THE BULL SHEET, official publication of the MIDWEST ASSOCIATION OF GOLF COURSE SUPERINTENDENTS.

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David R. Behrman, CGCS

President's Message

As we approach mid-season I am sure many of you feel as I do. It seems like I have worked an entire season already. In checking around most everyone indicated that they opened their course two or three weeks earlier this season. As a result, mid-season exhaustion may come sooner than you think.

This thought brings to mind the question. How does one avoid overworking oneself and/or his employees? At Deer Creek we recently went through a change in ownership. Along with this change, myself and all my employees were met with the challenges created by expanded job duties, resulting in a noticeable increase in the work load. In order to successfully deal with this situation it was necessary to restructure our chain of command. In doing so a familiar term kept creeping up. It was delegation.

Webster's defines delegate: to entrust authority to a deputy, a representative. Within this definition lies the solution to the problem of overworking. One must learn to trust his subordinates and they must also learn to have trust in their subordinates. In theory this is fine. However, as superintendents most of us are accustomed to directing our employees personally. In order to overcome the pitfalls of overworking, one must also be comfortable with the idea of allowing your assistant to assume the decision-making process in your absence. In turn your assistant must pass this confidence on to his crew. Through the process of trial and error, combined with open discussion concerning the situation, we at Deer Creek have reached an acceptable balance of power. As a result when I take that much needed day or afternoon off I feel more comfortable. Sure you will still wake up at four-thirty feeling restless thinking I know I should be there, but, later in the day when you are enjoying time with your family or you just set the hook you will realize that you have left your course in the hands of individuals that you personally trained and that the course will still be there tomorrow.

In the event that the thought of your assistant making a decision rattles you or that once a year disaster strikes on this given day, look at the bright side. You will fulfill a deep seated human emotion, that of feeling needed.

David R. Behrman, CGCS

David R. Behrman

Director's Column

High & Dry

by Jim Evans, Supt.
Turnberry Country Club

Creeping Bentgrass **Agrostis palustris** grows well in moist soil but will survive in dry soil for extended periods of time. It can withstand -45 degree temperatures in Canada, 95 degrees with 90% humidity throughout South Florida's long summer, and survive 115 degree temperatures with 15% humidity in Arizona. Creeping Bentgrass ranks as the most adaptable of any and all available to the superintendent. We are just now beginning to realize it's potential not only in Chicago, but throughout the U.S.

Concerning water usage, I forsee a big trend in the dry look for golf courses here in the United States similar to the Scotland links. Limited water supplies for golf courses now exist in certain regions and will exist here in the near future. Water management will become critical. Quite frankly, I think we tend to overwater bentgrass, but few of us have the courage to shut the faucet off. We value our jobs too much.

I wonder what would happen if we let mother nature supply all the moisture, for just one year. Rainfall is far and away more pure than anything you could pump out of a pond or well. Plus the coverage is excellent. However, the golfers wouldn't appreciate hard, dry greens where their 7-iron shots would be bouncing to the next tee. Eventually, golfers in the United States will have to adapt to more of a "pitch and run" type game.

So why do we have irrigation systems? Insurance! How else would we keep the poa alive. However hard we try, the grass on our courses will grow despite us. There's never been a more true statement. We have absolutely no control over the environment, although we try desperately with no avail. Applying 6 cycles or 54 minutes of water per head on greens and tees every third night starts to sound like a broken record by August. When it rains, it doesn't rain 6 cycles, it rains .3" at midnight, and .5" the next morning, and maybe 3.6" the next day during the women's 9:00 shotgun event. Then they have the nerve to ask you why the greens are too wet.

Irrigation systems are a band aid. When it rains one inch, 27,154 gallons of water will fall on 1 acre. Covering the average 140 acres of golf course, 3,801,560 gallons of water will fall. Most irrigation systems cover approximately 60 acres of golf course. To apply one inch on that 60 acres you would need 1,629,240 gallons. Our irrigation system pumps 1,000 gallons per minute, maximum. That's 60,000 gallons per hour. During the longest days of summer we have only 8 or 9 hours of darkness. That allows us to put down only 540,000 gallons per night over 60 acres of turf. That translates to ⅓" of water. Evapotranspiration rates are greater than that on one sunny, warm day. We're fighting a losing battle, with our present systems. We end up watering the top few inches of soil and promoting shallow-rooted, weak turfgrass. Then there are some people who water 10 or 15 minutes per head. What good does that do other than wet the leaves and surface roots?

What we need is a system that can pump 10,000 gallons per minute rather than 1,000. Only then will we be able to come close to emulating a good rainfall. Watering heavily and infrequently will provide us with a deep rooted, healthy turf requiring less water and containing less poa annua.

The past couple of years the weather has been unusual when compared to the past 100. Eleven inches of rain last November is not normal. The grass was lush going into winter and then came the second coldest December in recorded weather history. Little or no snow cover during December and January didn't help the situation. Then April arrives and it's 85 degrees and very dry. The poa that died over winter still hasn't totally recovered. But through all of this the grass survives.

This was the second consecutive spring where the weather was dry and warm. The greens, tees, and fairways were hard, and dry, and generally looked poor. Everyone and their dog was screaming for us to turn on the water. The only water they got was rainfall, because we didn't have the irrigation system ready yet. The seven-iron shots were bouncing to the next tee, but the golfers adapted to the conditions, much like turfgrass adapts. Now, I feel like the spring drought was a blessing in disguise. I've never seen bentgrass develop such an extensive root system. We definitely have a greater bentgrass population than last year, which no doubt will be more drought and heat tolerant this summer. Now, I hope we can maintain the healthy bentgrass with a little help from mother nature.

Anthracnose Causes Early Leaf Drop

Are the leaves of your trees turning brown and falling off? According to Kathy Gass, University of Illinois Horticulturist in Cook County, what you are seeing is probably a fungus disease called anthracnose. Affected leaves have brown, irregular spots. Quite a number of diseased leaves fall to the ground with a few affected leaves remaining in the tree. Usually not all the leaves on the tree will be seriously infected with the anthracnose fungus, comments Miss Gass.

Many gardeners are noticing anthracnose for the first time and are surprised to hear that the disease appears nearly every year. Usually the fungus is not obvious because it attacks in early spring when the leaves are very small.

Anthracnose is a disease closely related to weather conditions. It occurs in cool moist weather. Spring this year started out warm and dry. The anthracnose fungus occured later this spring due to temperatures in the 50's and 60's accompanied by high humidity conditions late in May. We normally experience this weather in early spring, thus the fungus usually attacks small leaves. Since this weather occurred later, we are now seeing the disease on the larger, full grown leaves.

Control of anthracnose is not very successful and usually not necessary. You may spray trees that are affected every year with a fungicide if you wish, but the time to spray is in early spring, before bud break. This is a preventative measure. Treatment now will not control fungus since the infection has already taken place.

Severely infected and defoliated trees will put out a new set of leaves, so you do not need to worry that your tree is going to die.

The early leaf drop from the anthracnose problem may make it seem like fall, but never fear. Hot summer weather is around the corner and your trees should soon look none the worse for the experience.

Observations of Turf Problems — Spring 1986

R. T. Kane, U. of I. Advisor

The primary problem observed on golf course turf this past spring has been winter kill which resulted from the unusual late fall and early winter weather we experienced in the upper midwest. Heavy rains in November were followed by severe cold spells in December. The excess rainfall led to "crown hydration," or excess water in coronal cells of plants. Subsequent hard freezes caused injury or death to these hydrated cells because of ice formation. **Poa annua** and bentgrass in low, wet areas of fairways and greens were most affected. Also severely affected was newly seeded stands of perennial rye.

Poa annua showed how much more susceptible it is than bentgrass to this type of winter injury, since on many courses the bents were much less damaged. Lack of snow cover we experienced later in the winter, coupled with freeze and thaw cycles this spring, contributed further to winter kill of **Poa**. Dessication of **Poa** on exposed sites was a common problem.

These often exasperating winter kill problems were further compounded by the dry, cool weather conditions this spring. Recovery from winter injury was slowed, and many grasses were late coming out of winter dormancy. Washington (and other South German types) and Penncross bent putting greens were slow to green up — most greens were thin and had that familiar dark blue or purple cast well into May. Early growth of bentgrasses was coarse with surface running of stems and stolons. Cool soil temperatures into May also caused **Poa annua** to remain off color, especially **Poa** trying to recover from winter injury. Fast green-speed management (low height of cut, low N, sand rootzones) may increase green-up topgrowth problems when spring weather is unfavorable.

Not much disease activity was observed this spring, primarily due to the cool, dry weather. Some common leaf spot and red leaf spot was observed on bentgrass greens. Leaf spot was more severe in bluegrass roughs and higher cut fairways where higher humidity was maintained in the canopy. Some pink snow mold occurred early this spring, but was infrequent and not very damaging. Snow molds usually occurred where fall fungicide applications were prevented or washed away by November rainfalls.

Diagnosis of Turf Problems

The diagnostic lab at Oak Brook is now ready to go. Disease diagnoses can be conducted by a visit from the trained plant pathologist (me), or by submission of samples directly to the lab (drop-off or mail-in). For submitted samples, certain information is useful to aid diagnosis and should be included. This information is as follows:

a) identify the plant species affected, including cultivar name if known

b) record the cultural conditions under which the grass is growing — include recent fertilizer or pesticide applications

(cont'd. page 7)

Yellow Ring on *Poa pratensis* caused by *Trechispora alnicola*

by H. T. Wilkinson, Ass't. Prof. of Plant Pathology
Dept. of Plant Pathology, U. of I.

ABSTRACT

Trechispora alnicola (Bourd. & Galz) Liberta is the causal agent of yellow ring diseease of **Poa pratensis.** This is the first report of **T. alnicola** as a pathogen of **Poa pratensis.** The fungal infection of roots and crown tissues results in root necrosis and the destruction of chlorophyll in the leaves. The severity of the disease will vary within a growing season, but symptoms can be seen from May - October. The disease is associated with bluegrass turf that has accumulated about 2.0 cm or more of thatch.

At least 21 **P. pratensis** cultivars are susceptible to this fungus. The pathogen appears to be dispersed in water and by machinery. Infection by **T. alnicola** does not result in the death of bluegrass and infected grass can recover by producing new roots, rhizomes and leaves or by increasing the chlorophyll in previously yellowed leaves. The fungicidal chemical pentachloranitrobenze, will reduce the severity of the disease and the rate of disease development, but will not completely prevent pathogenesis.

Yellow ring on **Poa pratensis** is a type of fairy ring quite different from those described by Filer, Redhead & Smith, and Smith. Yellow ring disease does not result in necrosis of grass plants and the disease symptoms are not always visible in the sward. The disease is unsitely, producing rings of yellowed grass which may appear each year during the months of May-October. Wilkinson described a fungus, **Trechispora alnicola**, as having a close physical association with grass plants displaying yellow ring symptoms. Jackson described a related fairy ring disease occuring on **Agrostis tennuis, Festuca rubra**, and meadowgrass turfs and identified **T. confinis** as the probable causal agent. The symptoms and progression of this fairy ring, however, are dissimilar to that of yellow ring. Yellow ring has been observed in Illinois, Iowa, Indiana, New York, New Jersey, Pennsylvania and Ohio.

(Problems — Spring '86 cont'd.)

c) describe the overall appearance of the problem and any symptoms on individual plants (e.g. rings, patches, leaf dieback, root rot)

Also, properly collected and packaged samples are a must:

a) samples should contain both diseased and healthy specimens
b) samples from patch diseased turf should be taken from the outer edges of the patch
c) always try to include the root system when a root disease problem is suspected
d) **do not** soak leaf or soil core samples in water or wrap in plastic bags
e) for delivery, wrap samples in several layers of newspaper or paper towel and pack tightly in a box
f) if package is mailed, try for an overnight or express service
g) don't forget to label all samples, include all pertinent information, and don't forget your name and phone number.

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ROBERT M. LOHMANN of Illinois was elected to the Board of Governors of the American Society of Golf Course Architects at the group's recent annual meeting in Ponte Vedra Beach, FL.

Lohmann, whose office is located at 800 McHenry Ave., Crystal Lake, IL, was elected to a three year term.

The Society's Board of Governors makes all final decisions on policy for the group that includes the leading golf course architects from the U.S., Canada and Mexico.

Stake strikes, kills golfer in freak Douglas accident

Rocky Mountain News Staff

An Arvada golfer died when his golf cart hit a rope staked to the ground and the stake flew up and struck him in the head at the Arrowhead Golf Club in northern Douglas County, officials said.

Carl C. Yanda, 41, was airlifted to St. Anthony Hospital, where he was pronounced dead at 1:30 p.m. Saturday. He died from a "blunt trauma," a Douglas County coroner's autopsy found.

Editor's Note: The above "freak accident" happened to me in April of 1982. Lucky for me I came out of it with fractures above and below the eyes, broken nose, broken teeth, and suffered the loss of smell and taste. To this day I have only 80% of my smell and taste. Reading this gives me a shiver of how fast one's life can change. Just a freak accident, something that we all have on our courses are ropes and stakes. My suggestion is never to use the poly rope with any kind of a heavy stake or metal pipe (in my case). Another "freak accident" with the poly rope happened to one of our members just a month or so after my accident. The member was on a practice tee of another club and the tee was marked off with poly rope tied to round tee markers. On his backswing the golfer's club struck the rope, pulling the tee marker from the ground and the spike struck in the calf of his leg. As innocent as that poly rope looks, it can be deadly. Let's play it safe in the future and be careful where and how we use this rope.

The Insurance Crisis for Pesticide Users

As you are all aware, risk liability insurance for certain businesses, occupations, and services is becoming increasingly difficult to obtain, if even available at all at any cost. The following article, reproduced in its entirety, describes the current crisis surrounding this issue. The article, which appeared in the Winter 1986 issue of **The Bottom Line**, is entitled "Insurance Crisis Deals Touch Hand to More Than Just Pesticide Users."

If you're a pesticide user who finds comfort in numbers, then take heart — the insurance industry is not singling you out. Though you may have lost your pollution liability insurance, you are not alone.

Actually your market — pollution risk liability — is currently one of the eight most difficult markets to insure, according to the **Wall Street Journal**. The others include liquor liability, day-care centers, medical malpractice, high-limit coverage for industrial firms, asbestos removal from schools, commercial fishing and boat coverage, and municipal liability. The cost of policies available throughout 1985 rose 300 to 500 percent while coverage lessened, according to various industry journals. Now, insurers claim they have no choice but to exit the pollution liability market for 1986.

Across the industry, pest control operators, aerial pesticide applicators, utility right-of-way managers, arborists, lawn care companies, and even government agencies face the dilemma of paying for sky-high insurance policies or operating uninsured. Pollution insurance policies, which usually covered only "sudden or accidental" claims, have received broad interpretation by the courts resulting in large awards and high costs to insurers.

The **Wall Street Journal** estimated that the surge in suing has driven up the average product liability award from $345,000 ten years ago to $1.07 million. As the companies pay greater amounts for defense, insurers believe the only solution is to raise premiums and take fewer risks.

The National Pest Control Association estimated in another **Wall Street Journal** article that 450 of the nation's 9000 pest control concerns will have gone under in 1985 due to rising insurance costs and oppressive lawsuits. Homeowners are suing exterminators to collect damages for illnesses or deaths allegedly caused by the pesticides used. Even when the pest control companies win, the insurers lose — they foot the costs of the defense, which can easily add up to $100,000 a lawsuit, according to William Savich, an Atlanta insurance broker specializing in a pest control companies.

Lawn care operators have encountered equally unpleasant insurance situations. Several states require operators to submit proof of pollution liability insurance in addition to proof of financial responsibility for general liability before licenses can be obtained. The alternatives are to seek an almost unobtainable, high-priced policy, operate in violation of the law without insurance, or don't operate at all.

Some operators who apply pesticides aerially, both for agriculture and rights-of-way, have been grounded by their insurance problems. Many large forestry companies require aerial applicators to carry their own insurance policies — which cost the applicators several hundred thousand dollars.

In 1986, some expensive policies will be available on a "claims made" basis, but they provide limited coverage at best, and only for the specific time period that the policy is in effect.

Insurers say recovery time will bring the industry policy prices back into balance. New techniques for moderation out of court will play a key role in reducing the burgeoning amount of legislation and the unreasonable amounts of jury awards. In the meantime, those who want insurance will have to pay dearly for it.

These suggestions may leave pesticide users frustrated, but as one industry expert said, "In increased professionalism through applicator training will be a key in turning the risk perceptions around.

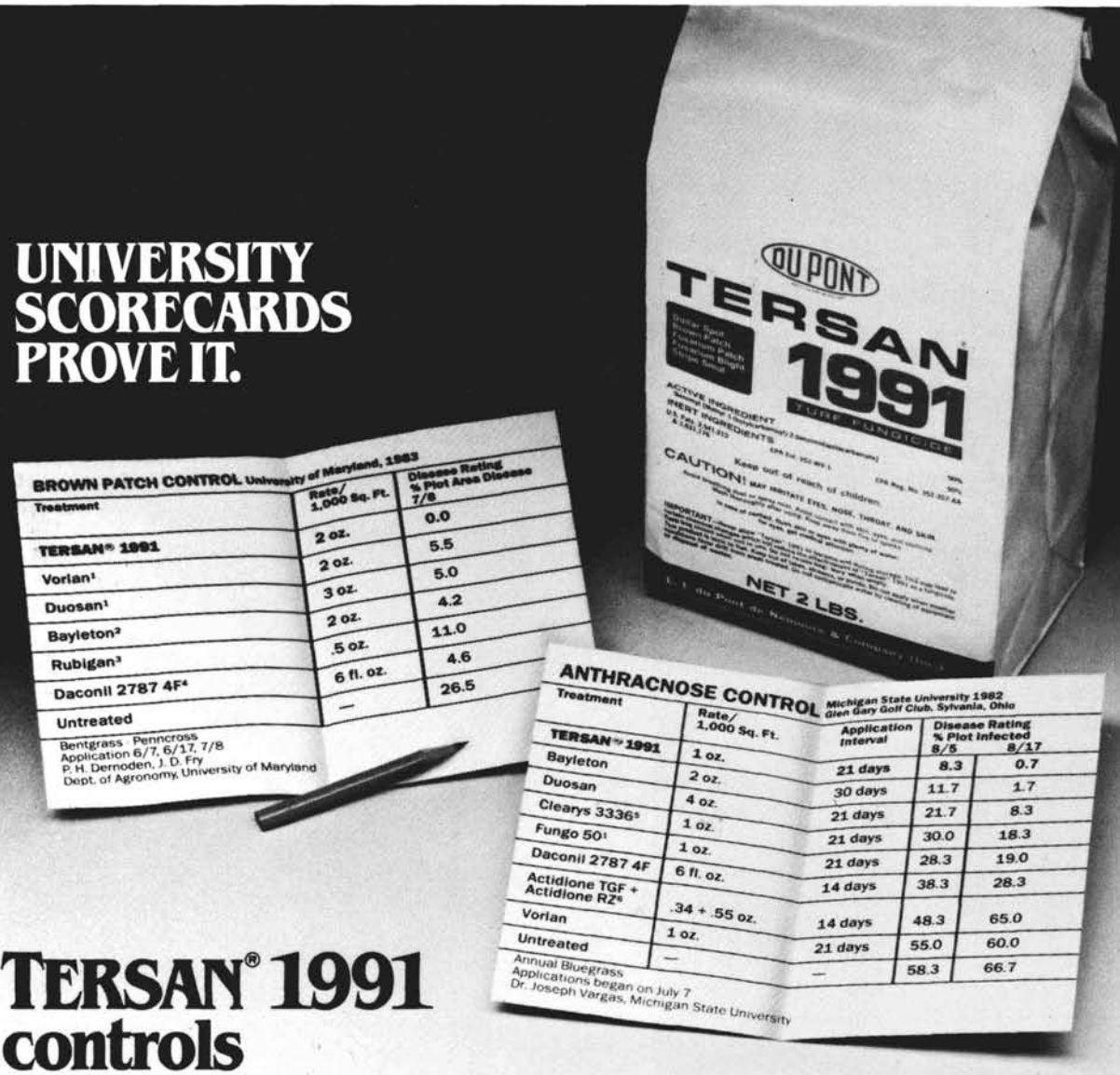
"Better training, which will result in fewer claims through misapplications, coupled with a good public relations campaign, will demonstrate the industry's professionalism to the policy writers," he added.

The Bottom Line, Winter 1986
DOW Chemical Co.

(Tradeoff cont'd. from page 11)

Time versus efficiency has always been a major issue with chemical applications. Most turf managers are dedicated to producing the highest quality turf possible and most are willing to make additional treatments if the end result justifies them. The choice will become clearer as research by turfgrass pathologists continues to demonstrate that checks and balances are often altered or eliminated by certain types of chemicals. You will be able to see that it is more beneficial for you to apply chemicals in a manner that keeps the check and balances intact.

UNIVERSITY SCORECARDS PROVE IT.



BROWN PATCH CONTROL University of Maryland, 1983

Treatment	Rate/ 1,000 Sq. Ft.	Disease Rating % Plot Area Disease 7/8
TERSAN® 1991	2 oz.	0.0
Vorlan[1]	2 oz.	5.5
Duosan[1]	3 oz.	5.0
Bayleton[2]	2 oz.	4.2
Rubigan[3]	.5 oz.	11.0
Daconil 2787 4F[4]	6 fl. oz.	4.6
Untreated	—	26.5

Bentgrass Penncross
Application 6/7, 6/17, 7/8
P. H. Dernoden, J. D. Fry
Dept. of Agronomy, University of Maryland

ANTHRACNOSE CONTROL Michigan State University 1982
Glen Gary Golf Club, Sylvania, Ohio

Treatment	Rate/ 1,000 Sq. Ft.	Application Interval	Disease Rating % Plot Infected 8/5	8/17
TERSAN® 1991	1 oz.	21 days	8.3	0.7
Bayleton	2 oz.	30 days	11.7	1.7
Duosan	4 oz.	21 days	21.7	8.3
Clearys 3336[5]	1 oz.	21 days	30.0	18.3
Fungo 50[1]	1 oz.	21 days	28.3	19.0
Daconil 2787 4F	6 fl. oz.	14 days	38.3	28.3
Actidione TGF + Actidione RZ[6]	.34 + .55 oz.	14 days	48.3	65.0
Vorlan	1 oz.	21 days	55.0	60.0
Untreated	—	—	58.3	66.7

Annual Bluegrass
Applications began on July 7
Dr. Joseph Vargas, Michigan State University

TERSAN® 1991 controls brown patch and anthracnose better than the fungicide you are now using.

If you're not using TERSAN® 1991 fungicide you're not getting the best brown patch and anthracnose control. Test results, like these from Michigan State University on anthracnose and the University of Maryland on brown patch, prove nothing works better than Du Pont TERSAN 1991 fungicide against these two turf diseases.

Many new fungicides provide poor control of brown patch and anthracnose, especially under heavy disease pressure. Their extended spray intervals recommended for other turf diseases, such as dollar spot, are too long to provide adequate protection against brown patch and anthracnose.

TERSAN 1991 is well suited to handle the heaviest disease pressure. Its unique systemic activity withstands heavy rainfall and frequent watering for longer-lasting disease control. And TERSAN 1991 may be applied for anthracnose control either preventively or after the disease is already present.

Schedule TERSAN 1991 in your summer spray program. Apply it in tank mixtures or as supplemental applications from June through August, when brown patch and anthracnose threaten.

You'll get tee-to-green control that hits brown patch and anthracnose hard. Control that university tests prove works even under heavy disease pressure...TERSAN 1991. Only from Du Pont.

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[2] Bayleton—Mobay Chemical Co.
[3] Rubigan—Elanco Products Co.
[4] Daconil—SDS Biotech Corp.
[5] Clearys 3336†—W.A. Cleary Chemical Corp.
[6] Actidione TGF and Actidione RZ†—TUCO Div. of Upjohn Co.

* Not labeled for brown patch control.
† Not labeled for anthracnose control.

With any chemical, follow label instructions and warnings carefully.

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