

3<sup>rd</sup> Rough Draft

TURFCOMMS

VOLUME 1, ISSUE 4

April 15, 1985

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

GENETIC ENGINEERING: are we ready?

You are wondering what that title is doing in a turf newsletter? Did you read the article on tissue culture in the Feb. issue of Golf Course Management? If we can do that with turfgrasses than genetic engineering is not too far away for turf science.

Also as practitioners in the greater field of biology we should be prepared to intelligently discuss this subject. Or at least be able to intelligently follow discussions of the subject. Changing the amino acid combinations in genes of plants and animals is beginning to take place. But, not without a lot of controversy.

Reading the above mentioned article and "Moral Fantasy in Genetic Engineering" by C. K. Boone in The American Biology Teacher Vol. 46:Pg.449-456 both within a matter of days led me to put a few words on the subject here. One of Boone's comments on genetic engineering was: "I could imagine, however, that a future generation might condemn this generation for too precipitously disseminating an organism that had become ecologically destructive." Immediately kikuyugrass, Johnson grass, gypsy moth, kudzu and the English sparrow came to mind. If we can get into so much trouble just bringing in to this country some plant or animal native to another part of the world what is going to happen when we release on to the world something it has never seen before.?

"The reasonable man adapts himself to the world; the unreasonable one persists in trying to adapt the world to himself. Therefore all progress depends upon the unreasonable man." George Bernard Shaw courtesy of Peter's Quotations

---

TURFCOMMS is published at unpredictable intervals by the editor and publisher:

Douglas T. Hawes, Ph D  
Certified Professional Agronomist  
Specializing in Golf Course  
Maintenance Consulting

2408 Roundrock Trail  
Plano, Texas 75075  
(214) 867-0176

Subscription cost is \$10.

No, I'm not opposed to genetic engineering. It would be foolish to go around shouting opposition to man's inclination to attempt to manipulate the world around him. But, let us hope we don't have unleashed upon us a kikuyu-like creeping bentgrass. Or are you bored with the old challenges and ready to accept new ones.

Do we have a choice? We may need all the genetic engineering we can muster if bacterial wilt becomes the problem some are predicting. Or if the quality and quantity of water we have available for turf becomes as poor and as scarce as I'm willing to believe it will in my life time. One could gladly accept a kikuyu-like creeping bentgrass if it would produce a high quality turf on the low quality and scarce water often found in the Southwest now.

After having written the above I found from reading Science News, the Feb. 23rd issue that my timing was quite good. February was the 10th anniversary of the Asilomar Conference. This was a historic conference at which 140 of the U. S. molecular biologist gathered to assess potential risk of gene-splicing. They drafted a letter that stated: "Although no hazard has yet been established, prudence suggests that the potential hazard be seriously considered,". The debate goes on and so does the research.

From the April Science 85 we have; "...Monsanto Company scientists in St. Louis recently did transfer a human gene into a petunia. The gene which encodes the manufacture of a pregnancy hormone called human chorionic gonadotropin, or HCG, made the petunia plant cells produce minute quantities of the hormone." I can see the headlines - PETUNIA HAS POSITIVE PREGNANCY TEST

---

#### BURY A "DEAD MAN" BESIDE YOUR BRIDGE

I came up with this idea for an article during a visit to Kansas City Country Club. Consider putting in a "dead man" for each of your bridges with a cable or chain to one corner. It may help you preserve a valuable bridge and/or valuable property downstream.

Sailors do everything in their power to avoid having their ship hit broadside by a wave. Yet, bridges over streams are usually anchored so that they take the peak stream flow broadside. There has been a trend with light weight bridges to anchor one corner to a "dead man" using cable or chain. Then when the bridge is hit by debri or rushing flood current it dislodges and swings over to the side out of the main channel.

In 1983 such "dead men" and cables preseved the bridges at Kansas City Country Club. It was simple work after the flood for a crane to replace them on their mountings.



LETTERS TO THE EDITOR: from Dr. Donald V. Waddington, Professor of Soil Science, The Pennsylvania State University. "We do not have additional data on Poa annua infestation as affected by P and K fertilization. The effect of K fertilization on increasing P. annua was not observed when soil P was low (no P fertilization). Likewise, the effect of P on increasing P. annua was not observed when soil K was low (no K fertilization). I would not recommend withholding K to depress P. annua. In general, 1.5 and 3 lb. K/1000 sq. ft. gave little difference in infestation. At zero K, deficiencies were suggested at various times of the year by decreased yields, chlorotic turf, low soil levels, and low tissue levels. Considering the importance of K for tolerance to disease and environmental stresses, how could one eliminate it from a fertility program? In Pennsylvania we recommend soil testing to determine appropriate rates. Maybe someday a fool-proof herbicide or PGR will come along to effectively control P. annua. Then we can forget about unbalancing soil nutrient levels and altering pH to control it."

FROM OTHER NEWSLETTERS - Rocky Mountain Reporter, February, 1985:  
Gary Russell, supt. Hiwan Golf Club telling about his equipment problems "Hiwan has the oldest golf course equipment in the state....Our most valuable piece of equipment is a tow chain to haul this junk off the course when it breaks down.....We have to rely on real estate and commercial development which has been off in Evergreen since 1980. So the capital items are put on hold and we end up getting a new tow chain each year."

WITH COMMENT:

At one time or another we have all seen our share of run down equipment. It is good to see a superintendent that can laugh over his frustrations. The worse equipment situation I have ever run into was on an 18 hole golf course. When I arrived the area had been thru 4 weeks of summer monsoon like weather. This was bermudagrass country and this course had real bad drainage problems. They were out cutting fairways down with their one brush hog. They then planned to unhook that from their one tractor and hook up the three gang rough unit. Hopefully after a couple of mowings with that they would be able to go back on the fairways with the 5 gang fairway unit. Considering they only had a three man crew I guess there wasn't any need for too much equipment.

Imagine mowing 35 acres of fairways with a brush hog before you could mow them with the rough unit, before you could mow them with the fairway unit. Next time you are "down in the dumps" about not getting a new piece of equipment imagine these two extreme cases.

STIMPMETER: The material below is taken from a letter I wrote in response to a recent article on the stimpmeter.

Enjoyed reading your Stimpmeter article. Ball size makes a difference as to the speed they roll. The english ball, smaller in size than ours but of the same weight, rolls a much shorter distance consistently. "Much shorter" is about nine inches on a green with an eight and a half foot speed.

There was at one time a larger than normal ball out on the market. I would imagine that if this was the same weight as our ball it would roll a considerable distance further.

Dimples make no difference on how far the ball rolls but, a ball without dimples sure sounds awful quiet rolling down the Stimpmeter.

Now of what value is all this? Well, as a superintendent if you just happened to have all three ball sizes in your office and you had a hot complaint about green speed you could do a little something about it. You could convince that irritated individual the greens were either 9 inches slower or faster than they really were. Or give the individual "slower" or "faster" balls to play with.

---

#### THE "SUBBING" EXPERIENCE

Substitute teaching ("subbing") similar to life as a USGA agronomist on some counts finds Dr. Hawes. "Each day is a new experience. I'm never quite sure what the next day will bring. A different school with its different students and most likely a subject matter different than that of the day before.", is what makes it all so similar says Dr. Hawes.

While on the road covering an eleven state region for the USGA Dr. Hawes found it was best to treat each day as a new experience and to be prepared for the unexpected. For each day found him at a different golf course with its different management and problems to work on. Often in one week he found himself in two different climatic regions with the resulting different soil types and adapted grasses.

Subbing keeps him on his toes he has been forced to review biology, chemistry, physical science, mathametics, general agriculture, and Texas and American history. Most substitute teaching for single day teacher illness or personal leave do not involve much teaching. However, knowledge of the subject matter gets respect from the student and that in turn makes class discipline easier he has found. Having the knowledge to help someone understand the subject matter is a teachers reward. Maintaining discipline is a "subs" first priority. (continued next issue)