by calcined clay (Terragreen) and then Vermiculite. Even the latter possesses nearly twice the capacity of straight sand.

2. Their *capacity for retention of nutrients* as shown by Table 2. Note that the use of 25 percent clay has doubled the retentive power for NH_4. NO_3 was not improved nor could it be expected to, as pointed out to me by Mr. Niclows, Suburban Experiment Station, Waltham. All other nutrients, however, are correspondingly better.

What is new about these ideas? Nothing. Every greenkeeper around here has been top dressing with loam. I'd rather that most would have selected a loam high in sand, intuitively. The only change I'd propose is to eliminate the loam because it contains humus that you don't need; it is that which you are trying to reduce. Furthermore, the literature is full of data on the virtues of clay and this is an attempt to utilize it precisely, without its drawbacks. It is only recently that the agglomerated clay, in the form of Vermiculite and calcined, has become available. For what reason? Because of the necessity of providing its absorbent power in a form easy to use and without the need for careful adjustment inherent in raw clay.

Description of materials

1. HQ (high quality) Sand (recommended by U.S.G.A.), having a particle size largely in the range of 0.1 millimeter to 1.0 millimeter. Supplied from Slatersville, R.I., 9/79, called No. 50 at $13.75 delivered. Has precolation rate of about 50.
2. B.M. (brick mortar) sand, having a particle size of .075 millimeter to 1.0 millimeter, and about 7 percent smaller than .075 supplied locally for about $4.00, 9/79, with a percolation of about 50.
3. Clay, mined locally, almost white, and has been used to make common brick. Has a percolation value of 0.6 and 44 percent is through 200 mesh.
4. Vermiculite No. 4 supplied by W. R. Grace (their smallest size available).

Continues on page 22

PLATE 1.— Percolation

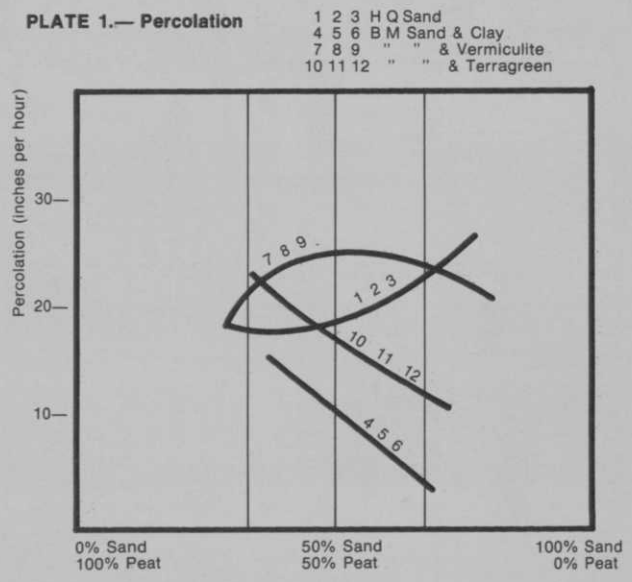
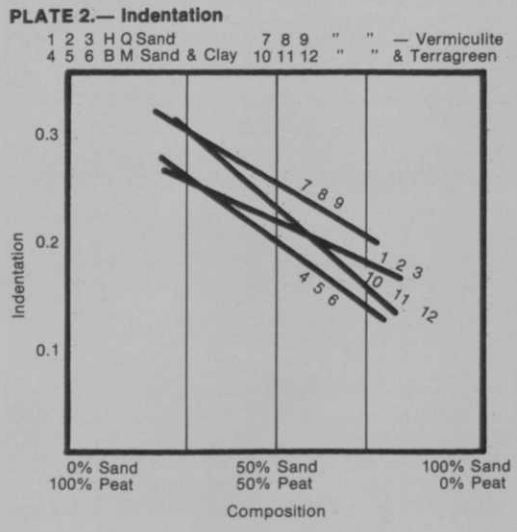


Table 3. Percolation Results
Compositions described in Table 1

Sample No.	Inches per hour 1st	2nd	Avg
1	18.0	15.4	16.7
2	18.2	14.7	16.5
3	23.7	24.0	23.8
4	16.6	11.5	14.0
5	8.3	10.2	9.2
6	3.6	2.7	3.2
7	18.0	10.8	14.4
8	27.5	24.0	25.7
9	19.6	18.2	18.9
10	22.2	19.9	21.0
11	19.7	11.4	15.5
12	10.6	5.9	8.2
GS*	3.4	3.2	3.3
GS	3.0		

* Sampled from New Green Reconstructed in lab.

PLATE 2.— Indentation



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Toro goes all out to give you the kind of riding rotary mower you want most.

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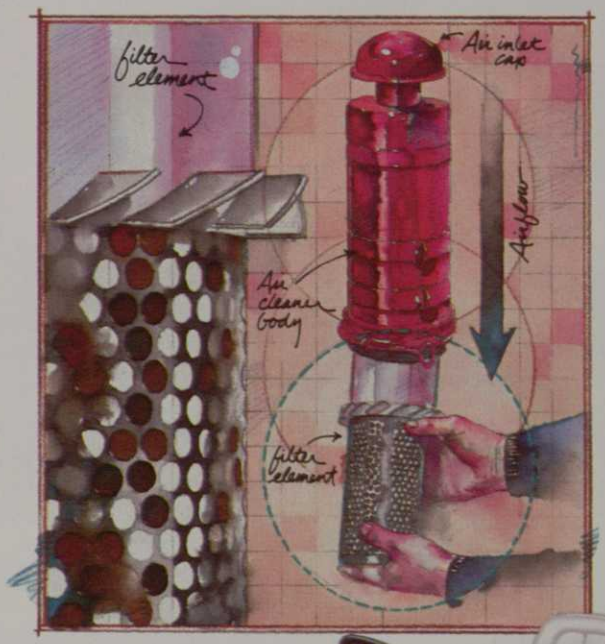
So we get down to the nitty-gritty. Equip each Toro Groundsmaster 72® and Groundsmaster 52® with a heavy duty Donaldson air cleaner.



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26019 against dollar spot (including benomyl-resistant dollar spot), Helminthosporium (leaf spot and melting out), brown patch, Fusarium blight and Fusarium patch (west of the Cascade Mountains). Chipco 26019 also suppresses grey and pink snow molds. Ask your Chipco distributor or Rhône Poulenc representative about effective, long-lasting Chipco 26019...the strong medicine in turf disease prevention. Rhône Poulenc Chemical Co., Agrochemical Div., Rhône Poulenc Inc. Monmouth Junction, NJ 08852.

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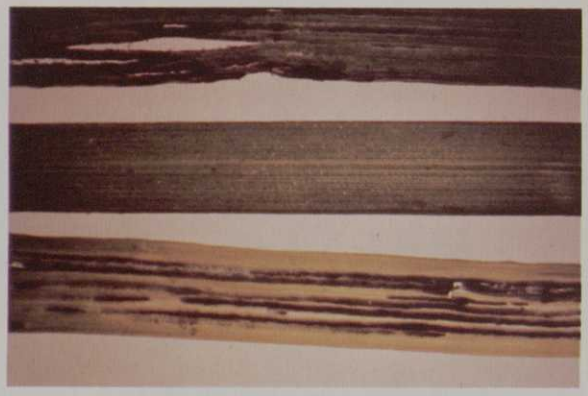
Turf disease identification

Quiz yourself. Answers are on page 18.

A. _____

E. _____



F. _____

G. _____

K. _____

L. _____

M. _____

Q. _____

R. _____

S. _____

B. _____

C. _____

D. _____

H. _____

I. _____

J. _____

N. _____

O. _____

P. _____

T. _____

U. _____

V. _____

W. _____

Turfgrass disease research

A. Hagen, P.O. Larsen, and **D.A. Spilker,** The Ohio State University

Fungicide tests for control of benzimidazole resistant dollarspot on Seaside creeping bentgrass

Application dates were July 14, July 24 and August 4, 1980. Disease symptoms did not appear until the first week in August. The plot area was infested with *Sclerotinia homoeocarpa*. Disease was rated on a 1-10 scale in 10 percent increments. The bentgrass plot area was mowed at 3/16 to 4/16.

With a few exceptions, most fungicides provided effective control through the September 12 rating. Cadminate and treatments containing Bayleton alone or in combination provided excellent control at all four rating periods (51 days after the last application). Treatments in which benzimidazole fungicides were the primary fungicide targeted for control, were not effective, as expected, because of the known benzimidazole tolerance associated with *S. homoeocarpa* in the plot area.

Treatment and rate per 1000 ft²	8/14/80	9/2/80	9/12/80	9/23[b]0
CGA 64251, 1.125E, 2.0 g. a.i.	0.25b*	1.00def*	0.75e*	3.25def*
CGA 64251, 1.125E, 4,0 g. a.i.	0.25b	0.50def	1.00e	3.00efg
Daconil 2787, 4.17F, 3.0 fl. oz.	0.75b	4.25ab	4.25bc	5.00bcd
Daconil 2787, 4.17F, 6.0 fl. oz.	0.25b	2.00cde	1.75de	2.75efgh
Powder Blue + Hydr. Lime, 2 lb + 1 lb	2.25a	5.00ab	5.00ab	5.75ab
Bayleton, 25W, 1.0 oz.	0.00b	0.25ef	0.25e	0.75j
Tersan 1991, 50W + Bayleton, 25W, 1.0 oz. + 0.5 oz.	000b	1.00def	0.25e	1.50fghij
Tersan 1991, 50W + Bayleton, 25W, 1.0 oz. + 1.0 oz.	0.00b	0.00f	0.000e	0.25j
Tersan 1991, 50W, 1.0 oz.	3.00a	5.50a	4.75abc	6.25ab
Chipco 26019, 50W, 2.0 oz.	0.00b	1.75cdef	1.75de	3.75cde
Acti-dione TGF, 2.1W, 1.0 oz.	0.00b	2.25cd	1.75de	3.75cde
Acti-dione, TGF, 2.1W, 2.0 oz.	0.00b	0.75def	0.75e	2.50efghi
Daconil 2787, 75W, 1.0 oz.	2.25a	5.00ab	4.50bc	5.50abc
Daconil 2787, 75W, 2.0 oz.	0.75b	3.25bc	3.00cd	3.00efg
Acti-dione TGF, 2.1W + Daconil 2787, 75W, 1.0 oz. + 1.0 oz.	0.25b	1.50cdef	1.25ef	2.50efghi
Bayleton, 25W, 0.5 oz.	0.00b	0.75def	0.50e	1.25ghij
Acti-dione TGF, 2.1W + Bayleton, 25W 1.0 oz. + 0.5 oz.	0.00b	0.25ef	0.00e	1.00hij
Duosan, 75W, 3.0 oz.	3.50a	5.00ab	4.75abc	6.00ab
Cadminate, 60W, 0.5 oz.	0.25b	0.50def	0.25e	1.25ghij
Control	3.00a	5.75a	6.50a	7.25a

Evaluation of fungicides for curative control of melting out of Kentucky bluegrass

Treatment and rate oz/1000 ft²	5/10	5/21	6/4	6/19
Acti-dione TGF 2.1W 0.34	6.50ab	5.50bcdefg	3.00bcde	2.00abcd
Acti-dione TGF 2.1W 0.69	6.75ab	6.75efgh	4.25efg	2.75bcde
Acti-dione TGF 2.1 W 0.34+ $FeSO_4$ 1.0	6.50ab	6.75efgh	4.75fg	3.75ef
Acti-dione TGF 2.1W 0.69 + $FeSO_4$ 2.0	6.75ab	7.25fgh	3.75defg	3.50de
Chipco 26019 50W 2.0	6.25a	3.75abc	1.00a	1.00a
Daconil 2787 500F 8.0	6.50ab	4.00abcd	1.25a	2.00abcd
Tersan 1991 50W 1.0 + Tersan LSR 80W 3.75	7.00ab	4.75abcde	2.25abcd	3.00cde
Tersan LSR 80W 8.0	6.25a	3.25ab	1.00a	1.00a
Dyrene 50W 8.0	6.00a	4.00abcd	1.00a	1.00a
Lesco 2887 4.0	7.25ab	6.50efg	1.50ab	2.50abcde
Check	8.25b	8.75g	6.75h	5.00fg

Registered and experimental turf fungicides were evaluated on a Kentucky bluegrass golf course fairway in Columbus, Ohio. Fungicides were applied on May 1, 10 and 22, 1979. Granular fungicides were applied to moist foliage. The turf was maintained at a 2-inch cutting height. Disease severity was evaluated using a 1-10 visual rating scale on the basis of percent area affected, 1 equals 0-10 percent and 10 equals 90-100 percent.

*Means in columns followed by the same letter are not statistically different at the 5 percent level of significance according to Duncan's New Multiple Range Test.

Answers to turf disease identification quiz, page 16

A. *Typhula ishikariensis*, sclerotia; **B.** Fusarium patch; **C.** Helminthosporium leafspot; **D.** *Sclerotinia borealis*; **E.** Fairy ring on bentgrass; **F.** Stripe smut; **G.** Gray snowmold, sclerotia; **H.** *T. ishikariensis*, mycelium; **I.** Fusarium patch; **J.** Brown patch; **K.** Cool-weather brown patch; **L.** *T. incarnata*, mycelium; **M.** Rust symptoms; **N.** Southern blight on bluegrass; **O.** Brown patch, sclerotia; **P.** Ophiobolus patch on bentgrass; **Q.** Brown patch on bermudagrass; **R.** Melting out on bluegrass; **S.** Spring deadspot; **T.** Pythium blight on bentgrass; **U.** Dollar spot, mycelium; **V.** *T. incarnata*, sclerotia; **W.** Red thread.

Photographs were courtesy of Gary Chastagner, Western Washington Research Center, Puyallup, Wash., Philip O. Larsen, The Ohio State University, Columbus, Leon T. Lucas, North Carolina State University, Raleigh, and Ward Stienstra, University of Minnesota, St. Paul.

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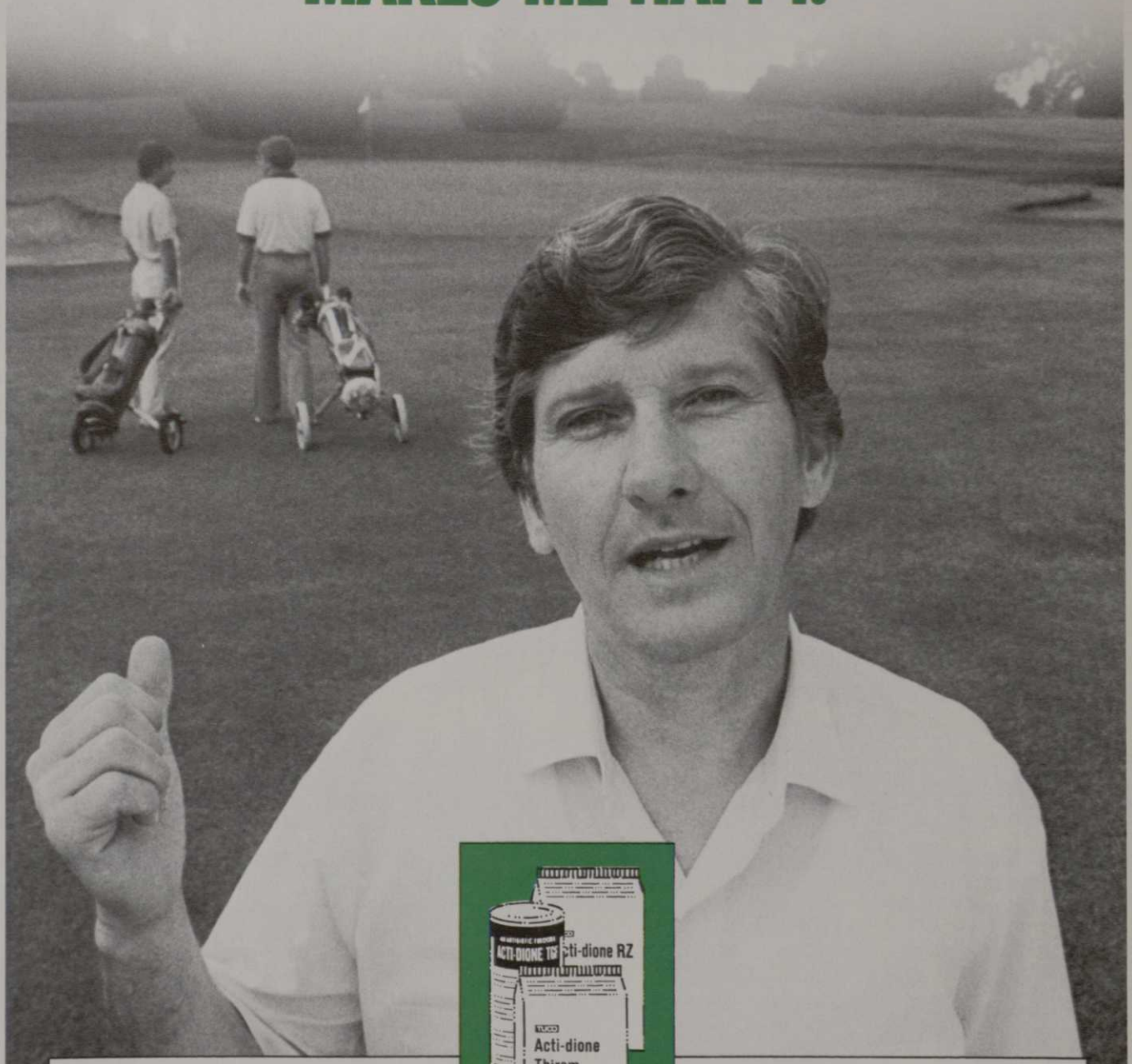

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And, Acti-dione is the most economical fungicide for an all year turf disease control program on tees, greens and fairways. That's mighty important with today's tight maintenance budgets that just don't seem to keep up with increasing costs.

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