

THE GREENERSIDE

Official Publication of the
Golf Course Superintendents Association of New Jersey

Vol. 12 No. 6

November - December 1989

The Future for Turf Varieties

DR. C. REED FUNK TALKS ABOUT TURF

by William Steele

We in New Jersey are fortunate to have one of the premier turfgrass breeders in the world. The following article appeared in the May 1989 issue of "Turf" Magazine and should be of interest to our readers.

"Fifty years from now," says Dr. C. Reed Funk, "professors will be telling their students about the good old days when we could control disease with fungicides."

Like insects, fungal diseases are rapidly becoming resistant to the poisons we use against them. Given that there are millions of tiny organisms in every field sprayed, it's not surprising some of them should evolve resistance when the environmental pressure is on. At the same time, Dr. Funk points out, it's becoming more difficult and expensive to develop and get approval for new fungicides.

Dr. Funk, who is a professor of soils and crops at the New Jersey Agricultural Experiment Station of Rutgers University, offers a promising alternative: he's trying to breed new turfgrasses that are disease-resistant. He's been at it since 1962, when he became the first full-time person at any U.S. university working on turfgrass breeding. There's been a lot of progress in the field since then, he says, but there's still a lot to do.

"We have quite a stable of Kentucky blue-grasses with good resistance to leaf spot and stripe smut, and moderate resistance to rusts," he says. "In rye grasses, we've made progress in improving resis-

tance to net blotch, we have significant but not adequate resistance to brown patch, moderate progress on stem rust, and moderate but erratic progress on crown rust." Summerpatch and red thread are still serious problems, he says, adding, "I

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GCSANJ
Annual Meeting
Nov. 16, 1989
Hollywood Golf
Club

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THE GREENERSIDE

GCSANJ Newsletter is published six times a year by the Golf Course Superintendents Association of NJ, 66 Morris Ave., P.O. Box 359, Springfield, NJ 07081

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Art and Typography by Association Management Corporation, Springfield, NJ

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EDITORIALS

Vote early and often!

It's a philosophy often attributed to depression era Chicago politicians where even the dead were said to be registered voters who frequently cast their ballots. With all the whoopla going on over the upcoming elections for the 1990 GCSANJ officers, I thought it might be best to take a little time to reflect on the bigger picture, and that is membership. That's right, membership which really should have a capital M. A Member is the most vital person in the GCSANJ. He or she is the main reason for the existence of our association. Our membership looks to our association for service and the benefits of association. Servicing the membership is the central pillar of GCSANJ. A Member is not a problem, but rather, his problems are the problems of the GCSANJ. A Member cannot be thought of as a statistic or a computer-generated label. He is filled with all the emotions, feelings, ideas, preconceptions and misconceptions that make us all human. A Member is always a part of our association and never apart from it. Our organization is supported by membership "dues," as in money, and time and effort and enthusiasm, as in paying our dues. A Member is not an opponent. Even in elections for office within GCSANJ, "opponents" are really working for the same goal: a better GCSANJ. A Member needs leadership and that's why we have elections in GCSANJ. So, no matter who wins what in this year's elections, the main issue is leadership for better service to the GCSANJ membership. So, make certain you go to the annual meeting and don't forget to vote early and often!

ILONA F. GRAY
EDITOR

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The case of mistaken identity

This is no Perry Mason episode. First, it was a special call from Paul Powondra. Then a subtle message from John Wantz, followed by a similar call from Glenn Miller. Finally, many of the more devoted readers of the "Greenerside" noticed a slight error of mistaken identity in the September-October issue. Well, not really mistaken, more like a switched caption on some magnificent photos of Steve Stys and Joseph Tokoly of Rockland Chemical Company reported as Bron Zienkiewicz and Shaun Barry with Russ Ward at last year's Field Day. A two for three switch! Now, how could we possibly make a mistake like that? Well, after due consideration by a panel of expert witnesses and board certified clinical psychologists (who, incidentally all disagreed), it was determined that we were simply dazzled by their good looks! Apologies to all from "The Greenerside" Staff.

PRESIDENT'S MESSAGE



Steve Finamore,
CGCS
President GCSANJ

Dear Members:

As another season comes to a close, it is time to reflect on my year as president of GCSANJ. When I was first elected to this position, I was more than just a little apprehensive because of the growth during my predecessor's term. But, with strong support from the Board members, this apprehension quickly faded.

Things have gone fairly smoothly. Of course, there have been some setbacks. An example on the smoother side is the fact that Henry Indyk's retirement was made manageable through the good services of Judy Policastro of the Association Management Corporation.

Your Board's accomplishments are many: The invitational had the largest number of participants in years. Our survey continues to upgrade information on salaries. A commercial cross reference has been added to our roster. Educational programs have been superb. Patch disease research has begun to benefit many courses. Scholarship funds have been made available to deserving students. The association is now officially incorporated. The newsletter is still number #1! We have a new Public Relations Committee which has just begun to scratch the surface of what it can achieve. Our cruise program was an outstanding success. Our mechanics have been encouraged and supported to get together to exchange ideas. And, we had an excellent meeting and golf tournament schedule.

Your board members and committees have full-time jobs and most have wives and children and other interests, but always seem to find the time to take on the responsibilities of running our association. Throughout the year they have provided the services that we sometimes take for granted. Thank you **Dave, Len, Chris, Bruce, Larry, Marty, Rick, Tom, Ed, Steve, Shaun, Gerald, Dick, Dave**, and their committee people for their dedication. And let's not forget the members who've offered their clubs for our meetings: **Steve Malikowski, Glenn Miller, Dave Mayer, John Schuellner, Drew Kiszonak, Chris Carson, Jack Martin, and Bruce Cadenelli**. All of these individuals made my year as president more enjoyable, and the season for all of us much easier!

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CALENDAR

- November 6** **GCSAA Seminar: Golf Course Safety, Security & Risk Management**, East Brunswick. Contact: GCSAA (800) 472-7878
- November 7-10** **NY State Turfgrass Association: Turf and Grounds Exposition**, Rochester Riverside Convention Center, Rochester, NY. Contact: NYSTA (800) 873-TURF
- November 16** **GCSANJ Annual Meeting**, Hollywood Golf Club Deal. Contact: Bruce Cadenelli (201) 531-3609
- November 21** **Alliance for Environmental Concerns Annual Meeting**, Jamesburg. Contact: Ilona Gray (201) 595-7172
- December 4-7** **NJ Turfgrass Expo**, Resorts International, Atlantic City. Contact: Dr. Henry Indyk (201) 932-9453
- December 8-9, 11-12** **Golf Course Construction Techniques and Management Golf Course Restoration Renovation and Construction Projects**, Tuxedo, NY. Contact: GCSAA (800) 472-7878
- January 15-18** **Second Annual Advanced Turfgrass Integrated Pest Management Short Course**, College Park, MD. Contact: Lee Hellman (301) 454-7130
- February 19-26** **GCSAA International Golf Course Conference and Show**, Orlando, FL. Contact: GCSAA (800) 472-7878
- February 24 - March 4** **NJ Flower and Garden Show**, Morristown Armory. Contact: Todd Jameson (201) 560-9020



GCSANJ NEWS

GCSANJ ANNOUNCES 1990 BOARD

The slate of officers for the 1990 Executive Board, of the Golf Course Superintendents Association of New Jersey was announced at the September Board Meeting: President, Stephen P. Finamore, CGCS, Alpine Country Club; Vice President, David Pease, Hominy Hill Golf Club; Secretary, Chris Carson, Echo Lake Country Club; and Treasurer, Len Forlenza, CGCS. Please give your enthusiastic support to these four volunteer leaders.

BEAT THE PRESIDENT

What a theme! Beat him with what? A round of golf? OK. It's a challenge, but, as reported by Shaun Barry, four players beat the president at the Apple Mountain Golf Course Tournament. Steve Finamore shot an 80 and with his 12 handicap, set the goal of 68 as the score to beat. Chris Gaynor had a handicapped score of 62; Clyde Ashton a 66; Charles Burdick a 67 and Bob Prickett a 67. In addition to Beat the President, the tournament featured a Mark Mason drive on the 18th for closest to the pin. Mike Prusser had the longest drive. Skins were Mark Mason, Dave Mayer, and Mel Waldron (all 1) and Bob "The Bandit" Prickett, 2.

APPLE MOUNTAIN GOLF COURSE HOSTS SEPTEMBER MEETING

The monthly meeting of the Golf Course Superintendents Association of New Jersey was held on Thursday, September 14, 1989 at the Apple Mountain Golf Course in Belvidere.

As customary, the meeting was preceded by a golf tournament, where the participants were challenged to beat the GCSANJ President, Steve Finamore's golf score. These results are described in a separate feature.

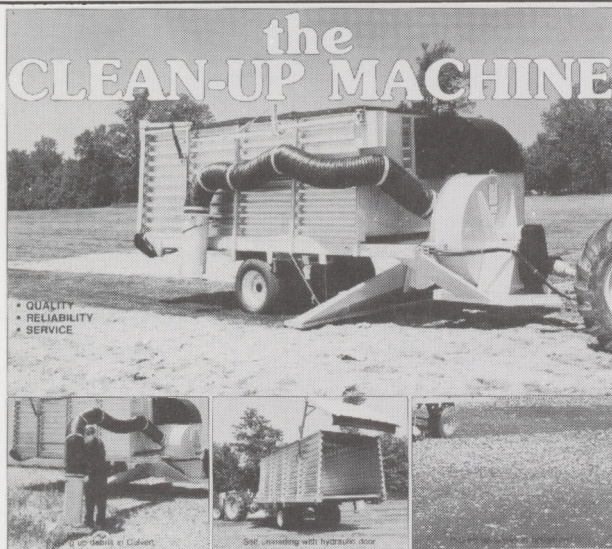
This meeting was dedicated to Dr. Henry Indyk who has recently retired as Executive Secretary of the GCSANJ. Dr. Indyk was properly roasted by his associates turned chefs: Dr. Meade, Dave Magee, Steve Finamore, and Drew Kiszona. Although Dr. Vasvary could not attend, he sent a letter which was read to the assembled by Drew Kiszona.

Dr. Indyk in characteristic fashion responded roast for roast!

They came to toast Dr. Indyk with great affection and humor. His dedication and service of countless hours to the GCSANJ could not go unrecognized at the time of his retirement as Executive Director. Prior to the dinner, Dr. and Mrs. Indyk had been awarded a trip to Orlando, Florida with appreciation of the GCSANJ. This was graciously acknowledged by Dr. Indyk at the roast.

This was the first Superintendents meeting held at the Apple Mountain and it was an honor and pleasure to be the host for this special event. We would like to thank all of the attendees, particularly those from Rutgers, Dr. Meade, Dr. Clarke and, of course, our very special guest, Dr. Henry Indyk.

DREW KISZONAK, SUPERINTENDENT



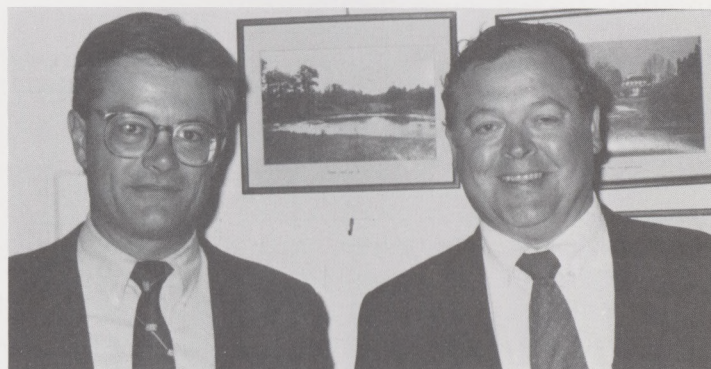
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2nd Place Winners in the 2 man team at the GCSANJ Invitational with a score of 62 was Essex Cty C.C. Standing on the right is John Schoellner - Superintendent and at his side Pro Bill Nash

THE INVITATIONAL TEAM CHAMPIONSHIP HELD AT ESSEX COUNTY COUNTRY CLUB

The largest participation in recent memory was just one of the highlights of this incredible tournament. This one will go down in the memory books as one of the most exciting tournaments held by GCSANJ. What a show put on by John Schoellner, the hosting superintendent!

It started out plain enough with 35 teams of four players. Participation came from all over the state including one team from New York. The course was in tip-top shape, despite our bad weather this year. The scores were phenomenal, and here are the results, as recorded by Shaun Barry, the Official "Greenside" Tournament Reporter.

Taking first place in the two-man team with a score of 62 was Samuel Juliano with his Pro, John Pierce, from Knickerbocker CC. Second place with a score of 62 was John Schoellner with his Pro, Bill Nash from Essex County CC. The four-man teams' winning circle was filled with Sam Juliano, John Pierce, Dr. Felix DeMartini, Greens Chairman, and Ed Reilly, President, Knickerbocker CC. The second place team was from Essex Fells CC and included Superintendent Larry Dodge, Pro Jim Turkeskis, Greens Chairman Doug Munson, and President Jack Cussen. The third place was won by a team from Jericho, NY of the Meadowbrook CC with Superintendent Charlie Cross, Pro Randy Grills, House Committee Ed Westfall, and Club Manager Dennis Harrington.

Steve Finamore, President of the GCSANJ, collected a hole in one on the fifteenth hole. Immediate Past President Ed Walsh, who witnessed the event, explained that he had never been so blessed. Let's hope that this is a good omen for the GCSANJ for Steve's

1990 Presidency.

After all of the excitement of this excellent outing, we were treated to an extraordinary dinner, good companionship and convivial conversation. The awards were presented in the baronial dining room of the country club and a good time was had by all!



1st Place Winners of the 2-man team at the Invitational from Knickerbocker C.C. were Superintendent Samuel Juliano on right and his Pro, John Pierce



2nd Place at the GCSANJ Invitational in the 4 man team was Essex Fells C.C. From left to right - Jim Turkeskis - Assistant Pro, Larry Dodge - Superintendent, Doug Munson - Greens Chairman, Jack Cussen - President



First Place Winners of the four man team from Knickerbocker C.C. are from left Dr. Felix Demartini - Greens Chairman, John Pierce - Pro, Ed Reilly - President, and Samuel Juliano - Superintendent



Meadow Brook Club took the 3rd Place Slot in the 4 man team with standing on the left, Randy Grills; Teaching Pro; Dennis Harrington, - Club Manager; Charlie Cross - Superintendent and on the right Ed Westfall - House Committee

Dr. C. Reed Funk talks about the future of turf

(Continued from page 1)

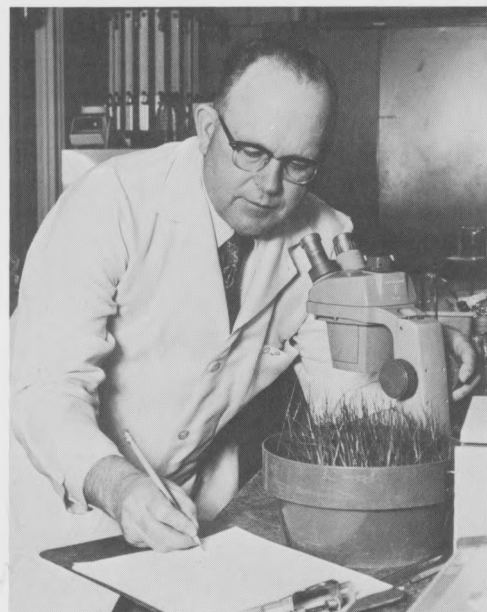
could go on all day listing the things we'd like to have."

FUNGUS ADAPTS

The breeder's goals change as diseases adapt. Dr. Funk notes that red thread, once seen only in the cool, damp climate of the Pacific Northwest, is now becoming a problem in the Northeast. "The fungus has adapted

to our climate," he explains, "developing strains with heat and cold tolerance."

And as fast as we breed new plants with disease resistance, he adds, diseases evolve ways to get around it. If a plant secretes a toxin that kills the fungus, for instance, this has the same effect as spraying the toxin on the lawn: a few disease organisms that have mu-



Dr. C. Reed Funk, professor of soils and crops at the New Jersey Agricultural Experiment Station of Rutgers University, is on the cutting edge of breeding new disease resistant turfgrasses. He is recognized internationally for his work.

tated to resist it will multiply, and soon the only form of the disease you see will be the resistant form.

There is more promise, he says, in plants that resist disease through hardiness or changes in the form of the plant. For instance, a spot of fungus on a narrow leaf can cover the full width of the leaf and kill it; the same spot on a broad leaf can be tolerated. A plant that is hardy and fast-growing can literally keep ahead of the fungus. A typical grass plant, he notes, may have about five leaves; at any time one leaf will be new growth and one will be the oldest, in the process of dying. It's natural to see fungus on the dying leaf, he says, even desirable; this is how the plant material is decomposed and its nutrients returned to the soil.

Another problem for breeders, Dr. Funk says, is that we don't have good data on how well currently available grasses resist some diseases. Summerpatch, for instance, is one of several diseases that use to be lumped under the name "fusarium blight syndrome." At one time, he says, certain grasses were found to be

resistant to fusarium blight in Maryland, while other scientists found the same grasses susceptible in California. Apparently, he says, workers in the two states were looking at different but related diseases.

Resistance also varies with conditions, he points out. A grass that might resist a disease on a test plot may succumb under the stress of close mowing or damp or shady conditions or changes in soil Ph.

A TEDIOUS BUSINESS

Serious turfgrass breeding has been going on for only a short time compared to work in breeding vegetable crops, where hundreds of well-financed workers have made remarkable advances. Dr. Funk can tick off a list of full-time turfgrass breeders on two hands with a couple of fingers to spare. There are a few others, he says, for whom turfgrass breeding is more of a "part-time hobby."

Full-time or part-time, it's a tedious business. Dr. Funk, aided by a couple of technicians, a couple of graduate students and some extra Summer help, plants new varieties in three-by-five-foot test plots, each with a six-inch border, to see how they perform. Typically, he will have 50,000 such plots growing at one time. Each test, he notes, must be repeated several times to be sure there are no errors.

FIRST BREAKTHROUGH

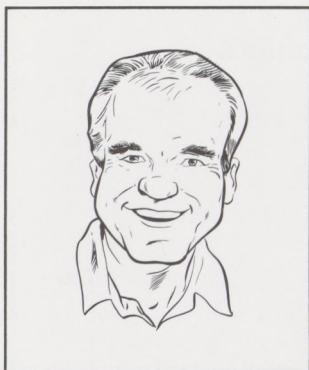
Before turfgrass breeders went to work, it seems groundskeepers mostly spread seed liberally, watched the grass die in a couple of years, and reseeded; fortunately, seed was cheap. The first breakthrough came with the introduction of Merion bluegrass in the early 1930s. This wasn't the result of breeding, but simply a hardy variety discovered growing at the Merion Country Club in Ardmore, Pennsylvania.

Merion had the serious disadvantage of being a poor seed producer. The goal of breeding programs is to combine disease resistance with a range of other desirable characteristics, such as attractiveness, durability and tolerance to close mowing, and of course, the ability to produce lots of seed. The trick is to find disease-resistant plants to start with. For Dr. Funk, the search is sort of like prospecting for gold.

"For many decades," he explains, "millions of pounds of poorly-adapted ryegrasses were planted throughout the northeast, because the seed was cheap. The plants would come up quickly and generally die out in a year or two. But of those millions of plants, there would be a few that didn't die out. I thought that if I walked over thousands of acres, I might find them."

He did just that, walking through parks, golf courses, cemeteries and pastures. Mostly, he looked in places that were under regular mowing, since he wanted grass that could survive under that condition. "You

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Jim Gilligan's Column

It is the eve of the autumnal equinox (September 23rd), the third stage of the seasonal year and the home-

stretch of the golf season. The vernal equinox (spring) and the autumnal equinox are the only time of the year when day and night are of equal length. Autumn will continue until the winter solstice in December.

For the superintendent, autumn signals the arrival of cooler days and longer nights which are conducive to growing and germinating grass. Unlike agricultural seasons when spring is the season of germination, autumn is the season of grass germination. Hidden among the varieties of bent, blue, and ryegrass seedlings lurks the threat of *Poa annua* germination. Successful overseeding programs often obscure the fact that *Poa* is germinating in the midst of those seedlings. But now we have the tool to combat this unwanted intrusion: Plant Growth Regulators. The success of these chemicals, combined with lightweight mowing and modern irrigation systems, has significantly improved the quality of close-cut fairways.

Bentgrass has been the standard turf for championship playing conditions, but until recently, it has been difficult for it to compete successfully with *Poa annua*. Turf-type ryegrasses have emerged as a close contender for the supremacy on the fairways.

I've always favored bentgrass as a fine fairway turf. Fifteen years ago I tried to establish bluegrass fairways, but it failed due to poor soil conditions, disease, and close mowing. At that time, turf-type ryegrasses were being introduced and they were substituted in the mixture. The remnants of the ryegrass are still present, highlighted last fall as the effects of a PGR treatment were visible. As I have mentioned in this space before I was tempted to switch to ryegrass this fall, but decided to stay with bent program another year. But an idea crept into my brain. Why not overseed the Bent/*Poa* fairways with ryegrass and nurture the ryegrass for three years while chemically eliminating the *Poa annua* and then begin introducing bent seed back into the fairways and complete the transition to bentgrass? Sounds simple, doesn't it?

As we usher out the eighties and welcome in the

nineties, we should pause for a moment and reflect on the changes in our industry.

Triplex mowing is an accepted practice today. In partnership with the chemical regulators, this practice has revolutionized fairway mowing.

Modern irrigation systems have taken the fun out of night watering and removed most of the excuses that were developed in the days and nights of manual irrigation. Cushmans are lasting longer, there are less sleepless nights, roughs are being watered, and superintendents are staying dry.

Another impact player on the golfing scene is the stimpmeter. It was developed with good intentions. Having a measure of something can be important to people, but not to use it as gauge to measure the relative quality of a putting green. This summer has been a difficult season for fast greens. The rains slowed things down and when proven methods were used to increase speeds, they seem to make matters worse. The infestation of Summer Patch may be related to the need to increase speeds. Maybe it is time to accept what nature has given us and stop pushing the envelope of turf culture.



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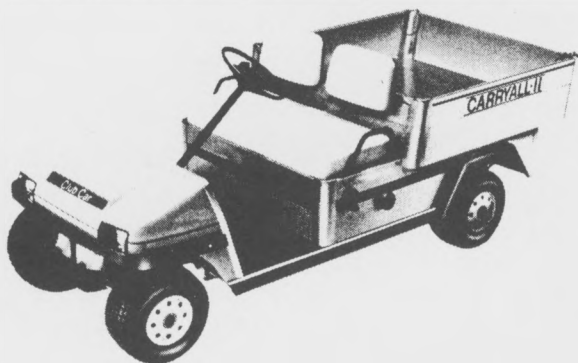


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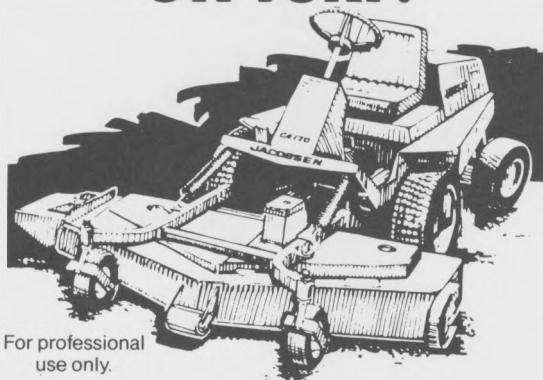
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GCSAA NEWS

DIRECTOR'S CORNER

The current boom in golf illustrated by articles in the "Wall Street Journal," "New York Times" and a segment on CBS Evening News is impacting every aspect of the game. Obviously, the profession of golf course management is facing new challenges daily to meet the ever-increasing demands of more players who seek championship conditions daily. Combined with the heightened sensitivity regarding the environment, turf managers across the country are being challenged more than ever before.

Consequently, these individuals are seeking assistance in meeting these challenges, which translates into growth and new challenges for GCSAA.

These are exciting times for the membership of GCSAA. The association is responding to the needs of the membership on many fronts. New seminars are being developed, some of which will debut at the 1990 Conference in Orlando. Interaction with the federal government regarding pesticide regulations has been greatly expanded resulting in more information being given each member through the new publication, "Briefing." Additional research is being funded, both on the environmental front and in the area of agronomics.

GCSAA is actively moving in many directions to provide members the information needed in today's demanding world.

Don't forget to register for the 1990 Tournament and Conference ASAP. The tournament is filling fast so act quickly if you plan on playing. Also, be sure to make airline reservations as soon as possible. Late February is a very popular time in Florida. Flights may not be available if one waits till late in the year to make reservations. The 1990 Conference and Show promises to be another very useful and successful event. Plan to be there!

Thanks to the many members from our local association who have taken the time to serve on GCSAA Committees. Committee input is invaluable to the success of GCSAA. The extra effort put in by these individuals is most appreciated. Thanks.

STEVE CADENELLI

GCSAA GOVERNMENT RELATIONS COMMITTEE MEETING HELD

GCSANJ was well represented at the September 11 and 12 meeting of the Golf Course Superintendents Association of America's Government Relations Committee Meeting. The committee meeting was held at Alvarado Country Club in Lawrence, Kansas. Our state is fortunate to have two superintendents on this committee: Gerald Fountain, Trenton Country Club, and Armand LeSage, White Beeches Golf and Country Club. Both have been very active with government relations on the state level and are now becoming active on the national level. Gerald is a member of GCSANJ's Board of Directors and is our government relations representative. Armand is the Vice President of the Alliance for Environmental Concerns, Inc., a pesticide users' group within the state of New Jersey.

Chairman of the committee is William R. Roberts, CGCS, Superintendent of Lochmoor Club, Grosse Pointe Woods, Michigan. Many important topics were discussed in detail by the committee: Endangered Species Act, OSHA, Safety Requirements, Ground Water, Compliance Assistance Program, Hazcom, MSDS, and Packaging. This is only a partial listing of the very busy agenda. GCSAA's government relations manager, Tom Akins, and GCSAA's Pat Jones were tremendous sources of information for the committee. Also attending was GCSAA's legal counsel, Robert Ochs, and GCSAA's Executive Director, John M. Schilling, who doubled as a tour guide of GCSAA's headquarters in Lawrence and briefed the committee on the planned construction of the new headquarters building. The project is exciting and will put GCSAA ahead of all of our allied associations and better able to serve its ever-increasing membership.

Many of those attending the meeting were in Lawrence for the first time and everyone on the committee was impressed with the city. The positive meetings, attitudes, and location all added to a very successful meeting.

As we approach the nineties, we will add another hat to our growing list of responsibilities: that of our golf courses environmental manager's.

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SUPERINTENDENT PROFILE

JOHN WANTZ, CGCS

The photograph caught my eye. Looking through the newsletter put out by Paul DesChamps' company, I noticed the picture John Wantz had taken of his shop. It wasn't all the "Red" equipment that got my attention, but the shiny floor. I resolved to meet John and see if that floor was for real, but weather and scheduling conflicts conspired against me, and John and I found ourselves talking in Stan Stevenson's office at Double Eagle instead of at North Jersey Country Club.

A graduate of the four-year Penn State program in the late 1960's, John worked at Hershey Country Club while attending school, and after completing his studies, stayed on as assistant until 1969. From there, he went to Charlotte, North Carolina, and Carmel Country Club, also as assistant. In 1971, John became superintendent at Forsgate Country Club, involving himself in constructing a new nine for the West course, and installing a new irrigation system for 18 of Forsgate's holes. He remained there until 1975, becoming superintendent at Old York Country Club in Bordentown, remaining there until 1980. That course site is now

occupied by a horse farm. From 1980 to 1983, Rockland Country Club in New York was John's course, and he went over to North Jersey Country Club that same year, where he works today.

Since arriving, John says he's succeeded in bringing course maintenance from the 60's into the 80's. That includes mowing fairways and approaches with triplex machines equipped with baskets, as well as hand mowing all greens, collars, and smaller tees. He's presently involved in planning for a state-of-the-art computerized irrigation system, pointing out that he has difficulty at times providing good water distribution on parts of his course. John also said that he has instituted a tree program of preservation and replacement in an orderly fashion on the course, total acreage of which is 380 acres, with 160 acres of turf.

An avid golfer, with a nine handicap, John serves on the Tournament Committee for GCSAA, and is looking forward to playing in Orlando in February.

PAUL POWONDRA
SUPERINTENDENT

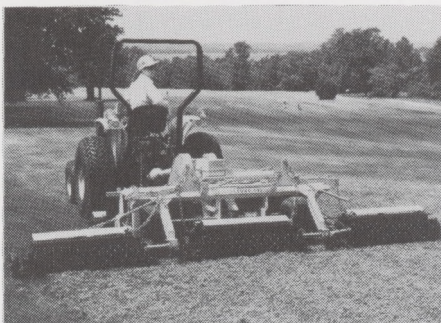
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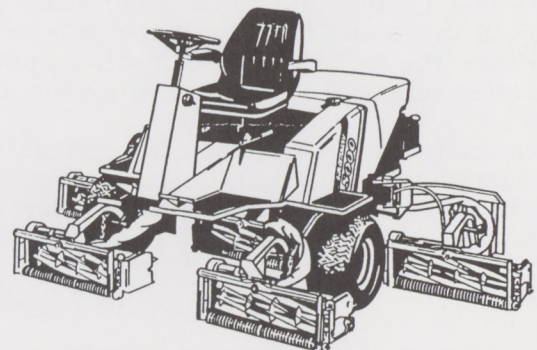
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New Jersey golf course trivia information request

New Jersey has a long tradition of golf. We have a lot of great golf courses. But we don't have our own compilation of trivial facts. I'll start the ball rolling with a definition of trivia. It comes from the Latin word for three roads. It was felt that where two roads came together, great ideas were discussed, but where three roads met, this would be a market place town and the Romans felt it to be intellectually unimportant. So what? We at "The Greenerside" think trivia is important. Especially if it is about New Jersey golf courses.

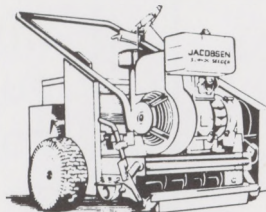
As starters, we are asking for the answers to the following questions. Now please understand, we don't have the answers. We are seeking the answers. If you've got the facts or even want to just venture a guess, please write to "The Greenerside."

- What is the oldest active golf course in New Jersey?
- Which 18 hole course has the longest hole? the shortest hole?

- Which was the first course to have an irrigation system put in place?
- Which golf courses have had US Presidents as players? as members?
- What is the longest 18 hole course in New Jersey? and for 18 holes the shortest? Which county has the most residents per golf course? Which county has the least?
- What is the busiest 18 hole course in NJ?
- What course has the most acreage?
- What are the northernmost, westernmost, easternmost and southernmost courses in the state?

Send your replies, including additional questions, to "The Greenerside," PO Box 3672, Wayne, NJ 07474-3672.

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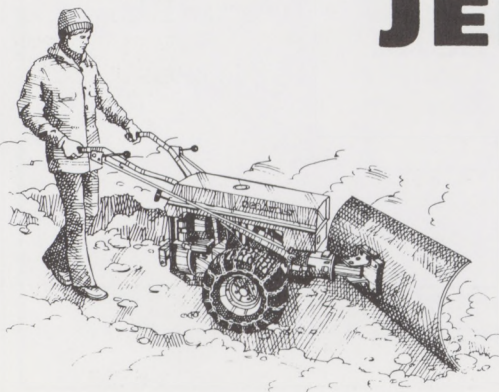
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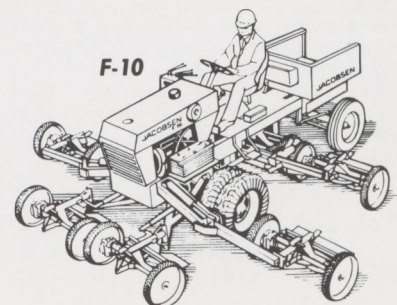
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Mother nature's brew

There has been a lot of news and even a few "recommendations" on the use of natural products as pesticides for both agricultural uses and for turf management. These natural products are often touted as "safer" than conventional approaches. Some specialists have challenged the effectiveness of some of these products. My interest is in their presumed safety.

Nicotine has an oral LD 50 of 52-188 mg/kg bw. It has a dermal LD 50 of 285 mg/kg bw. These values place nicotine as a fairly toxic product when compared to many synthetic pesticides. In fact, that is one of the reasons it was displaced in the marketplace. In "Pesticides studied in man", it was reported by Dr. W.J. Hayes that from 1930-1934 there were 106 accidental deaths from nicotine and 182 fatal suicides in the US. Many patients died in less than five minutes. Tobacco extracts may be less toxic than straight nicotine, but the use of tobacco juice as an insecticide should not be presumed "safe." The use of pesticides in the US is highly regulated. Occasionally unregistered home brewed type pesticides are recommended or even marketed. It is a violation of both federal and state law to do so.

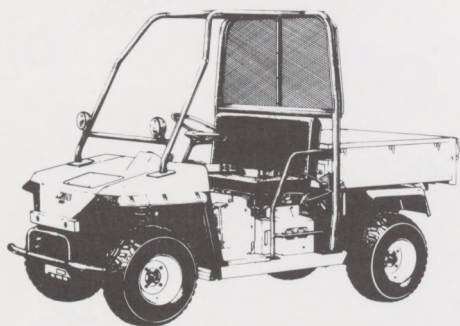
Many other "natural" pesticides appear to have some pretty negative characteristics as well. Rotenone has an acute oral LD 50 of 39 mg/kg bw. It is also very, very toxic to fish (channel catfish LC 50 of 2.6 ppb). Another product occasionally recommended by "organic faddists" is Ryania which has an LD 50 of 150 mg/kg bw (dogs).

In general, less is known about the toxicology of these natural products than of the synthetic insecticides. They are frequently recommended because people perceive them to be safe. The historical record on their not-so-safe use, and the available toxicology data speak to the contrary. It is important, as professionals, to recognize that "natural" does not equal safe. If we don't educate our industry, then the public will continually be led to accept this inaccurate axiom.

The bottom line is this: Don't use any pesticide that does not have a valid label. Don't assume that "natural" equals safe or even legal!

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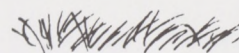
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Leaves much or mulch? That is the question

It's nearing the end of another growing season, and, hopefully, we can look back at the past as another success.

If the leaves haven't started to fall yet, I'm sure you are all looking forward to the upcoming possible mess that this can produce.

It has been my experience working with leaves in the past that they can be the best natural resource a golf course has to offer. Leaves are organic, and that means they will eventually break down naturally in the soils and become available to plant material in two ways:

1. As a mulch;
2. As additional nutrient to become available to plants.

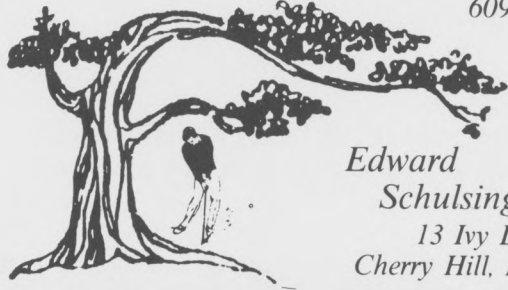
One way to speed up the breakdown process is to process your leaves. There are many ways to process leaves.

My favorite and the most efficient method, is the use of a good rotary mower, preferably a front mower deck with some horsepower, works very well. It usually takes at least three passes with the mower to accomplish a good manageable mulch that will not catch the wind.

This kind of mulch can be left in natural areas

where the leaves have fallen (which is ideal) or moved and used around much needed plant material to help protect the roots through the winter. It's always better to add mulch to trees after the first frost (after rodents have found their winter homes elsewhere). This will help avoid tree bark from being girdled. I hope this can solve some or mulch of your leaf problems.

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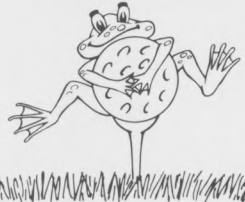


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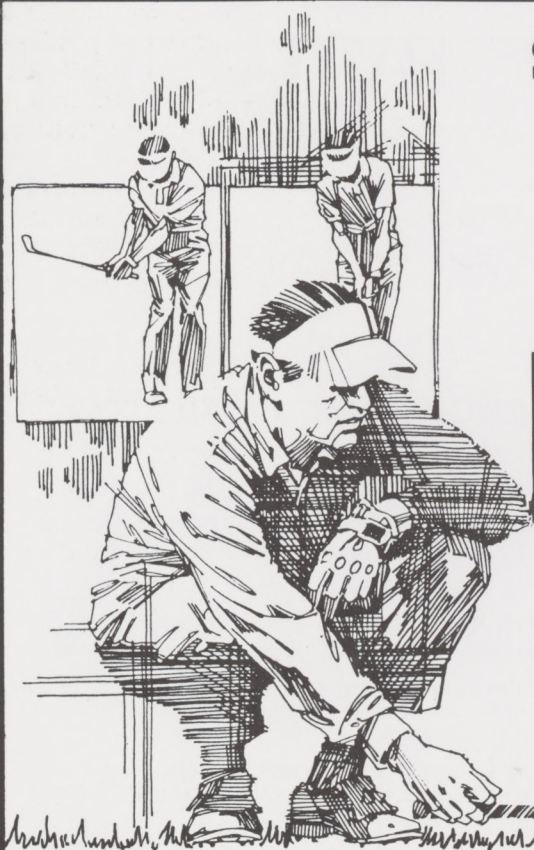
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Don't skirt the issue!

I hate bad puns as much as the rest of "The Greenerside" readership, but this was just too tempting and I couldn't keep my hands off of it.

We recently received a press release from the American Society of Golf Course Architects entitled, "It's Time to Move Forward!" It was about forward tees for women players. It argued that, in days gone by, an average woman player could reach a 320 yard hole in two strokes. This assumes a presumably average 40 yard roll following each stroke. The 40 yard roll was based on firm fairways. Today's fairways are so lush, according to press release, that today's average woman player needs three shots for the same 320 yard hole. Lush turf apparently reduces the roll by 30 yards.

I don't know about that, but what I do know is that women are making their presence felt in golf and many courses are considering adapting to their game. Lady golfers represent 25% of all golfers today. They also represent 41% of all new golfers. Many new and remodeled courses are putting in forward tees as a reaction to these statistics.



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Research Farm

Jonathan Green & Sons Inc., has expanded its commitment to research and development of quality grasses. Its Oregon division, Cascade International Seed Co., moved into a new office and research station during August. Official opening was October 1 with most of the work completed in refurbishing the office facilities, the plant test plots and trial grounds.

"Cascade is responsible for production and contracting of new seed varieties used by Jonathan Green & Sons Inc.," Irv Jacob, president of Cascade said. "This new facility will allow us to control production of foundation seed and evaluate new varieties for seed yield capability before they go into commercial production."

The new research farm is located one half mile south of the sleepy little town of Aumsville. This is about 10 miles south of Salem, Oregon's state capital. The soil is ideal for production of seed and comes complete with its own irrigation capability.

One of the first projects will be to evaluate some 80 plant types of Kentucky bluegrass. These new selections are being screened for seed yield, quality, disease resistance and sod growing.

Cascade will conduct research projects for a number of other major organizations including Rutgers University, Normarc Seed Company, Unocal, and other international seed companies as well as Jonathan Green & Sons Inc.

Natural soil and plant additives

A number of soil and plant additives have appeared on the market with manufacturers' claims that may exceed performance. These products include: 1) microbial fertilizers and soil inoculants, purported to contain beneficial strains of soil microorganisms; 2) microbial activators, designed to increase the activity of soil microorganisms; 3) soil conditioners, purported to create beneficial physical and chemical conditions in the soil resulting in improved crop yields; and 4) plant stimulants and growth regulators that supposedly stimulate plant growth.

These products have a number of characteristics in common. They include: 1) low rates of application compared to fertilizer; 2) the per-acre cost is relatively low; 3) the product is labeled natural or organic; 4) the beneficial results may be due to 'trade secrets;' and 5) individual testimonials are offered in support of the product but rarely is this based on any extensive, unbiased research.

Do these products really work? Some, like the commercial preparation of nitrogen-fixing bacteria *Rhizobium*, have been used for many years with great success. Other compounds may exhibit some effectiveness, but the results may be variable due to poor quality control by the manufacturer. Others will be totally ineffective. Should a grower want to try these products, do so under controlled conditions on a small scale, making comparisons with untreated checks. In addition, conclusions must be based on more than one year's data.

In general, growers, both conventional and organic, should be skeptical of products that sound too good to be true. These products cannot substitute for good farming methods and sound management practices.

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The future for turf varieties

(Continued from page 6)

could walk for a day or two and not find anything at all," he recalls, "but then you might find a plant that has spread to three or four feet or more in diameter." If a single seedling, spreading out at the rate of two or three inches a year, had grown to cover such a large area, that meant it had been growing for many years, surviving the ravages of disease, insects and climactic change.



Dr. C. Reed Funk, top New Jersey turfgrass breeder, examines turfgrass at Rutgers University.

He recalls finding one plant 13 feet in diameter. "That one had been there a long time," he says. He estimates that 90 percent of the plant varieties used in breeding programs today still come from collections he made in the early 60s. Since then a number of other workers have gone into the field, and some collections have been made in Europe. "We should be beating the bushes," he adds, "in places like the Grecian Isles and Siberia."

In the Sheep Meadow in New York City's Central Park, Dr. Funk found a plant that would become the ancestor of the popular Manhattan line. He crossed it with another desirable ryegrass, producing 100 different varieties, which were planted in test plots and evaluated. From those, 16 were selected for additional crosses and eventually one plant was produced that seemed ready for market. In 1967 the first 4,000 pounds of Manhattan were sold. (Manhattan has been replaced by Manhattan II, but the original variety is still popular for use on European soccer fields.)

BREEDING NEW VARIETIES

If you remember Mendel's laws of genetics you will understand why it takes so long to breed a new variety. The genetic information in a plant, as in any other living thing, is stored in a double strand of DNA. In a "pure-bred" plant, both strands will be pretty much alike. Cross two pure-bred plants and the offspring will all

receive one strand from each parent; all the offspring will have similar characteristics. But cross the offspring with one another and things start getting complicated: about one-fourth of the "grandchildren" will be like one "grandparent," one-fourth like the other, and the rest will have various mixes of characteristics from the two grandparents.

By crossing and recrossing the plants with the mixed traits, the breeder tries to produce a plant that is like, say, a commercial variety "grandmother," while zeroing in on just the disease-resistance gene from a wild "grandfather." Sometimes "backcrosses" are done, combining a third or fourth generation plant with one of the original ancestors. Each crossing takes a generation, so many years go by before you see usable results.

Even so, dozens of new, improved varieties have come on the market since Dr. Funk proved it could be done with Manhattan. Today, both universities and commercial seed companies have breeding programs. Dr. Funk thinks each one has its place.

"Some large seed companies can do the whole job themselves," he says. "Smaller companies might have breeding programs in their seed production areas, but they need to cooperate with someone in the (geographical) area where the seed will be used." And vice-versa, he adds. In addition, he says, a university can take a long-term view, pursuing a promising variety that doesn't immediately seem to have commercial value. Universities also continue basic research on breeding methods and do the all-important job of training future breeders.

And what will those new breeders be doing in the future? Vegetable crop breeders now can bypass some of the tedious process of crossing and recrossing by using the new techniques of genetic engineering to build "designer genes" for desired characteristics and implant them in existing plants. Some turfgrass workers have experimented with such techniques, Dr. Funk says, but they are still hampered by lack of knowledge of just how resistance and other characteristics work. If, for example, you can find a toxin that kills a certain disease, it's theoretically possible to work backwards from the chemical to a gene that would manufacture it in the plant, then synthesize that gene and implant it. But resistance that's based on leaf shape or general hardiness is not so simple: it may involve many genes working together. Breeders, Dr. Funk says, are waiting for plant pathologists to do the research that will reveal how various diseases infect plants, and how they can be stopped.

"I think we have to use every tool in our arsenal," he says. "The most basic should be genetic resistance and management practices. We have a tremendous opportunity to reduce disease by good management, by improving fertility, drainage and soil conditions."

Reprinted with permission from the May 1989 issue of "Turf" magazine.

SECOND ANNUAL ADVANCED TURFGRASS IPM SHORT COURSE OFFERED

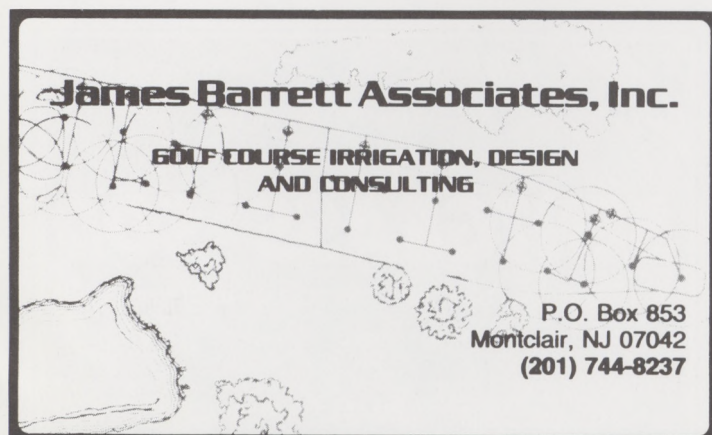
The Second Annual Advanced Turfgrass Integrated Pest Management Short Course is being offered by the University of Maryland at College Park from January 15-18. The contacts are Lee Hellman, a cooperative extension entomologist, Tom Turner, turfgrass agronomist; and Peter Dernoeden, turfgrass agronomist (301-454-7130 between 8:30 and 3:30 weekdays). The course is limited to 35 people. Tuition is \$600. Placement is on a first paid basis. The course is national in scope with special emphasis on insect, weed, and disease pest management in cool and transitional zone turfgrass as well as bermuda and zoysia. Industry representatives and faculty from the University of Maryland all have practical experience in turf management.

BUY ANOTHER BEER

Sky Bergen's list of GCSANJ attendees of the 1989 GCSAA meeting held at Anaheim, California as published in "The Greenerside" on a wager of one cold beer, failed to list yet another name: Dennis Shea from Morris County Park Commission as reported by Steve Chirp, Lebanon Chemical. Looks like we better buy another beer!

I WONDER HOW MANY GOT AWAY?

The New Jersey Division of Fish and Wildlife has issued its 1988 annual report and included some pretty fascinating statistics. Seven hundred eighty thousand trout were reared at the State Pequest Fish Hatchery. Ninety thousand Chinook Salmon Smolts and 1,128 Steelheads were released into the Raritan River, and 28,000 Northern Pike, 15,000 Channel Catfish and 1,000 Tiger Musellunge were placed in other state waters.



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ALLIANCE FOR ENVIRONMENTAL CONCERNS ANNUAL MEETING

The Alliance for Environmental Concerns will hold its state-wide annual meeting at the Jamesburg Holiday Inn on Tuesday, November 21. This meeting is open to both individual members and to those holding association membership. The GCSANJ is a member of the Alliance for Environmental Concerns and, therefore, GCSANJ members are welcome to attend. This year's meeting will feature a special workshop program on dealing with the media. The media's exploitation of pesticide issues is not new and those of us whose work depends upon the intelligent use and understanding of pesticides must be prepared to deal with the press on this subject.

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Consensus group reports on pesticide effects on birds

Early in August a diverse group of experts from environmental organizations, the pesticide industry, three federal agencies, and academia released a consensus report that recommends ways to improve scientists' ability to assess the potential effects of pesticides on birds.

Brought together by the Conservation Foundation, the Avian Effects Dialogue Group (AEDG) has been working for a year to find better approaches for

assessing potential impacts of pesticides on birds. Among other things, the group has set several initiatives in motion:

- A retrospective study designed to identify possible correlations between pesticide use practices and changes in bird populations. Several agrichemical companies and a federal research group have agreed on funding.
- An international workshop to develop models for predicting the effects of pesticides on birds.
- A library to make approved test protocols available to all scientists.
- Collaboration in gathering and sharing data about bird habitat use.
- Generation of checklists of study elements and of test results on similar or related chemicals.

Lou Best, a professor of animal ecology at Iowa State University and a member of the group, said "The AEDG has made a major step toward resolving the challenges posed by avian studies, and it sees its efforts as setting an example for future cooperation."

Reprinted from the August 14, 1989, "Agrichemical Briefing", Vol. 7, No. 15.

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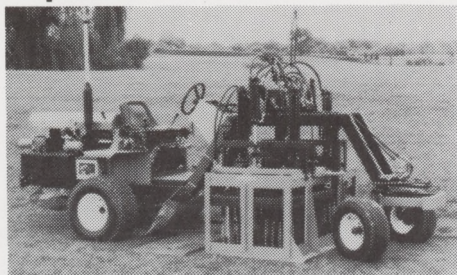
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