TurfComms



Vol. 10, I6

PURPOSE: To pass on what we learn willingly and happily to others in the profession so as to improve turf conditions around the country.

MICROBES: Well summer is over and we can stop worrying about those microbes (fungi mostly) wiping out our turf; or can we. There are always articles appearing in the newspapers and journals that make you wonder if you hadn't always better live with if not fear a lot of respect for the microbial world. Now there is that primitive diflagelate in the Chesapeake Bay, *Pfiesteria*, that produces a toxin that kills fish, then dissolves the fish's protective coating of slime, and then feeds on the fish. This one is real neat it has a 24-stage life cycle. Aren't you glad you didn't decide to be an aquatic life specialist?

In Science News, Vol. 152, pg. 124 Aug. 23, '97 there is a two page article telling of different species of bacteria that act together within their species in a cooperative effort. To do this they have developed methods of communication. Whereas individual bacteria of the same species behave one way when present in small numbers; if their numbers increase to a certain point they can sense this and change their behavior to take advantage of their large numbers which gives them **mob strength**.

Another aspect of outbreaks such as "Pfiesteria" is that they have been connected to nutrient levels in the water. This is getting biologist to look very closely as to where these nutrients are coming from. At present runoff from farms and sewage pollution are receiving most of the blame; can golf courses be very far behind. Hopefully most of us are putting on our nitrogen and other fertilizers in nice small doses that are neatly absorbed by the soil and grass roots. The turf establishment phase is still a problem similar to the farmers annual crop problem. It takes a lot of

TURFCOMMS is published at unpredictable intervals by the editor and publisher: New e-mail address is dhawes@dallas.net

Douglas T. Hawes, Ph.D. Certified Professional Agronomist Specializing in Golf Course Maintenance Consulting 2408 Roundrock Trail Plano, Texas 75075 (972) 867-0176 Fax (972) 519-9263

Subscription cost is \$15. Send checks to Doug Hawes at the above address.

available N, P, & K to get many crops off to a good start.

BENTGRASS FAIRWAYS: For about 15 years now I've been periodically dropping by an Omaha area golf course to see how their bentgrass fairways are standing up. My main concerns were thatch buildup and the inability of creeping bentgrass to take traffic. The fairways on the visit this summer were in good shape and with less thatch than I remember seeing in the last visit. The course has had a change in superintendents so I asked this one what his secret was to keeping thatch under control. His answer was, I aerify the s--- out of them twice a year and break up and drag-in the plugs. It gets real messy for a week each spring and fall.

This club went from perennial ryegrass fairways about 15 years ago to bentgrass over a four or five year period. The fungicide bill for fairways with the ryegrass was enormous. It is now down considerably. Of course management has also changed. Overall the members hate the bentgrass fairways I was told. The ball doesn't sit up enough. Can you ever satisfy those members?

HEALING HERBS: If you or someone you know has really gotten interested in growing and or using herbs in self medication I have two suggestions you might pass on to them. 1. obtain a copy of The Avant Gardener Vol. 29, No. 12, Oct. '97 and 2. obtain a subscription to Herbalgram. The former I've mentioned before it is published in NYC; that issue is a special on the subject. The latter I only scribbled down on my note pad at the summer ASHS meeting during a session on medicinal herbs as being the best (most accurate) monthly journal or magazine in the field as noted by professionals in the field.

DIRTY SAND: This is written for anyone who has had trouble with the sand in bunkers (traps) being contaminated by the soil underneath. Over the years I have seen black plastic used, then geofabrics, now it is (was) StabilizerTM, and the new kid on the block is Bunker GuardTM. Stabilizer is a polymer that was suppose to seal the base holding the soil in place. According to two superintendent reports at a North Texas Supt. Meeting in September, Stabilizer lasts just a little over a year in North Texas.

Bunker Guard is a synthetic polymer mixed with ground limestone. It hasn't been around long enough for a good test but the first six months looks promising.

CHITTIMWOOD: This, *Bumelia lanuginosa*, is a native tree with a lots of other common names which are semi-descriptive like Gum Bumelia, Woolybucket Bumelia, Gum Elastic, Wooly Buckthorn, Gum Woolybucket, Wooly Bumelia, False Buckthorn, Shittamwood, Ironwood, and Coma. Most of the year when looking at it from any distance you would think it to be a live oak unless north of the normal live oak range.

I have not seen many of them but write this after having played golf at the September North TX Supt. meeting on a course with one of these trees. As I got close to it I noticed it because it was covered with black olive-like fruit medium in size. Another time you notice it is when it is flowering in the Spring. I was in Georgia this Spring when one was flowering adjacent to a tee. It was just covered with bees. They were too busy obtaining nectar to bother anyone. Surprisingly you won't find this tree in Neal Sperry's text or Wasowski and Ryan's Landscaping with Native Texas Plants. It is listed and described in Nixon, Simpson, and Vines's tree books. It is a tree you probably won't find in the most of the nurseries. I did however find it listed as available through four nurseries listed in Texas Native Tree and Plant Directory of 1986. Give me a call if you wish more information.

It is a slow growing very drought tolerant tree with small leaves. The spines and fruit might make it a problem in some places but the fruit are not a major problem and the spines don't begin to compare to a those on a honey locust. Whitcomb and Vines's texts show it adapted to/found east of San Antonio, TX., New Mexico and up to Western Nebraska to the Atlantic Ocean with the exception of South Florida. It is hardy to zone 5, cold tolerance that is.

ZOYSIA: I'm overdue on my promise to write an article on the new zoysias. (But, before you get too excited about the new zoysias maybe you should read Sifers and Beard's article comparing 9 zoysias with 26 bermudagrasses, see comments on page 4) Here is a few comments on the four new Texas cultivars. On October 11th I put on my seasonal demonstration (exhibit) of turf weeds and grasses at the Dallas Arboretum. Before going down I called Dr. Engelke and asked if he would like me to include his four new zoysia cultivars. These will be on the market next summer in limited quantity. He said yes, and I picked up small sod strips and put all four as 4" x 14" strips in a flat with appropriate labels.

The crowds at the Arboretum that day were extremely small but I did get a fairly large percent of very favorable comments concerning 'Diamond'. You could see the eyes light up on a few guys as they gently stroked their hand across this fine textured, low growing *Z. matrella*.

I took all the pieces of zoysia after the demonstration and planted them in three locations in my lawn. Now if I can get them through the first winter I should end up with some close observations of 'Diamond', 'Palisades', 'Crowne', and 'Cavalier'. These had research numbers DALZ8502, DALZ8514, DALZ8512, and DALZ8507 respectively; and are like Meyer only vegetatively propagated. The comments below are my interpretations of the information presented in four release booklets from TX A & M.

Although Dallas area superintendents can assume that all of these cultivars will do well in this area those in other parts of the U.S. need to check with state university turf specialist before trying one of these cultivars. National test have shown that no one cultivar is the top ranked cultivar every where. One of these four may in your area be a much better choice than Meyer, Emerald, or El Toro for your desired use.

'Diamond' is the finest textured; and is a low growing *Z. matrella*. It has lots of rhizomes and if not cut to thick as a sod crop it can produce a second sod crop in four months of growing season claims TX A & M. If however planted as sprigs or plugs one and a half years or more maybe needed for full coverage. It has excellent shade tolerance and color retention, with good salt tolerance. I have seen it do well on one very shaded tee on a course where it receives very little traffic.

On the down side it is not cold tolerant north of zone 7. It is relatively susceptible to tropical sod webworm and the zoysiagrass mite, and only moderate resistance to tawny mole crickets. It does

not tolerate overseeding well and has a somewhat higher water requirement than some other zoysias like Crowne.

.

'Palisades' is a *Z. japonica* with long leaves that are medium-coarse in texture. It is a aggressive grower and was partly released to offer competition with St. Augustine. It is reasonably drought tolerant, requiring less water than 'Meyer'. It is more shade and salt tolerant than Meyer. It retains its color slightly longer than 'Meyer' and tolerates mowing as low as one centimeter and will look good from there to 5 cm. (two inches).

On the down side it is susceptible to fall army worm.

'Crowne' is a coarse-textured Z. *japonica* with excellent drought tolerance and good winter hardiness. The optimum mowing height is 1 to 2 inches and it is adapted to low maintenance. It establishes from sprigs about twice as fast as Meyer and has more shade tolerance. It has moderate resistance to the zoysia mite and the tropical sod webworm.

It is susceptible to *Rhizoctonia*, only somewhat salt tolerant, and susceptible to fall armyworm and the tawny mole cricket. It is not suitable for close mowing, i.e. fairways or tees.

'Cavalier' is a fine and long leaf Z. matrella that spreads rapidly by stolons. It has good shade and salt tolerance. As a sports turf it has fair recuperative potential and looks somewhat like 419. Engelke hopes it will replace common bermudagrass in fairways north of Dallas/Ft. Worth where 419 is generally not considered winter hardy on fairways. Cavalier is intermediate in water use with some drought tolerance. It is written up as having good winter hardiness being at least suitable for the Mid-Atlantic area or Kansas City but Z. matrellas are not generally as hardy as japonicas. It has weak rhizome growth but strong stolon growth.

On the down side it requires a sharp reel mower, has some potential to develop thatch and is susceptible to the zoysiagrass mite.

Other new zoysia cultivars: Omni (CD2013), Zeon, Zoyboy, Jamur, Royal, Bonazia, and El Toro. I will publish some material on El Toro at least in the next issue.

BERMUDAGRASS vs. ZOYSIA: In Vol. V, No.4 of **TURFAX** Sifers and Beard give a three page write up of dehydration avoidance and drought resistance differences in these two genera found in their research. The first paragraph of the RESULTS gives a nice summary, "The mean leaf firing on day 158 was 51% for the bermudagrass genotypes and 95% for the zoysiagrass genotypes. Similarly, the mean shoot recovery 15 days following reinitiation of irrigation was 80% for the bermudagrass genotypes and 16% for the zoysiagrass genotypes." Now if that doesn't nicely summarize one of the big differences between zoysias and bermudagrasses in general I don't know what does. It is however only fair to say that the worst bermudagrass was not superior to the best zoysia. Also the cultivar Crowne which Engelke claims to have great drought tolerance was not in the 9 zoysias looked at by Sifers and Beard.