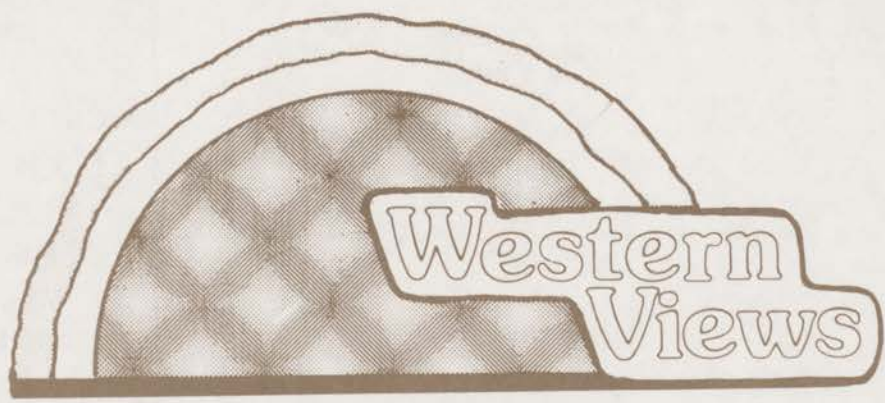


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SEPTEMBER/OCTOBER 1985

PRESIDENT'S MESSAGE
Keith E. Paterson, C.G.C.S.

My two years as president have passed quickly. The experience has been very rewarding and enjoyable. I feel we have tried some new and interesting innovations in association affairs in the last two years. Some were good ideas and worked well, while others weren't so good and will be discontinued.

One item that has continued to improve each year is golf day. Kurt Thummel, C.G.C.S. and Chris Fochtman are to be commended for the outstanding job they did this year (see article). Thanks should also go to all the advertisers that supported our efforts.

The annual meeting is gaining in popularity also. This year's meeting was well attended and was a lot of fun as well as being educational. Dr. Houston Couch presented an interesting and informative speech on "Maximizing Pesticide Usage." I would like to thank Fred Pastoor for his efforts in securing such a well-known speaker as Dr. Couch.

Once again, I would like to thank everyone for their support over the last two years.

UPCOMING EVENTS

- Fall Party Saturday, November 9
Spring Lake Country Club
- MSU Turf Conference January 14 & 15, 1986
Longs Convention Center
Lansing, Michigan

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GOLF DAY '85

Chris Fochtman, Golf Day Co-chairman

Walnut Hills Country Club in East Lansing was the site of this year's Golf Day. With all the rain that the course received the weekend before our August 26th event, we were happy just to get this event int. The weather tried twice to dampen the spirit of the day, but only postponed the enjoyment. After six holes of play in the afternoon the golfers were called off the golf course because of the threat of lightning; play resumed after only a 45 minute delay. The siren blew again at the end of teh afternoon shotgun, this time it was a tornado warning. Other than these two minor inconveniences, the day went along without a hitch.

The golf course was in immaculate condition, the buffet lunch, hors d'oeuvres and the dinner were delicious and the hospitality extended to our 191 participants was very gracious and appreciated by all. Thanks to Walnut Hills and their superintendent, Kurt Thuemmel for hosting this event.

We also have to thank the Country Club of Lansing and their superintendent, Mark Magee for allowing our 8:30 shotgun players to play the Country Club of Lansing. Also after the golf the lockerroom was made available, so that these players could shower before returning to Walnut Hills for the remainder of the Golf Day festivities.

There were plenty of winners this day, but the number one winner was the Michigan Turfgrass Foundation for whom over \$6100 was raised for turf research. This was the purpose of the day.

The team of Bill and Terry Trammell, Jim White and Leon Draine were the winners of the two best of four best ball at 118 (26 under par). Pretty tough to beat! At 122 was the team of Clint Ovren, Bob Kwiecien, Bob Morgan, and Archie Hudson. Three teams tied for third at 124. They are Mike Wells, Brain Anson, Don Powell, and Bob Bales and Rudy Roth, Everett Diemer, Hank DeVries, and Ed DeJong and G. Nienhuis, C. Nurawski, T. Krygier, and R. Partridge. All of these teams must have "ham and egged it" pretty well to shoot these king of scores.

There were many individual winners as well, but of course the big winner was Art Nolen (a member on Mark Magee's team) who was the first player to tee off in the afternoon shotgun on the 13th hole and he knocked the ball in the hole on Miller West's \$5000 hole in one. Thirteen was not Art Nolen's unlucky number. He also won \$100 for hitting this same shot inside a three foot circle. He promptly donated that \$100 to the MTF. What a thrill for Art Nolen, Miller West and our 6th annual Golf Day. Miller West had other winners, including Brian Anson, another winner of \$100 plus eight other golfers who won \$20 for hitting their shots inside the twelve foot radius circle. Miller West had not finished giving this day; they also raised \$550 which they donated to the MTF. EDITORIAL: I wont the longest drive; however, this was also on Miller's Hole-in-One event, which is only 160 yards long. Just as we approached the 13th hole, the wind started to pick up into our face. After watching my teammates hit short, I dropped down two clubs. Unfortunately, as I hit the ball the wind died (along with my hopes of getting rich quick) and I proceded to knock my shot 25 yards over the green. My prize was a bogie.

Century Rain Aid ran their "Closest to the Hole" on number seven. There were three winners from this event. Closest to the hole won a 7 inch television, second closest won four tickets to the Michigan State/Arizona State game and the MTF received \$388 raised for Century's effort.

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Spartan Distributors ran their first and very successful raffle. Two Golf Day participants won \$100 each at the drawing and when all was said and done they generated \$626 which they donated to the day.

Thanks to Turf Chemicals, Inc. (TCI) and Kelly Hiemstra who worked their cheese and fruit, beer and pop, which was located on the clubhouse patio.

Besides the many door prizes which were won, there were also prizes for golfing skills. C. Stonehouse won "Closest to the Hole" on the fourth hole, which earned him a beautiful Burton Golf Bag. Ron Wisniewski was the winner of a Taylor Metal Driver for his shot on Number 11's "Closest to the Hole". Our big hitters on the Longest Drive hole number 9 and 18 were Paul Dubnicka and Charlie Dinkins. Each won a Baffler wood.

All these prizes are due to the contributions of many of our generous suppliers. Here is a list of our 1985 Golf Day contributors: Benham Chemicals, Century Rain Aid, D&C Distributors, Mark DeVries, Architech, Ellis Sales, Inc., Grand Rapids Tree, Inc., Ideal Mower Sales, Keizer Equipment, Inc., Klein Fertilizer, Inc., Lakshore Equipment & Supply Co., Lawn Equipment Corporation, Matthews & Associates, P.C., Miller West, Inc., J. Mollema & Sons, Inc., Parmenter & Andre, Raymer Wells & Pumps, Scotts Pro-turf, Soderstrom Irrigation, Inc., Spartaon Distributors, Inc., Turf Chemicals, Inc., Turfgrass, Inc. We are very grateful to all our suppliers for helping make this Golf Day the most successful ever.

No one individual pulled off this very successful Golf Day by himself, but it was the combined, coordinated effort of many. Among the many were Paula Dietz Benham and Dave Phillips who worked our registration table. They made it so that each player quickly signed in, received his packet and was off to enjoy the day. Thank you Paula and Dave for running things so smoothly.

Golf Day '85 went well and accomplished what it set out to do; it raised over \$6100.00 for turf research, which ultimately benefits us all as turf managers or golfers. Thanks to all who had a hand in this day in one way or another.

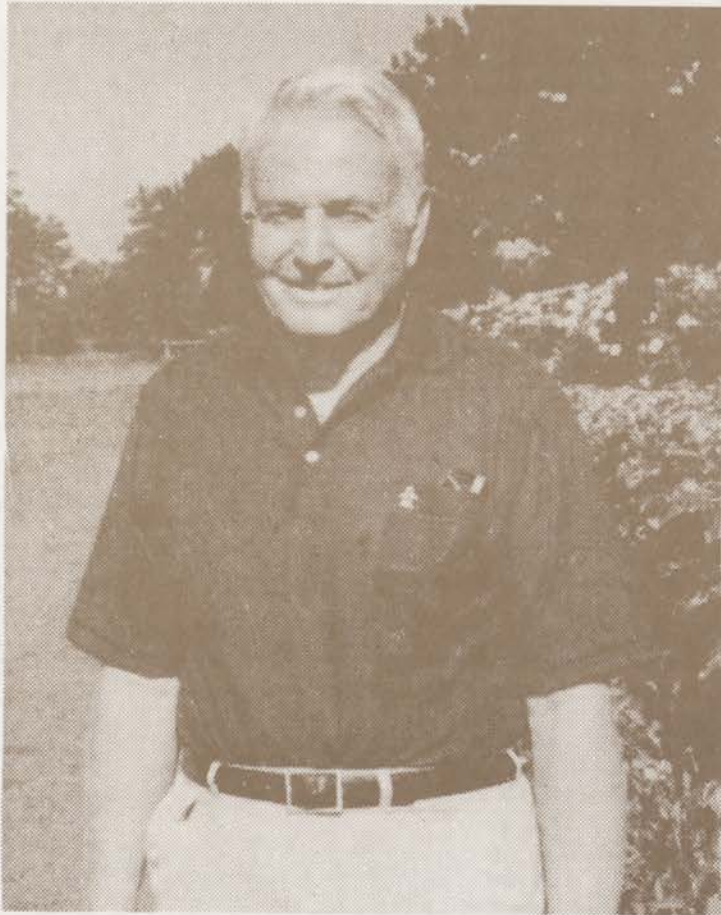


**GOLF DAY
1985
Walnut Hills
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ROY PECK

The following article is taken from the Kalamazoo Gazette. Our congratulations go to Roy for such an outstanding career. One of the many awards Roy received on the evening of September 5th was the Meritorious Service Award from our association. Congratulations to both Roy and Sharon.

Peck in his 40th season at KCC

Veteran greens superintendent enjoys challenge of job
by Jack Moss, Gazette Sports Editor

Roy Peck is in his 40th year as greens superintendent at Kalamazoo Country Club and the challenge of his job is as intriguing as it was when he accepted it.

Peck, who will be honored by the KCC membership at a Roy Peck Day golf event and program on Thursday, September 4, has no plans to retire "as long as my health remains good and I retain the same enthusiasm for the job I have today."

It's been a long, not always easy, tenure for Peck in a job that demands 24-hour-a-day attention during the height of the golf season.

"But I've loved just about every minute of it," says the soft-spoken Peck, who came out of the U.S. Marine Corps after World War II combat duty in the South Pacific and took the KCC post.

"To be absolutely truthful, I didn't have all that much on-the-job training," said Peck. "But I practically grew up at the Battle Creek Country Club where my father, Andrew, had been green superintendent and where my brother Harold now has the job.

"I was approached about the job of replacing John Dustin, who had been the greens superintendent at KCC for many years, by E.R. Brenner, the club president, and Harry Turbeville. When the job was offered I took it. I've never been sorry."

Neither have the KCC members, who have watched their course become one of the best-conditioned and challenging layouts anywhere under the watchful eye of Peck.

There have been changes, a number of the, at KCC during Peck's tenure.

The fourth hole has been changed from an easy par five to a tough par four, the par four fifth lengthened and the green moved to make it a par five, the ninth green has been completely restructured, the 10th hole has been lengthened by installation of a new tee, the 11th hole is currently being rebuilt, the water-hole 12th has been revised in terms of tee placement and the 13th now plays along White Lake instead of as an up-and-over hole.

And, of course, there was construction of a short-course in the 1960s that meant added responsibility for Peck and his crew, which numbers a dozen people during the summer months.

There are trees, hundred of the, that add beauty to the course and challenge golfers. "I think I've planted more than half of them since I've been here," says Peck.

Of all the maintenance problems, Peck feels sand traps — there are 27 of 'em on the short course alone plus 58 more on the full-length 18-hole course — consume the most time.

The traps are raked every day. Each of the 27 greens are mowed six times a week, fairways three to four times a week as well as tees, while the rough is mowed an average of once a week.

"That's enough to keep the crews busy every day," says Peck, who arrives on the job each day by 6 a.m. and often works until dark.

Roy's job is a year-round assignment and, except for a rare vacation with wife Sharon, he's busy working.

Peck has supervised the planting of flowers on much of the golf course. "I think they dress up the layout and I've been surprised at the response to them. Many of the men have been especially enthusiastic about the flowers."

"You know there is really more than getting birdies, pars and bogies on the golf course. It should be an enjoyable experience. I think our members should put their work and worries out of their minds when they turn off Whites Road into the club."

Members take full advantage of the facilities at KCC today and that pleases Peck.

"When I came here, they had Ladies Day on Wednesday morning, the men's stag Thursday afternoon, and pretty good weekend play. That was about it.

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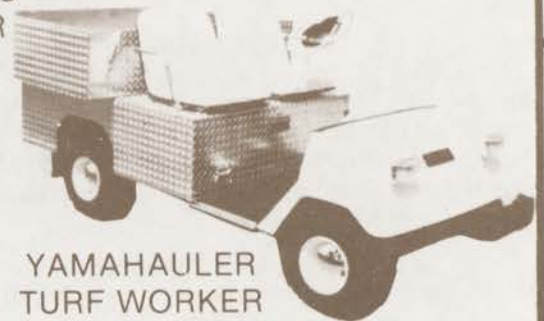
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"Now we have both men's and women's leagues, the Friday twilight and heavy play every day of the week. That's the way it should be and, since the members are very cooperative with my crews, it really causes no problem with us."

In addition to the heavy regular play, the KCC also has a member-guest tournament, the Invitational best-ball and a Junior Invitational annually.

Peck doesn't get to play a lot of golf himself, although he enjoys it and shoots in the mid-80s despite "getting in only a dozen or so rounds a year."

But he loves his involvement in the game.

"I've been lucky to have the opportunity to work with a membership like we have at KCC.

"I've worked under 40 different presidents, with four different pros (Frank Kennett, George Wells, Walt Biber and Dick Stewart) and a number of greens committee chairmen, although Larry Halleck and Glen Smith have had the longest tenures and have been exceptional to work with over the years."

The Battle Creek native, ex-combat Marine and healthy survivor of open-heart surgery admist he's involved in a labor of love at KCC. "Every day brings some new challenge and it is always exciting," he says. "I hope I never tire of it." That's a wish shared by the entire KCC membership.



Big night for Peck

Roy Peck, in his 40th season as green superintendent at Kalamazoo Country Club, talks with wife Sharon and longtime greens committee members Larry Halleck, left, and Glen C. Smith, Jr., right, prior to the banquet program honoring his long service to the club Thursday evening. Peck received a number of accolades and gifts for his job performance over the years, including a check for a vacation trip.



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My wife took up bowling and says she likes it better than golf—didn't loose a ball all day!

—Herm Albright



WHY BELONG TO AN ASSOCIATION?

by John Bebeck

President, Engineering Contractors Association
July, 1978 issue of Journal of Commerce

Credit: Nursery Business - June 1983

How many times have you been asked to join an association - or asked why you belong to an association - or what can an association "do for me?" Theodore Roosevelt put it very aptly when he said, "Every man owes a part of his time and money to the business or the industry in which he is engaged. No man has moral right to withhold his support from an organization that is trying to improve conditions within his sphere."

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VERTICAL MOWING OF FAIRWAYS FOR IMPROVEMENT OR RENOVATION

by Bruce R. Williams
Bob O'Link G.C.

Credit: The Bullshead

Since it costs money to belong to an association, it is logical to ask "What can an association do for me?" A probable answer could be nothing! An association can do things with you (with your support, expertise, cooperation, etc.), but not for you, per se. Apply the same principles to your business - it can't do anything for you unless you do something for it.

You invest money in a business as well as your time and energy. The degree of success depends on the talents, time and energy expended, even more than the amount of money invested.

The same holds true for associations. The dues dollars represent an investment, just as it does in one's business. There are certain functions and services which the association, acting in concert with its membership, can perform - but to be successful in its efforts, the association requires the support and involvement of its members. It needs the collective thinking of all concerned to formulate plans, and it requires the physical effort of its membership to put those plans into operation.

A recent survey indicates that 85% of all economic failures were firms not connected with a trade association. It would appear also that the businessman who rebels against paying association dues is always the first to criticize and to say that an association does him no good. However, he is always on the front line to take the benefits that come his way as a result of the association and its dues-paying members. These benefits just don't happen. They are the result of a lot of hard work and effort by a great number of individuals who devote time and energy to get the tasks done.

Just as 100 individuals going their separate ways in trying to dam a river - dig a tunnel or build a highway - would result in disorganized chaos, so it is with industry aims which lack the power of an association effect. But, just as the efforts of those 100 individuals (organized under a single leadership with mutually-agreed plans and specs) can dam that river, push a tunnel through or get a highway down - so does an association function, by taking many small parts and joining them into a cohesive mass that gives the group power.

But, there is more to association membership benefits. One, which is pure bonus, is the benefit of business coming one's way simply because of membership. Given equal cost and service, association members just naturally prefer to do business with those who share the load of maintaining their trade group. Many have found that this "fringe" benefit will more than offset dues and other costs of participation. That makes it a refutation, so to speak, for the old adage, "you can't eat your cake and have it, too."

Granted that benefits of association membership are many and varied, there still are those who fail to see how it will benefit them. My answer to this group is simply, "Come on in and find out. Get your feet wet."

Associations after all, are a lot like insurance. When one has no problems, he has no need for insurance. When he does have a problem, if he doesn't have insurance, it's too late for it to help.

Vertical mowing is a cultivation procedure involving the use of vertically oriented knives mounted on a rapidly rotating horizontal shaft. Vertical mowing may be done alone or in combination with a slit seeding program.

Thatch populations can be greatly reduced through vertical mowing and should be a standard practice when thatch accumulations reach a depth of .6 inch or greater. Thatch removal should be accomplished when (1) the turfgrass growth is vigorous, (2) atmospheric stress is minimal, and (3) a sufficient period of growing conditions exists for recovery of the turf. Avoid periods when weed invasion is likely i.e. during *Poa annua* seedhead formation. Soil and thatch should be dry when vertical mowing is practiced. This minimizes and disruption of the turf and facilitates cultivation of the soil from vertical mowing.

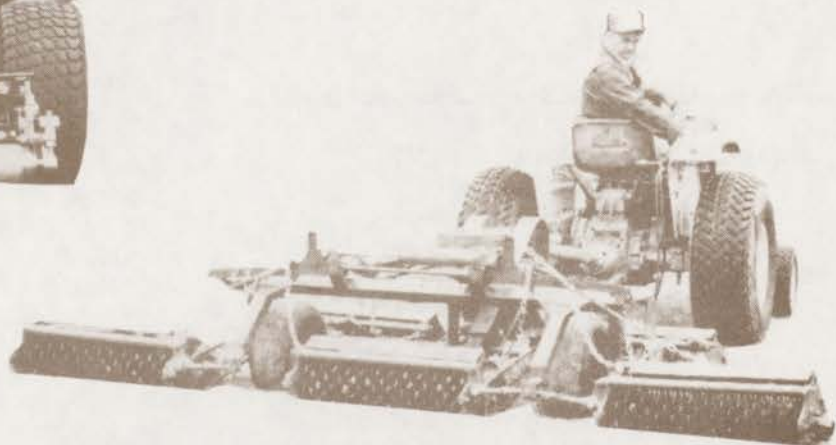
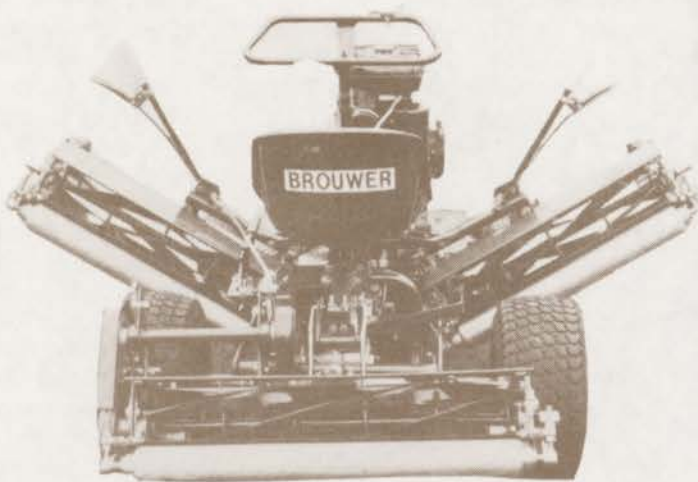
Now that I have mentioned the physical aspects of vertical mowing, I feel it is important to look at the subject of thatch which is the main target for vertical mowing. Dr. Shearman of the U. of Nebraska listed the disadvantages of thatch when found in excessive amounts greater than 1/2 inch.

1. Increased turfgrass environmental stress.
2. Reduced turfgrass tolerance to heat, cold, and drought.
3. Increased disease incidence.
4. Increased insect activity.
5. Increased puffiness, scalping, footprinting, and spiking.
6. Increased proneness to localized dry spots.
7. Increased susceptibility to iron chlorosis.
8. Reduced activity of certain pesticides.
9. Increased phytotoxicity of certain pesticides.

This list shows us that if thatch is a problem on your fairways, vertical mowing should be a part of your cultural program. For a number of years, the superintendents used converted agricultural equipment to slice grooves in their fairways. In recent years equipment has been manufactured that vertically cuts the turf and can be set at the desired depth. The most widely used piece of equipment is the Rogers Aero-Blade. Several mower manufacturers now have vertical cutting units that are interchangeable with their gang reels.

The greatest problem with vertical mowing of fairways is the large amount of debris you must contend with when the dead vegetative matter is removed. If the amount of debris is slight, it can be mowed off or blown into the rough. If the amount of debris is considerable then the normal procedure would be to blow the material to the center of the fairway for manual pickup. Several sweepers or vacuums are available to help make the job easier.

With a summer like 1983, many superintendents were busy this fall renovating their fairways. While some used a broadcast seeding after aeration, many used a drill seeder in combination with a vertical mower. The use of Glyphosate with a slit seeding program is commonplace today. The main principle with slit seeding is that seed is placed in a groove. Less seed is used than with broadcasting while results are often comparable or superior.



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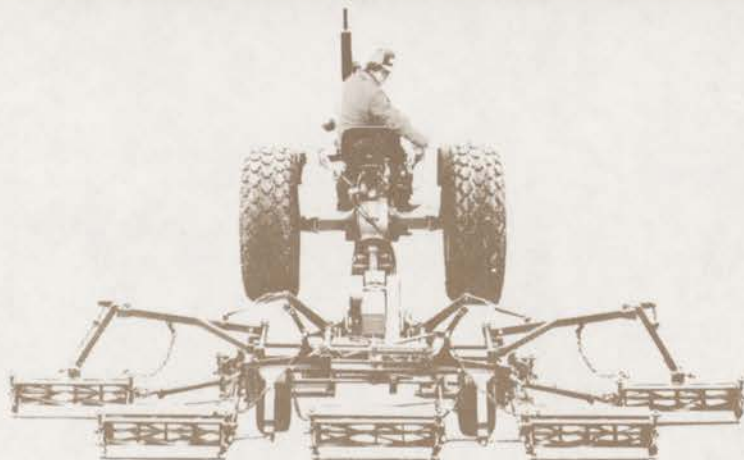
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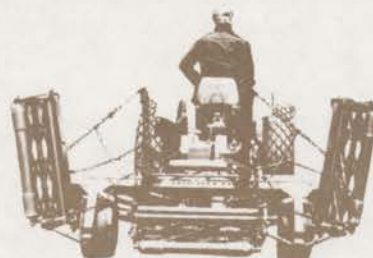
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INTEGRADED DISEASE CONTROL

by Malcolm Shurtleff, U. of I.

Credit: The Bullshead

Grass diseases are managed by a series of cultural practices, by growing blends and mixtures of disease-resistant grass cultivars and species, and by timely applications of fungicides and nematicides. Integrated disease control involves the use of all these management tools aimed at (1) making the grass plants more resistant or immune to infection (2) making the air and soil environment less favorable for the pathogen(s) and more favorable for the growth of the grass plants, and (3) killing or preventing the pathogen(s) from reaching the grass plant and producing disease.

The specific cultural practices that keep disease losses to a minimum, and the diseases each helps to control, vary somewhat on whether northern or southern grasses are grown, rainfall and temperature distribution patterns, and the region of the country.

The ideal method of controlling plant diseases is to grow resistant cultivars (varieties) and species. Unfortunately, there are no turfgrasses resistant to all major diseases. Grass cultivars considered highly resistant in certain regions, where specific diseases have not been observed, may prove to be susceptible when grown in another area because of temperature and moisture conditions that are more favorable for disease development or the presence of genetically different strains (or physiologic races) of the pathogens. Races of disease-causing fungi differ greatly in the turfgrass species and cultivars they attack, the virulence of the pathogen, and the temperature range at which infection and disease establishment occur. For example, when Merion Kentucky Bluegrass was first generally available about 1950, it was believed highly resistant or immune to all diseases. Now, after being widely grown throughout much of the northern half of the United States it is moderately to highly susceptible to Fusarium blight, powdery mildew, leaf and stem rust, Sclerotinia dollar spot, and leaf smuts. It is no longer considered a highly desirable cultivar.

Perhaps the best insurance against turfgrass disease is to plant combinations (blends) of compatible cultivars. This should provide a broad base of genetic resistance and a better adaptation to local conditions. There are a number of improved Kentucky bluegrass and perennial ryegrass cultivars that are reported to have moderate to

6 ANSWERS TO QUESTIONS WE NEVER THOUGHT YOU'D ASK

(BUT DECIDED TO ANSWER ANYWAY)

- 1 Yes, GCSAA can help you become a better superintendent.** One way it does this is through educational seminars and conference sessions it sponsors each year to help you become better informed about turfgrass diseases, pesticides, landscaping and management practices.
- 2 Yes, GCSAA is helping to further the advancement of the turfgrass industry.** Through the GCSAA Scholarship & Research Fund, Inc., GCSAA provided more than \$13,500 last year in research grants to leading turfgrass programs. GCSAA also provides educational opportunities to turfgrass students through annual turfgrass scholarships.
- 3 Yes, GCSAA provides a meeting ground for superintendents.** Each year, GCSAA sponsors an annual conference and show for its members. Last year more than 6,500 educators, industry representatives and members from all over the world attended. GCSAA's executive committee decided at its last board meeting that the conference experience is so valuable that first-year members should be encouraged to attend by being given free admission.

- 4 Yes, GCSAA offers recognition for superintendents.** Through its public relations efforts, its magazine, and its award programs, GCSAA helps promote the image and the professionalism of the superintendent. GCSAA also provides information to superintendents about how they can use public relations to promote their own image to their course, their community and their association.
- 5 Yes, GCSAA provides each member with a life insurance program.** Supplemental insurance, disability and pension programs also are available.
- 6 No, GCSAA can't help you with your golf handicap.** You'll have to work on that yourself.

excellent resistance to one or more diseases, are widely adapted, and suggested for growing over much of the United States.

The performance of a blend or mixture will depend to a large extent on the intensity of the turf culture. For example, low nitrogen rates, especially on closely clipped turf, increases the susceptibility to Schlerotinia dollar spot. High nitrogen rates and close mowing, especially during the spring, favor the development of Fusarium blight and Helminthosporium disease on susceptible cultivars. A sound understanding of these inter-relationships is essential in making recommendations and decisions about cultivars and management for any turfgrass area.

COMMUNICATION IMPORTANT TO GOLF COURSE CARE

by William C. Campbell

Credit: USGA News

Communication is important in any endeavor, but it is crucial for golfers to develop a close relationship with their golf course superintendents.

Under the ideal situation, there would be a key person, and only one person, who would represent all golfers at a course and communicate with the superintendent. That key person should be respected by his fellow members and should be knowledgeable enough to understand what a superintendent may explain.

The key person ought to be honest in his dealings with the superintendent, meet frequently with the superintendent and be practical in his suggestions.

At a private club, the key person normally will be the Chairman of the Green Committee, but to often the Chairmanship changes hands every year. If the club has a Green Chairman who is really effective, really trusted and works well with the superintendent, the club ought to keep him in that position for as long as it can.

The same arrangement should also exist at public and daily-fee courses. It might even be more important at such courses.

A daily fee player is just as interested in the condition of the course as a country club player. But the daily fee player plays anywhere he want. The owner of the course needs to work closely with the superintendent if he want to attract business.

That should mean something other than just keepign the course cut back so it si conducive to moving a large number of golfers through each day. It shoudl mean keeping the golf course in as good a conditon as it can be, so players will enjoy it and come back.

It is important for a superintendent to encourage such a relationship. If the condtion of a course goes bad, everyone suffers. That is when a club must have confidence in its superintendent. They will, if they know him and understand his situation.

On the other hand, if the ourcrse is in good shape, the superintendent wants to feel that his efforts are appreciated.

I'm not saying that a superintendent should be free from criticism. But any criticism has to be constructive and should come from a single source. It shoudl come from that key person, the one who also provides the superintendent with a lot of support when he deserves it.

It also is important to open channels of communication to people outside his club. Consultants - such as those employed by the USGA Green Section - are good sources of support.

A superintendent should not have to go it alone. Green Section consultants are trained as experts and have a wealth of observations and experience to draw upon. They can supply objective opinions to any problems the superintendent might have.

The ideal situation would be one where all golfers are educated enough to appreciate the role of the golf course superintendent.

YOU ARE A TURFGRASS PROFESSIONAL

Credit: Spencer H. Davis, Jr. of Greener Side

When someone comes to your golf course and asks "Is the Pro around?", everyone, including you, will proceed to tell the someone "The Pro is in the Pro Shop, or giving lessons, or home, or in the shower."

I look forward to the time when the answer to the question "Is the Pro around?", will also be a question... "Which Pro do you mean, the Turfgrass Pro or the Golf Pro?"

Remember, not too many years ago your job was called the Greenskeeper. Then some farsighted people began to raise the image of your position by referring to the Golf Course Superintendent. Not too bad for a start, but not too professional either, considering the knowledge you must ahve and the ability to cope with not only the turf and the tree problems on your course, but to cope with the people problems too.

Is your name on a nice plaque over the entrance to your Turfgrass Pro's office? You probably don't even have your name and position painted on an old board in many cases. Even if the club does not buy you the plaque, you should! And it should say: TURFGRASS PRO - George somebody.

The Golf Pro has the god-given ability to hit the ball fairly far and fairly straight. Some of thema re even pretty good teachers of the game of golf. And they all have the financial advantage of taking a cut out of selling clubs, balls, shirts and shoelaces. And it doesn't take too much professionalism to sell shoelaces to a person who has just broken his or hers. And he has his name on a nice plaque over the door to his office.

If the greens, the fairways, the trees and flowers which really make the good golf course, go to pot, do the members want to fire the Golf Pro? They want to replace you with someone who is more professional at making things grow. They want a new Turfgrass Pro - and that's YOU!

So what is more important to the golf course...The greens, the fairways, the ornamentals -or- the variety of colors of balls, shirts and shoes in the Golf Pro's Shop?

You have spent many hours in classrooms, in turfgrass meetings, in consulting with other Turfgrass Pros, and mnay eyars in learning how to amke turfgrass grow to improve the game of golf, and you should be recognized at your club as the TURFGRASS PROFESSIONAL!

RAISING A STINK OVER SKUNKS

by Joseph Charbonneau

Credit: Our Collaborator

At Equinox Country Club we have a moderat population of Japanese Beetle grubs inhabiting about 2 acres of roughs. Although I have tried numerous insecticides to control the grubs, I have remained unsuccessful.

Of all the problems created by the these pests, the most serious is the attraction of skunks. The skunks invade the course, seeking the Japanese Beetle grubs as a food supply. By digging into the ground for the grubs, they leave behind an unsightly stand of turf. The solution to eliminating this problem lies in either shooting the skunks or trapping them. My choice was the latter.

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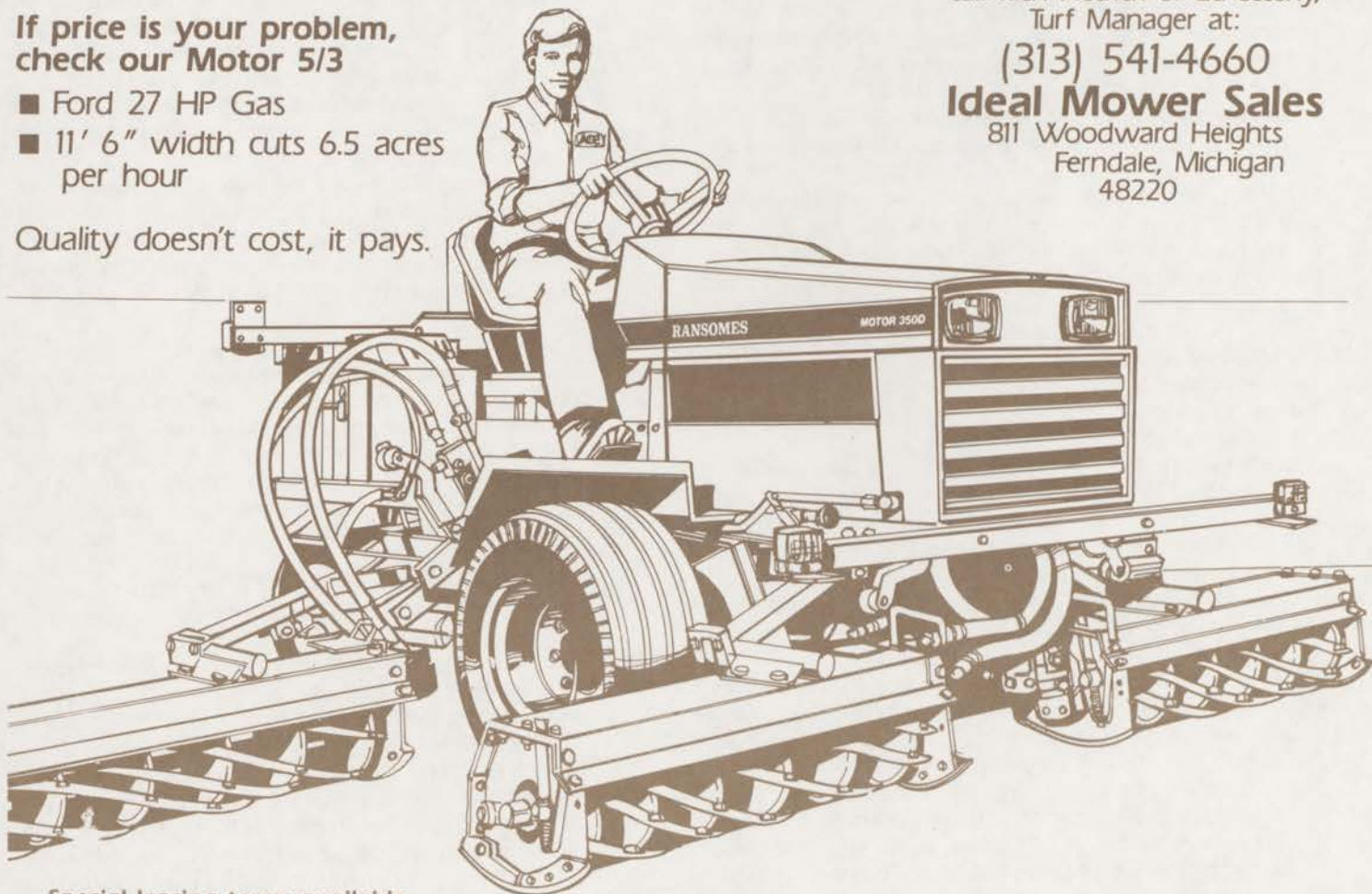
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We started out by constructing six 8"x8"x30" box traps out of 1/2" plywood. One end was left open with a hinged door attached. A string was attached to the door which in turn was hooked to a bait tray from the outside of the box. A piece of band iron was incorporated as a door latch and a handle was added to the top. A 1/2" hole was then drilled in the back so that the skunk could be prompted to leave at the time of release. The traps were put out at the first sign of skunk activity and were baited with peanut butter. It took approximately a couple of nights for the varmints to get accustomed to the traps.

The traps were then checked in the morning and the traps that were tripped were carefully placed in the back of a truck and transported 3 to 4 miles from the course. At the time of release, randomly selected skunks were marked by a dot of yellow marking paint shot through the 1/2" hole in the back of the trap. The door was then opened and a dowel is inserted through the hole in the trap to hasten the skunks departure. In a good week, we trapped from 10 to 14 skunks, making a noticeable difference in skunk activity on our turf. So far, we have trapped a total of 50 or 60 skunks with only a few returning. Having the trap only 8 inches high makes it hard for the skunk to lift his tail and spraying is difficult. Thus far, not a skunk has raised a stink.

This form of control has reduced our problem of turf devastation from the pesky skunk in his quest for the Japanese Beetle grub.

SOME IDEAS ABOUT ROOTS

by Dr. W.H. Daniel, Purdue University

Credit: Heart Beat

Introduction

1. What is a root?
2. Where are the roots?
3. Roots are plant membranes.
4. What is water-air balance for roots?
5. Roots are strong.
6. How would you insult roots?
7. What could you do in favor of roots?

Conclusion

ROOTS TURFWISE

Our historical roots, as a family and individuals, have recently received special attention. However, the roots of concern in turf are those little white stringy things that supposedly are below the grass you see on the surface.

First, what is a root? Roots are initiated at the nodes occurring along stems. These may be concentrated in a crown or spread along a stolon. Portions of mature roots are mainly conductive tissue plus providing some storage nutrients, especially starches.

The working part of any root is the soft absorptive root tip and the root hairs near it. This is where the payload of water and elements are absorbed for transfer to the crown, stems and leaves known as the turf cover. And, woe is the plant which had **lost** its root tips! So, a living root is that plant tissue joined to the node and extending to and including a root cap. Although some branching is normal, when individual root tips die, the older root parts seldom initiate new root tips. Physiologically, the plant's response is to initiate a new root at the node and just start again (providing extra energy is available and time is allowed). In other words, the energy path is to start a new root, which has least transfer distance for nutrients. So, keeping root tips alive and active is the first challenge of turf managers.

Bud Esterline at Muncie one time said, "Bill, on Monday I cut the cups and could see roots about five inches deep. It was dry, so Monday evening we made a big effort to water the greens real good. Tuesday morning early it rained and it was so cloudy and wet that we couldn't mow Tuesday. Although still raining, we finally mowed a little Wednesday afternoon, and the rain just set in there. Brown patch began to show. We finally got our greens mowed on Friday, and on Saturday the weather cleared up, and all I had for roots were a few black strings! I had lost my complete root system between Monday night and Saturday morning." Now what? Bud knew he had to lightly water those greens, to watch for wet wilt, to keep the leaves moist enough so they wouldn't wilt until new roots would generate. If he could get by for about seven days, he'd have some new roots growing, and later some good roots working again, and back to normal. Five days of wet weather cost Bud his root system, and then it took him ten days to get partial replacement.

Where are the roots? Would you believe 90 percent of root length is in the upper two inches or five cm. In West Germany, my friend, Dr. Boecker, reported extensive testing.

Inches	cm	%
0-2	0-5	90 Boecker found 81 to 91% for fescue
4	-10	5 86 to 94% for bluegrass
6	-15	3 85 to 93% for bentgrass
	below	Root distribution in June and December were near equal.

Don't fret over this distribution; just realize that it is the active root tips doing the work.

Ideally, a diffuse extension root system is desired, but for every use, management, root zone and irrigation, what is normal, adequate and necessary will vary. As turf managers, you will want all the roots possible or practical.

Roots have been found over 100 inches long under Bermuda in California tests. However, roots of three feet for fescue and zoysia, two feet for bluegrass and bentgrass would be considered quite long. When trenches are made across roughs or tall grass areas, the long root extension in the soil profile is usually impressive.

Roots are plant membranes. "Here, you root; do this! Absorb (take in) 5000 pounds of water plus one pound of elements the plants must have. By the way, **keep out the excessive and avoid the unneeded.** Meanwhile, let's hope nematodes make no holes and rhizoctonia doesn't infect. And, while you're constantly expanding, we'll try to keep the leaves healthy, the mower sharp, the wear distributed, the drought averted, and we'll try to avoid scalping or other turf stress." After all, the top must send energy clear down to the root tip. When energy is short, the number of root hairs diminishes, the diameter reduces and the root initiation slows.

Roots are powerful absorbers. Before the plant wilts, roots will take water from soils down to 13.6 atmospheres, a pF of 4.5 or tension equivalent of 14 meters of water. The wise turf manager has every reason to utilize the reservoir of moisture within a root zone between irrigations. In other words, it is foolish to ignore the root zone moisture storage potential when managing fine turf.

What is water-air balance for roots? Incidentally, that root tip must have some oxygen as it works. Waterlogged soils are hard on roots. Being waterlogged for more than 24 hours under stress weather is a cause for concern.

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Most turf managers have seen roots growing over the surface of the ground in an attempt to be where there is aid. Roots may be deep or shallow just in response to air supply. We've seen roots grow in water when air is needed, but remember, oxygen travels through water 1000 times faster than through wet compacted soils.

Roots are strong! When roots are numerous, their combined strength is in athletic fields, tees and traffic areas. New roots in new soils always look good. A measure of success is to have sufficient roots to hold the soil mass for their entire depth of penetration when held by the surface sod. Research on rooting of sods has been conducted to determine resistance to an upward pull after one month of growth.

How would you insult roots?

1. Reduce the air at root tips.
2. Increase the water to excess.
3. Compact the soil; use equipment and carts.
4. Smear, seal the surface.
5. Raise the temperature.
6. Overcrowd the plants.
7. Lose leaves due to disease.
8. Reduce leaf surface.
9. Shade by trees, buildings, other plants.
10. Overfertilize and stress plants.

What would you do to favor roots?

1. Increase oxygen in root zone.
2. Avoid any overwatering or continued wetness.
3. Vertically core, spile, slit open root zone surface.
4. Topdress to raise cutting height.
5. Topdress to minimize surface compaction and effect of thatch.

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6. Increase leaf surface.
 7. Avoid or spread wear.
 8. Avoid disease or turf weakening.
 9. Lower the temperature - cooling when possible.
 10. Reduce shade or competition.
 11. Fertilize - low to medium nitrogen.
 12. Provide ample potassium and minor elements.
- Turf managers and their crews can't make a root! You can help; let the plants make them. You can kill the root or slow it down.

PLANTS THAT ATTRACT BIRDS

by James A. Fizzell, Sr.

Extensive Adviser - Horticulture, U. of I.


Credit: Our Collaborator

Are you a bird fancier? Our severe winters work a hardship on our feathered friends. Now is the time to start thinking about new plantings which will enhance bird activity in your golf course or yard and provide for them next winter.

The following is a partial list of plants which provide both food and shelter or nesting materials for many Chicago area birds.

Berberis thunbergii (Japanese Barberry): A low to medium shrub with red berries in the fall lasting into winter. The berries are favored by the catbird, cedar waxwing, chipping sparrow, hermit thrush, junco, robin, song sparrow and tree sparrow. It can become a serious weed problem in some areas.

Cornus florida (Flowering Dogwood) and **Cornus mas** (Cornelian Cherry Dogwood): Small trees with bright red to scarlet fruit in the fall. The fruit is favored by 93 kinds of birds, including bluebird, brown thrasher, bob-white, cardinal, catbird, cedar waxwing, downy woodpecker, flicker, robin, song sparrow, thrushes and towhee.



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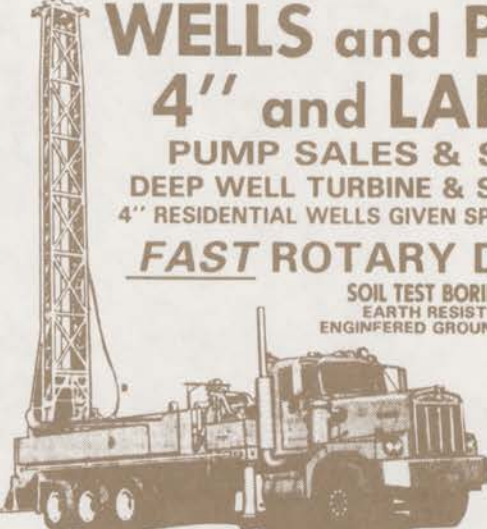
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Crataegus sp. (Hawthorns): Small trees with miniature red apple-like fruit. Fruit is present in the fall and into the winter on Cockspur and Washington Hawthorns. The fruit attracts 39 kinds of birds, including blue-bird, bob-white, cardinal, cedar waxwing, fox sparrow, hermit thrush, kingbird, pine grosbeak, purple finch, and robin. The Washington Hawthorn is a particular favorite.

Euonymus europaeus (European Spindletree): A tall shrub with rose-pink and orange fruits in the fall and lasting into winter. Bluebird, brown thrasher, cardinal, catbird, flicker, robin, scarlet tanager, towhee, and others like this fruit.

Lonicera tatarica (Tartarian Honeysuckle): A tall shrub with red berries in June and July. It may become a weed problem. The berries attract 20 kinds of birds, including bob-white, catbird, cedar waxwing, junco, olive-backed thrush, pine grosbeak, red-eyed vireo and others.

Morus alba (White Mulberry): A medium sized tree frequently planted to prevent excessive depredation of fruits having greater ornamental value. The blackberry-like fruits are white or pink to purplish in early summer. They are a favorite fruit of more than 50 native songbirds.

Rhamnus sp. (Buckthorn): Tall shrubs having red to blue-black fruit in the fall. Some berries may last into winter. Shrubs may become a weed problem. The fruits attract 18 kinds of birds, including blue jay, brown thrasher, catbird, cedar waxwing, junco, kingbird and robin.

In addition, several coniferous evergreens also provide food and shelter for many birds. These evergreens include Colorado Blue Spruce, Red Spruce, White Pine, Austrian Pine and White Spruce.

Many other woody ornamentals are also excellent food sources for Chicago area birds. These ornamentals include: Sugar Maples, Crabapples, Yellow and Canoe Birch, Russian and Autumn Olive, Spicebush, Barberry, Virginia Creeper, Cherry (various species), Sumac (various species), Roses (various species), Viburnums (various species), and Grapes, to name a few.

Seeds from many garden flowers, such as phlox, verbena, zinnia, sweet william, marigold, cosmos, columbine, chrysanthemum, amaranthus, helianthus and the sunflower also are important in attracting birds.

Remember, once you invite birds to your property, they will rely on you for their food all year. Bird feeders and water will probably be needed to get the birds through severe winters.

CROWNVELTCH TURNS 50 **by Tanja Kor, State College, PA** Credit: Crops and Soils Magazine

Fifty years ago, on a warm day in June of 1935, Fred Grau was driving from Allentown to Reading in Pennsylvania with a little time to spare. He decided to investigate a bit of the countryside.

"I turned right at a fork in the road," he remembers, "and in a sense I guess you could say I never turned back."

What he did that day was stumble onto a plant species that he has since turned into an industry.

"I found a cinder shale pile alongside the road. That pile was covered with beautiful pink and purple flowers," he says. He stopped and asked the farmer, Robert Gift, about it. The Dutch-heritage gentleman called it "dot veed." He said he couldn't get rid of it. When he plowed his fields and planted his corn, it always came back; but it never interfered with his crop.

Grau decided a plant with those traits might make an effective erosional deterrent. He took some of it back with him to what was then called The Pennsylvania State College where he was an extension agronomist and began studying it.

The plant was crownvetch, a perennial legume that probably entered the country through Spain as an impurity in alfalfa seed. It has four to six umbels and seed pods containing three to 10 flowers. Those flowers are brilliant pink and purple which, in the East, are at their best in mid June into late July.

Crownvetch has two main advantages; it makes a good forage crop and its creeping root system holds the soil well. It is also extremely persistent and needs little care. "The original plants I found in 1935 are still on the hills and have been thriving with no maintenance for the past several decades," Grau says.

His boss at Penn State told Grau not to fool with the plant - that he would never make a penny on it. But Grau continued to experiment and developed the variety 'Penngift,' which he released. The name comes from Pennsylvania and Robert Gift, the farmer on whose land Grau found the first plants.

Grau and his wife brought a couple run-down farms - against all advice - to develop crownvetch for seed production. They developed a method of scarifying the hard seed in order to get good germination, and worked with engineers to develop the world's first hydroseeder to plant the crop along slopes.

The hydroseeder principle was first used in 1939 along the Pennsylvania Turnpike. The first planting of crownvetch for seed production was in 1940, with the first seed harvest in 1946.

The Pennsylvania Department of Highways tried a test planting of the new crop and found it to be superior in retaining moisture and controlling erosion.

"Crownvetch actually improves the soil by recycling the nutrients brought up from deep in the soil," Grau says, "And, contrary to the growth habit of most plants that have rhizomes, crownvetch does not become a nuisance in cultivated areas."

He founded the company, Grasslyn, Inc., to market the seed. He and his wife also pioneered the marketing of crowns.

"In spite of our educational flyers, some customers planted the crowns upside-down. They grew anyway. People also thought the plant was 'no good' or even 'poisonous.'"

But Grau was able to show that, far from being poisonous, crownvetch was a good forage crop, especially for ruminants. "Crownvetch has a feeding value equivalent to alfalfa," Grau says. "Unlike alfalfa, though, cattle grazing crownvetch have never experienced bloat."

The crop starts to grow slowly, but it is persistent. It climbs up over soil slips and slides, it withstands washing, freezing, thawing, and drought. On slopes the topgrowth mats down to form a blanket to break the impact of raindrops. Under certain conditions its roots can penetrate up to 20 feet deep into the soil.

Today, 50 years after its discovery, crownvetch has made its place in America and around the world. It is being used on slopes, cuts, and hillsides along highways in many states. It is used on strip-mine spoils, stream and lake banks, airports, parks, golf courses, college campuses, and other low-maintenance areas. It is used in pastures and as a living mulch under some no-till crops.

Much of that success is due to Grau himself, a poor farm boy from Bennington, NE, who worked his way up to earn a Ph.D. degree from the University of Maryland. He continues to promote the crop as hard as ever. His son, Fred, Jr., now runs the Grau family industry. The rest of the success comes from the plant itself, which is a living memorial to its founder.

"Crownvetch will never dwindle in popularity," Grau says. "It grows on rocks where there appears to be no soil, it thrives in Georgia's red clay, on the loess soils of Nebraska, in sand, and in cinders."

Grau, now 83, continues to work with 'Penngift' crownvetch and to write about it and other plant life. "One day research will reveal how to grow and extract the protein in crownvetch for direct human consumption."

Is he content? No. He says the crop is still not being used enough. "I see slopes just crying out for crownvetch. As I drive through the countryside, I look at those hills and picture them covered with crownvetch; feeding cattle, furnishing shelter and food for wildlife, and beautifying and holding and enriching the soil. Every slope is an advertisement for 'Penngift' crownvetch, whether or not it has been planted."

For Fred Grau, the first 50 years are only the beginning.

"THE BALL"

In my hand I hold a ball,
 White and dimpled, rather small.
 On how harmless it does appear,
 Thi sinnocent looking little sphere.
 By its size I could not guess,
 The awesome power it does possess.
 But since I fell beneath its spell,
 I've been through the fires of hell.
 My life has not been quite the same,
 Since I chose to play its game.
 It rule smy life for hours on end,
 A fortune it has had me spend.
 It has made me curse and cry,
 And hate myself and want to die.
 It promises me a thing called "Par",
 If I can hit it straight and far.
 To master such a tiny ball,
 Shoudl not be very hard at all.
 But my desires the ball refuses,
 And does exactly as it chooses.
 It hooks and slices, dribbles and dies,
 Or disappears before my eyes.
 Often it will have a whim,
 To hit a tree or take a swim.
 With miles of grass on which to land,
 It finds that tiny patch of sand.
 Then has me offering up my soul,
 If it would first drop in the hole.
 It's made me whimper like a pup,
 And swear that I will give it up.
 And take to drink to ese my sorrow,
 But "The Ball" knows I'll be back tomorrow.



"Hm-m-m! A 3- and a 5-iron — think I'll try a 4-iron."



"They flew over to stock the lake. I guess they missed."

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