



## 1988 Northwest Turfgrass Conference Program

The program for the 42nd Northwest Turfgrass Conference and Exposition scheduled for September 19-22, 1988 in Spokane, Washington is very close to being finalized, according to William Johnston, Conference Program Committee chairperson. Bill reported, at the recent board of directors meeting, a partial list of the presentors as follows: Dr. James B. Beard from Texas A & M University; Joe Much from the National Golf Foundation (retired); Dr. Ben Roche from Washington State University; Robert Staib with Nor-Am Chemicals; Betsy Hsu from Washington State University; Tom Cook from Oregon State University; Dr. Walt Gardner from Washington State University (retired); Dr. Doug Brede with Jacklin Seed Company; Dr. Ray Maleike from Western Washington Research and Extension Center; Toni Fitzgerald with Spokane County Extension Office; Gordon Witteveen from Woodbride, Ontario (Canada); Dr. Gary A. Chastagner from Washington State University; Dr. Stanton E. Brauen from Western Washington Research and Extension Center; et al.

In addition to an excellent education and professional development program, there will be a park tour, the annual golf tournament, an excellent program for spouses plus an outstanding equipment and supplies exposition in the 40,000 square foot Spokane Convention Center. Get this conference on your calendar now - it's a must!

## OGCSA Seminar and Show

Congratulations are in order for Bill Griffith, Dick Fluter and Dick Malpass (and others) for the excellent job done on the Oregon Golf Course Superintendent's Association Annual Chemical Applicators Seminar and the Oregon Turf and Grounds Maintenance Exhibit held at the Portland Coliseum this winter. Thank you for a great job.

## Ciba-Geigy Contributes \$50,000 to GCSAA Endowment Fund

Congratulations to Ciba-Geigy who has contributed \$50,000 to the Golf Course Superintendents Association of America's (GCSAA) scholarship and research fund.

The Robert Trent Jones, Sr., Endowment Fund, established by the GCSAA in August, makes scholarships available to outstanding students enrolled in college turfgrass management programs nationwide. The fund works to encourage future leaders among professional golf course superintendents.

## Roy Goss Receives 1988 Green Section Award

Roy Goss, a turfgrass educator, and scientist for more than 30 years, and recently retired Northwest Turfgrass Association Executive Secretary, has been named the recipient of the 1988 Green Section Award of the United States Golf Association (USGA).



Roy Goss

The award has been presented by the USGA annually since 1961 in recognition of distinguished service to golf through work with turfgrass. Goss received his award Feb. 8 in conjunction with the 59th International Golf Course Conference and Show in Houston.

Goss has worked on the light intensity needed to grow grass on putting greens, assisted pathologists in disease study and control and performed variety testing for disease resistance and putting quality, among other projects and contributions related to turfgrass. Perhaps his most significant contribution is his research aimed at determining the effects and importance of sulphur to the turfgrass plant. He also has assisted in conducting one of the largest turfgrass variety testing programs in the United States, a project that led to the adoption of better and more disease-resistant varieties.

Goss received the Distinguished Service Award from GCSAA in 1978.

## GCA Members Told They Could Be Held Liable

Members of Garden Centers of America were warned that if they give erroneous information over the phone to poison control centers they could be sued for malpractice, according to attorney John P. Manwell.

Manwell says GCA members should never try to identify a plant over the phone, and even when shown the actual plant, leaf or fruit, they should not give advice unless they are confident their identification is absolutely correct. Members also should check with insurers about coverage on such a liability.

GCA has developed a "poison plants" kit to assist members in providing information on plant safety to customers. Members may receive the kit by calling GCA at (202) 789-2900.

## President's Corner

- NTA Organizational Activity -

What a year to be watching the goings on within the Northwest Turfgrass Association! With Dr. Roy Goss retiring, it became necessary for a whole new look to the operations and direction of this premier turfgrass association. The Board of Directors has been working on: changes in the by laws; a change in the billing year; sites for future conferences; the role of the trade show in future conferences; ways to increase funding for research projects; plus, assorted other projects and challenges including developing an annual budget from scratch.



James R. Chapman  
President

Even though this Board has only been working together a few months, things are coming together. The budget committee has formed a comprehensive plan for financial operations and the proposed bylaws changes will be available for your review soon. Dr. Bill Johnston's program committee already has a program lined up for Spokane you won't want to miss.

Future conference sites will present a problem simply because we have been so successful in the past. We are too large a group for most places and our choices for adequate meeting space and trade shows is limited. While that may leave out some of the more exotic places we have enjoyed in the past, future conferences should be easier to get to and local attendance should be much larger.

### - Board Director Nominations Sought -

Now is the time to be thinking about your own abilities and how you might help this organization grow in the future. Each year board members cycle off the board and new ones are elected. It would be nice if those of you that would like to be a part of the Board of Directors for the Northwest Turfgrass Association could let us know before the conference. Drop a letter to our Olympia office, indicate your interest and some of your background qualifications. The nominating committee will review these and select nominees. We plan to present prospective nominees in a pre-conference newsletter so nominees won't have to stand up and make an impromptu self-promotional speech.

### - Goss Replacement Search Begins -

As NTA president, I have been invited to participate in the search for a replacement (if that is possible) for Dr. Roy Goss. The search timetable began in March with the objective of having the candidate start work September 1989. If you have any recommendations or interest in the position, contact the WSU Department of Agronomy and Soils. (509) 335-3475, Pullman, WA 99164.

## New Notification To Dues Payers Required

The Internal Revenue Service is now requiring tax-exempt associations and clubs to tell their members that dues are *not* tax deductible in all instances.

According to information supplied by the National Club Association (NCA), tax-exempt groups that rely on dues for income must specifically notify their members that those payments are not tax deductible as charitable contributions. The new notification requirement was announced as part of a Feb. 10 clarification of last year's tax code revisions.

The federal tax code now requires trade associations, clubs and other groups that are income-tax-exempt under IRC Section 501(c) and that take in more than \$100,000 annually to print the notification. A notice stating that the contribution is not tax deductible as charitable must appear "in a conspicuous and easily recognizable format" on all bills for dues, assessments or other general payments.

Because some payments might still be deductible as part of a member's regular business expenses, the NCA is recommending this statement wording:

"Dues payments may be deductible in part as ordinary and necessary business expenses for federal income tax purposes. Dues and similar payments are not, however, deductible as charitable contributions."

The rule does not apply to bills for special services, such as food and drink, use of club athletic or social facilities or bills for advertising in group publications.

According to Zachary Grant, GCSAA's manager of government relations, "In addition to social clubs, this ruling also applies to trade associations like GCSAA and its affiliated chapter associations. Given the severe penalties for non-compliance, I would encourage everyone to take a close look at their billing statements and other solicitations."

The disclosure requirement carries with it a \$1,000 per day penalty for non-compliance, and intentional disregard could mean fines in excess of \$10,000. The IRS says that failure to comply because of "reasonable cause," such as financial hardship due to reprinting costs, will be excused for now. Though the rule came into effect **Feb. 1, 1988** the IRS is saying that it will not begin active enforcement until **April 1, 1988**.

## ASPA Wins Major Diazinon Ruling

EPA Administrative Law Judge Gerald Harwood has ruled that use of the insecticide diazinon on turfgrass sod farms should not be cancelled, as has originally been proposed by the EPA.

The American Sod Producers Association (ASPA) joined Ciba-Geigy in an appeal of the cancellation proposal that attempted to demonstrate golf courses and sod farms were sufficiently similar to warrant removal of the chemical from such locations. In his 85-page ruling, Judge Harwood noted, "weighing the benefits against the risks

(Continued on page 3)

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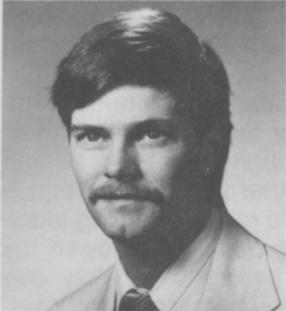
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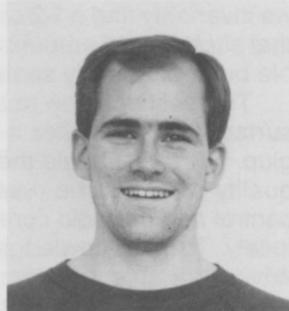
found in this record. . . the benefits of diazinon are sufficient to justify the continued use of diazinon on golf courses and sod farms under Ciba-Geigy's proposed label, but only if the use is reclassified as a restricted use."

ASPA's efforts to maintain diazinon's availability began in April, 1986, with a direct response to the EPA's proposal and continued with a successful survey of ASPA members' chemical usage, direct testimony at the cancellation hearing and preparation for cross-examination.

## NTA Scholarship Recipients



Todd H. Lauble



J. Eric Chapman

Todd H. Lauble and J. Eric Chapman were the NTA Scholarship recipients this year.

Todd is a 3.0+ student at Oregon State University working on a major in horticulture and in the turf management program. Upon completion of his horticulture degree he hopes to pursue an MBA and then work toward a superintendent position in the Northwest.

Eric is a 3.0+ student at Washington State University working on a major in agronomy with an emphasis in turf management. He plans to pursue a career in the commercial turf maintenance area.

We look forward to the contribution both of these individuals will make to the turf industry in the future.

## Inherent Problems in *Poa annua*

By: Jon Heselwood and Bill Johnston

*Poa annua* is a grass of many contradictions. It is known as an annual (annual bluegrass) when it is, more often than not, a perennial. It has been classified as an annual bunch grass; however, many plants can persist under close mowing for several years. *Poa annua* contains two distinct subspecies, an erect annual type, *spp. annua*, and the prostrate biennial, or perennial, *spp. reptans*. *Poa annua* *spp. annua*, the true annual, accounts for only a very small percentage of any population, e.g., a collection throughout Europe yielded only 1% *spp. annua*. Therefore, the *spp. reptans* accounts for the majority of the annual bluegrass in managed turf.

*Poa annua* persists in areas such as greens, tees, fairways, and lawns where the preferred grasses have failed, yet we commonly criticize its presence. *Poa annua* provides an excellent playing surface with only an occasional failure, which it makes up for by reseeding itself. When a preferred grass is replaced by annual bluegrass, or when annual bluegrass fails, we must realize that in either case, the cause of death is almost always mismanagement.

Turf management of *Poa annua* is sometimes difficult due to its inherent weaknesses. Annual bluegrass has several disease and pest problems. It is very susceptible to *Fusarium* patch, *Typhula* blight, dollar spot, brown patch, *Ophiobolus* patch, and *Fusarium* blight. In southern areas, large insect populations can cause considerable damage to *Poa annua* turf.

Annual bluegrass is less tolerant of low temperatures than many turfgrasses, and on the other end of the spectrum, is also less tolerant of high temperatures. *Poa annua* will show signs of heat stress at temperatures above 70°F, and direct high temperature injury results at temperatures approaching 100°F. In many instances, *Poa annua* will wilt and die from moisture stress that would only temporarily wilt other grasses.

Annual bluegrass' ability to produce seedheads at low cutting heights and to produce seed during several seasons of the year is a constant problem for the turf manager. Many people consider the seedheads unsightly in lawns, while in putting green turf it can seriously reduce putting quality.

One final comment on *Poa annua*'s "inherent problems." It would seem that anyone who knows how to say "Poa" has an opinion on the proper way to "correct the situation." As a result, programs designed to manage *Poa annua* for a homeowner, or golf course, are almost always surrounded by controversy. Even under the best management practices, failure to keep annual bluegrass healthy can result from unfavorable environmental conditions. Programs to remove *Poa annua* slowly over time, as in the case of a golf green, are also risky endeavors since attempts to selectively kill annual bluegrass while leaving the preferred grass unharmed almost always result in harming both grasses, or leaving both untouched. If one intends to selectively "manage out" *Poa annua*, it would be advisable to have in writing an understanding between the parties involved that states that the program entails a degree of risk, and that all parties understand the possible consequences of the program as well as the possible consequences of no program.

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# Problems with Athletic Fields

By Tom Cook

Once upon a time a school district decided to replace their mudhole sportsfield. They consulted several experts and contracted with a reputable engineer and experienced construction company. The site was excavated and drainage trenches were dug with a laser trencher. Trench spoils were removed from the site and drain tubing was installed. A uniform fine grade of drainage gravel was used to cover drainlines and form a base layer. A rootzone mixture of sand and organic matter was placed on the drainage layer. The field was equipped with a multirow automated irrigation system. Final grading was done with a laser grader and the field was seeded to a blend of perennial ryegrasses. Seeded in the spring the field was ready for limited use that fall and heavy use the following spring. The field performed beyond expectations and the maintenance supervisor was a happy man. He decided to retire quickly before something went wrong!

What went wrong? That's the question I ask myself when I look at athletic fields with problems. Unfortunately I rarely see fields like the ones in the fairy tale above. In fact it's amazing how many problems athletic fields can have. Problems can develop at the design stage, during construction, from improper maintenance, and from user abuse. In most cases one of several basic principles of athletic field construction and maintenance are violated. The following examples will demonstrate some of the ways that things can go wrong on an athletic field.

Several years ago an architect designed a field by installing drain tubing, a layer of drainage rock, a geotextile filter fabric, and a 40 cm layer of topsoil. To further insure good drainage the field was crowned so that the center of the field was 75 cm higher than the edges. The field was seeded with perennial ryegrass and Kentucky bluegrass which produced excellent turf. Midway through the first season of use, the field was mushy quagmire. The youth soccer league even refused to play on the field!

So, what went wrong? In a word everything. From the drainage installation which used 5 cm drain rock to the geotextile fabric which restricted internal water movement, to the topsoil which puddled up quickly when the fall rains came, this field was meant to fail. The crown was not effective due to excessive footprinting and surface puddling. This is an extreme example of failure by design and an expensive one at that. The architect violated the cardinal rule that athletic fields must be free draining at all times. Proper drainage can only occur if water can move into and through the rootzone.

Sometimes people do everything correctly in constructing new fields and make a crucial mistake when the field is almost finished. For example, a small playfield in Oregon was constructed recently with full under drainage and a top mix of nearly 30 cm of top quality sand. It should have been a perfect field but during the first summer the field was thin and weak and so hard it couldn't be aerated. What could have caused this problem? The cause was a 5 cm layer of bark dust that was applied as a surface mulch prior to seeding the field. The designer had studied proper construction techniques prior to drawing up his plans but added this layer because it seemed like it would make it easier to grow grass if there was some organic matter present. The solution to this problem involved repeated appli-

cations of wetting agents and numerous corings during winter and through the following year to break up the surface. Fertilizer levels also were increased to offset the effects of the bark in the rootzone.

The most common error I see in sand fields that fail to drain is surface sealing. In some cases this is due to accumulation of organic debris and in some cases thatch build up. In such cases, field drainage decreases slowly over a long period of time before failing. A common observation is that the field worked great for the first 10-15 years but in recent years it gradually started to puddle up.

Sometimes young fields seal up within a year or two of construction. This is generally due to the use of field grown sod to speed up establishment. The sod was always washed to remove soil but as soon as we dig up the surface we invariably find a 1-2 cm layer of soil. It's hard to believe that such a small amount of soil could cause so much trouble but it effectively seals the surface everytime.

The best solution to surface sealing is to remove the surface layer whether it is soil or thatch or just organic glup. The field should then be brought back to grade with quality sand and be reseeded. After that, regular thatch control and periodic coring should prevent sealing indefinitely. To my knowledge no one has ever followed my advice for this problem. Most people think they can eliminate the problem by coring frequently and topdressing with sand. I have never seen this approach work for any period of time. As soon as the rains come the holes seal over and the quagmire returns.

Occasionally fields appear to have very simple problems but upon examination we find much more serious trouble. I remember visiting with a school with a relatively new sand field. They called because the turf had worn out halfway through the season. On the phone it sounded like a simple case of too much use. After all, they used the field for physical education classes, band practice, and played an average of three varsity games on the field each week. They also told me the field didn't seem to drain as well as it was supposed to. That turned out to be an understatement. This field had everything wrong with it. Drain tubes were installed without trenching. When the topmix was put in place and graded many of the drain tubes collapsed. The topmix which was supposed to be 30 cm deep was as thin as 20 cm in some areas. To top it off, they planted sod grown in soil. The solution to this one was total reconstruction, and that's what they ended up doing.

Not all problems are related to design and construction. Often the problems I hear about are due to inappropriate maintenance. Not too long ago I visited a school on the Oregon coast. They had a sand field which they weren't happy with and wanted advice on what to do to improve it. I was shocked when I saw this field. It was one of the nicest fields I had ever seen. Why were they unhappy? For one thing, the grass grew too fast. For another, it required too much fertilizer. They explained to me their old field only needed fertilizer once per year while this one received four applications last year and was still light green. Whenever they fertilized the grass grew too fast! During my discussions with them it was apparent they didn't understand why the field was built out of sand, what the maintenance needs of a sand field were, or anything else. With proper care this could have been one of the

*(Continued on page 5)*

finest fields in the state but will likely fail due to gross ignorance on the caretaker's part.

I'm often asked how many games can be played on an athletic field. That's a hard question to answer because of all the variables that need to be considered. A soil field in the western portions of the Pacific Northwest may be mush after only ten uses in the fall but might tolerate fifty contests of spring and summer soccer with proper maintenance. A good sand field may tolerate forty football uses in the fall plus a hundred uses from spring through summer for soccer. Poorly maintained fields will provide good surface conditions for only a few uses. All fields will hold up better and last longer if they received proper maintenance for the entire year. Proper maintenance includes regular mowing year around, irrigation as needed during summer, fertilization adequate to maintain turf density, coring three or more times per year to maintain good conditions for infiltration of water and aeration in the rootzone, and overseeding throughout the year to insure turf cover in heavy wear areas. It also involves timely dethatching to remove accumulated surface debris. To achieve maximum smoothness, topdressing with sand three or more times per year may be necessary.

What goes wrong with maintenance of athletic fields? The most common problems are neglect in the off-season, over irrigation and/or nitrogen fertilization during summer months, failure to overseed regularly, failure to core regularly, and failure to dethatch on a timely basis.

Where I grew up they used to let the football field grow up and go to seed in the summer. Each fall it was mowed down a few weeks prior to the beginning of football. No wonder the field was thin and weak during the season. The best way to strengthen turf is to mow consistently year around at an appropriate height for the grasses being grown (2.5-5 cm for perennial ryegrass and Kentucky bluegrass). I cringe when I see fields mowed at 10 cm all summer suddenly cut down to 4 cm at the start of the season. This scalping defoliates the grass, may cause depletion of reserve carbohydrates, often restricts root growth, and reduces turf density just before the period of major use.

I often get calls from people complaining that the grass on their field has very poor roots and tears out easily. The first thing I ask is whether they have an automated irrigation system. Usually the answer is yes. When I ask how often it runs, the answer is usually every night. This often occurs from April to October when fall rains come. This approach yields pretty turf that is lush and often dense but has a shallow root system and poor wear tolerance. The solution is to start out in spring with a thorough but relatively infrequent irrigation program. Continue this approach through summer and attempt to use the least amount of water possible in early fall. This will give the hardiest turf possible during the peak fall playing periods.

What happens if fields are subjected to heavy use? Often the turf wears out! Does that mean the field is no good? No, it just means the turf wore out. What will happen if the field isn't overseeded? Annual bluegrass and other colonizing grasses will quickly invade and dominate the turf. This scenario occurs on many fields every year. Since the grasses we plant initially don't reseed themselves we need to do it for them or the fields will soon be dominated

by annual bluegrass, bentgrass, or roughstalk bluegrass. Overseeding should be done every fall in areas west of the Cascades and as needed after that to maintain desirable grasses. Perennial ryegrass is the only grass we can overseed with predictable results. Overseeding must be viewed as a regular maintenance practice just like mowing.

Often when I visit fields with problems, I see serious compaction. When I ask to see the aerifier, either they don't have one or it's broken. The aerifier is an important component of any maintenance program but is often the least used piece of equipment in the maintenance shed. Fields cored spring, summer, and early fall will generally improve dramatically and often drain much better than non-aerated fields. Problems with localized dry spots often disappear and fields may require less irrigation during summer than they did before aeration.

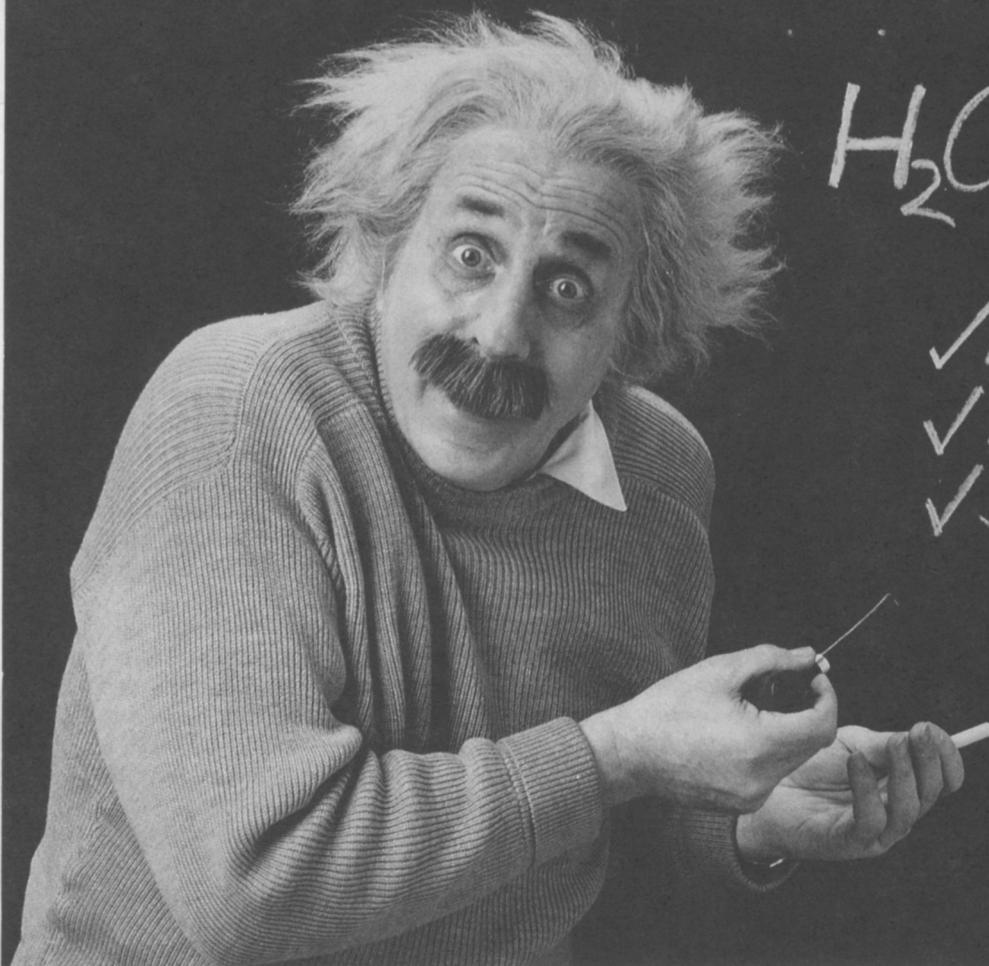
The final category of problems I'd like to discuss is user abuse. The most common example is over use. Soil fields or even well maintained sand fields will fail quickly if used too heavily. Each field has a carrying capacity unique to that site. Determine that capacity by starting out with a conservative guess as to how much the field can handle. Keep records of use and compare the use records to field performance. Increase or decrease use as appropriate to provide good turf for most of the playing season.

I've never visited a school or park district yet where any kinds of use records are kept and used to determine how much traffic individual fields can handle. We tried it on a new soil soccer field and found that as laid out the field could handle only about twenty uses before it became unplayable in goal areas. Had the field been set up with portable goals, we estimated it could have tolerated up to 40 uses and still have been in better condition than it was with fixed goals.

The other major user abuse involves practice sessions concentrated in the center of the playfield. It's not clear why the center of the game field is the only possible place where conditioning drills and other forms of practice can be performed. Maybe the solution to this problem lies in improved communications between coaches and maintenance personnel. We need to foster the concept of developing special zones for the various types of drills so wear and tear can be distributed throughout the total turf area available instead of the center of the game field.

This list of problems experienced on sports fields could go on and on. Those I've discussed so far rank among the most common types. The chief weapon we have to combat these problems is intelligent maintenance and a common sense approach towards use of playfields. For more information on these subjects, I suggest you obtain a copy of "Construction and Maintenance of Natural Grass Athletic Fields" by Dr. Roy Goss and myself. This bulletin is available from the Oregon State University Agricultural Communications Office for \$1.50 (U.S. funds). Ask for PNW 240 and send requests to the address listed below:

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## Complying With Immigration Reform

A 1986 law requires employers to document that all of their employees are U.S. citizens or are authorized to work here.

Illegal immigration has long been a problem for the United States, where 2 million to 3 million undocumented aliens hold jobs. The Immigration Reform and Control Act (IRCA), signed into law by President Reagan on Nov. 6, 1986, was an attempt by Congress to stem the flow of illegal aliens into the United States.

In its effort to control illegal immigration, Congress shifted the brunt of illegal immigration enforcement to the employer, including golf courses. The effect that the law – also known as the Simpson-Rodino Act – will have is far from self-evident.

### Why The Burden Was Shifted

Since the borders of the United States are viewed to be as leaky as a sieve, Congress decided to grapple with other solutions to the immigration problem. In its search, Congress adopted a carrot-and-stick approach, the carrot being provided to the already resident illegal aliens within the country and the stick being used against employers.

Employment is often the magnet by requiring employers to hire only U.S. citizens and aliens who are authorized to work here. Under this law, illegal aliens found working in the United States will not only be deported but the employer who hired them will be subject to civil penalties.

The Immigration and Naturalization Service (INS) also contends that the new law will provide jobs for Americans who are authorized to work but who are on welfare.

### Steps To Be Taken By The Employer

To comply with IRCA, employers will be required to document all of their employees. That documentation consists of providing evidence to the INS that the employees are U.S. citizens or otherwise have permission to work in the country.

Under the law, every employer has to have his employees fill out an I-9 form. The INS stipulates that the employer meet five requirements:

- Have the employees fill out their part of the I-9 form when they start to work.

- Check documents to establish identity and eligibility to work.
- Properly complete the I-9 form.
- Retain the form for at least three years. (If a person is employed for more than three years, the employer must retain the form for one year after the person leaves.)
- Present the form for inspection to an INS or Department of Labor officer upon request. The employer will be given at least three days' advance notice.

The I-9 form and the list of appropriate documentation can be obtained from your local INS office. It is important to note that the employer is required to retain this form for three years or a year longer than the person was employed.

The completed I-9 form is not sent into any government agency but should be filled out and kept in employment or personnel files. The INS or Department of Labor is enforcing this law by checking employers' files for completed forms.

### When The I-9 Form Is To Be Completed

I-9 forms are to be completed for all persons employed to perform labor or services in return for wages or other pay.

Persons hired between Nov. 7, 1986, and May 31, 1987, should have had a completed form filled out before Sept. 1, 1987.

Federal law requires that the employer and the employee have an I-9 form completed within three business days of the date of hire. Federal law further stipulates that if a person is employed for less than three days, the employer must complete the I-9 form before the end of the employee's first working day.

Federal law does not require the completion of an I-9 form for:

- Persons hired before Nov. 7, 1986.
- Persons hired after Nov. 6, 1986, who left the job before June 1, 1987.
- Persons employed for domestic work in a private home or on an intermittent or sporadic basis.
- Persons who provide labor who are employed by contract or who are providing contract service (employee leasing, for example).
- Persons who are independent contractors.

Source: *Golf Course Management*, February, 1988

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### Why keep records

An equipment file provides a central place to keep track of equipment purchases, maintenance and repairs to prove warranty claims and to settle insurance claims in case of accidents, theft or vandalism.

The file is also a handy place to keep a list of replacement parts because you need a complete and clear description of a broken unit to obtain the correct parts.

### How to start a file

An equipment file doesn't have to look fancy. It can be anything from a file cabinet to a cardboard box. The important thing is to maintain your file in a safe location, using a separate folder for each piece of equipment.

Label your files the same way you refer to your equipment. Commonly files are labeled by number or brand. For example, if you are filing by number, you might have mowers numbered one through twenty-five and utility vehicles numbered one hundred through one hundred and twenty-five. The space between numbers allows you to add or replace equipment.

Either method is fine. Remember the goal is to develop a system that is easy to manage and maintain.

### What to put in a file

Once your files are labeled, put in any information you have on each piece of equipment. Include the equipment's make, model and serial number. You can find this information on the equipment's data or information plate. Try to copy the information when the equipment is new because after extended use you may find the data plate difficult to read. The owner's manual will contain information on recommended oil, fuel, filters, belts and service checks.

Some important documents to include in your equipment file are:

- All statements, cancelled checks, etc., related to the initial purchase;
- Information recorded from the data (identification) plate – make, model, serial number, operating speed, voltage, etc.; and
- A record of all service and repairs plus dates and descriptions. Include statements for outside and in-house service.

Now that your files are neatly organized, make it a New Year's resolution to maintain the files. Paperwork is almost always easier when it is done in small quantities.

Source: *Ground Maintenance*, November 1987

## Learning to Cope

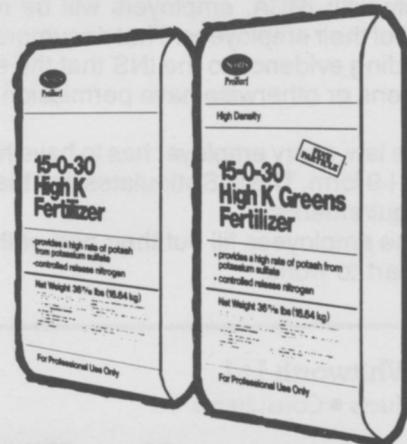
What are the remedies for stress? Resisting or fleeing stressful situations is not always a viable response. But you can:

- Develop a positive attitude. Remember that situations do change.
- Fight only for that which is really worth it – don't be a perfectionist. Set your priorities.
- Develop some perspective by balancing the negative aspects in your life with the positive. Counting one's blessings does help.
- If you have something unpleasant to do, don't let it torture you, get it done and out of your way.
- Use your sounding boards. Loving friends and relatives can listen and give advice. Sharing a burden can help. You need these support systems.
- Get some regular physical exercise, gently does it at first, and pay more attention to your eating habits and the kinds of foods you eat.

Stress cannot be eliminated entirely, but the dangers inherent in severe stress can be moderated for a better and longer life.

Source: *New York Life Insurance*

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## Forecasting Availability of Turf Cultivars

By: A.D. Brede

First the good news: For the most part, the 1987 grass seed harvest was good. There were selective varieties that yielded low this year due to frost damage or poor establishment. But yields were generally up on all turf species from record low yields in 1985 and 1986.

Now the bad news: The poor harvests in 1985 and 1986 have depleted carry-over supplies of grass seed. Normally, 30 percent of the seed supply is carried over from one harvest year to the next to "fill the pipeline." In 1987/88, there is no carry-over from 1986. Moreover, demand for seed is on the upswing. Increased housing starts, a poor European seed harvest, and increased use of grass seed by the lawn care industry are creating increased demand for lawn grass seed.

The net result? Grass seed will be in "adequate" supply during all of 1988 and early 1989. Selective shortages of certain varieties will occur, so shopping around for varieties is recommended.

The seed shortages occurred in 1985/86 for a variety of reasons. Never before in the history of grass seed production had we seen shortages like we saw in the 1985 and 1986 harvest years. Because of 100 degree heat during bluegrass pollination in May, 1986, the 1986 crop of common Kentucky bluegrass was only 60 percent of a normal crop. Proprietary bluegrass yields, such as Touchdown, Adelphi, and Eclipse, were only 45 to 50 percent of a normal crop.

This poor 1986 crop came on the heels of another poor crop in 1985. During 1985, proprietary Kentucky bluegrasses yielded only 40 percent of normal, and 90 percent of normal for common Kentucky bluegrass. As in 1987/88, there was no inventory carry-over of seed from the previous year. Normally, nearly half of the bluegrass inventory is carried over from the previous year. Inventory carry-over during 85, 86 and 87 was essentially nil.

Yields of the tall fescues, fine fescues, and perennial ryegrasses was fair to good in 1987. Production acreages of most species was up by 10-30 percent over 1986 levels. Demand for these grasses has remained strong. One exception is the fine fescues, where demand has remained stable, resulting in stable, but not strong, fine fescue prices which should continue into the near future.

Acreage planted to Kentucky bluegrass is expected to increase by 20-30 percent in the next two years. This will ensure an adequate supply of Kentucky bluegrass seed in the future, with the distinct possibility of prices dropping in 1989. Acreages of tall fescues are expected to increase by another 25 to 30 percent. Ryegrass and bentgrass acreages are expected to increase by 15 percent and 35 percent, respectively. Demand for these grasses is expected to remain strong with price slide in spite of greater production.

Increased demand for seed from low interest home loans, participants in the CRP Program, from the lawn care industry, the sod industry, and for overseas has maintained the price of grass seed. New acreages, improved varieties, and (hopefully) good growing weather should ensure an adequate supply of turfgrass seed in coming years.

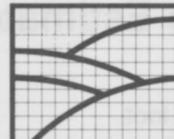
## NGF Creates Golf Program Guide for Schools, Colleges

The National Golf Foundation (NGF) has created a complete program guide for middle schools, high schools or colleges wishing to include golf as part of their regular physical education curriculum. Packaged in kit form, it is a distillation of teaching methods used by leading golf instructors throughout the United States.

"Many physical education programs today do not include golf," says Dr. Ed Cottrell, the former associate dean for the physical education department at Pennsylvania's West Chester University, who currently serves as chairman of the NGF's Association of Golf Educators, a national service organization for golf coaches and teachers. "And this is often because the teachers are not trained in golf and therefore are uncertain just how to implement such a program.

"This kit gives the schools and their teachers all the tools needed to successfully add golf to their current physical education programs. By the same token, we believe that instructors and coaches who have been teaching golf for years will find it just as useful.

The NGF GOLF CURRICULUM KIT contains 16 lesson plans adaptable to any grade level or teaching time frame. There are also master copies of student hand-outs, drills and sample tests; the two-volume NGF golf instruction video, *How To Play Your Best Golf*, and, four specially developed NGF publications: *Golf Instructor's Guide*, *Golf Coach's Guide*, *Golf Lessons* and *Easy Way to Learn Golf Rules*.



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## Public Awareness Has Its Price

The Emergency Planning and Right-to-Know Act, requiring manufacturers and dealers to list their hazardous chemicals with community groups, will cost the industry over \$2 billion in the next 10 years.

Keeping the public aware of what goes on in the chemical industry will have its price.

Compliance with new EPA regulations brought about by the "Superfund Amendments and Reauthorization Act of 1986" (SARA) will cost all those associated with chemicals.

One part of SARA is Title III: the Emergency Planning and Right-to-Know Act of 1986. It requires agricultural chemical dealers and end users, including farmers, to identify their facilities where any one of the listed chemicals are stored in quantities greater than EPA's threshold planning quantity (TPQ).

The stated purpose of SARA is to help communities better meet their responsibilities regarding potential chemical emergencies.

Unfortunately, doing so will take an estimated \$473 million out of the industry's pocket during the first year of the program. After that, the cost will escalate to \$2.1 billion over a 10-year period.

Breaking that down, EPA figures the cost of completing a toxic chemical release inventory form will be \$3071 per chemical and \$183 per mixture during the first year.

While a list of the 329 toxic chemicals and their TPQs is available, space does not allow to enumerate them. However, Preparedness Program Hotline to contact: 1-800-535-0202, 8:30 a.m.-4:30 p.m. (EST), Monday through Friday.

Source: *Farm Chemicals*, September 1987

## A Short, Simple Way To Estimate Your Sand Trap Needs

Sand weight is 96 pounds per cubic foot.

One ton of sand equals 22 cubic feet.

One ton of sand will cover 66 square feet at a depth of 6 inches.

Average sand trap will use 5 to 8 tons of trap sand at 4 to 6 inch depth.

Formula to determine amount of trap sand required:  
Length x Width x Depth x 96 + 2,000 pounds.

Source: *Turf Talk*, Wy-Mont GCSA



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## New EPA Policy Coming Into Effect In March

A new Environmental Protection Agency policy on reporting by small quantity waste generators went into effect in mid-March. The new rule applies to pesticide and chemical users who produce between 100 and 1,000 kilograms (220-2,200 pounds) of hazardous waste material per month.

After **March 23, 1988**, small quantity generators should receive, within 60 days of transport, a copy of the original transport manifest that is hand-signed by the disposal site operator. If the verification of receipt fails to arrive within that time, the waste generator must notify EPA. The generator can notify EPA of the discrepancy by submitting a copy of the unsigned manifest with a handwritten annotation or an attached letter of explanation.

In plain language, that means businesses that produce small quantities of hazardous waste must obtain a handsigned receipt proving that the waste arrived at and was accepted by the disposal site. If that receipt isn't forthcoming within 60 days of pickup, the business must notify EPA in writing. The rule is meant to provide EPA with a format for tracking and reporting small quantity waste disposal.

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The new rule represents a modification of tougher 1987 language that required small generators to meet the same full reporting standard as larger businesses that produce over 1,000 kg. of waste per month. Zachary Grant, GCSAA manager of government relations, said that earlier proposals would have made small generators responsible for tracking and locating undocumented shipments. "This rule represents a compromise solution that just about everybody can live with," Grant said.

For more information on the new reporting requirement, contact the EPA Office of Solid Waste Management at 202/476-7736.

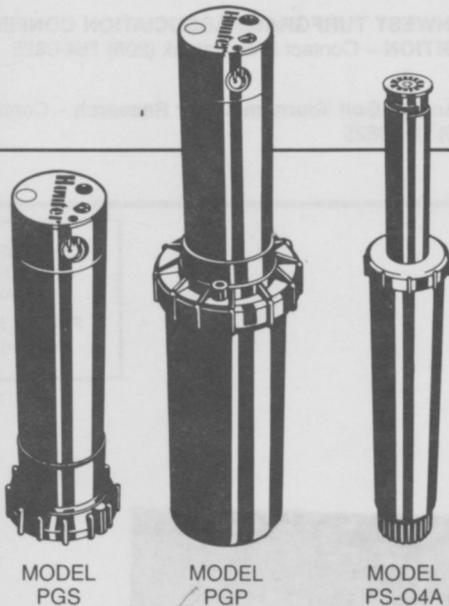
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**Calendar of Events**

- April 15** Joint Northwest GCSA and Oregon GCSA Meeting – Contact Ron Coleman (206) 825-3942 or Dick Malpass (206) 573-6969
- April 21** Lilly/Miller Seminar on Maintenance/Renovation – Contact James Chapman (206) 762-0818
- April 26** Washington Recreation and Parks Association Turfgrass Seminar Management Seminar – Contact WRPA (206) 786-1212
- May 13** Northwest GCSA Fivesome Tournament – Contact Tom Christy (206) 525-8606
- June 14** Western Washington Research and Extension Center Professional Field Day – Contact (206) 841-8538
- June 15** Western Washington Research and Extension Center Public Field Day – Contact (206) 840-8538
- June 16** Turf-Seed Inc. Field Day – Contact Tom Stanley (503) 981-9571 or Norm Whitworth (503) 659-3114
- June 20** NTA Board of Directors Meeting – Contact Blair Patrick (206) 754-0825
- June 26-30** National Meeting of the Association of Official Seed Certifying Agencies – Contact Washington State Department of Agriculture Seed Branch (509) 575-2242
- July 12** Sports Turf Seminar and Field Day – Contact Sports Turf Management Association (301) 667-1833
- August 8** BEST Fertilizer Tournament – Contact Steve Houghton (206) 485-2378 or Norm Whitworth (503) 659-3114
- September 18** NTA Board of Directors Meeting – Contact Blair Patrick (206) 754-0825
- September 19-22** NTA NORTHWEST TURFGRASS ASSOCIATION CONFERENCE and EXPOSITION – Contact Blair Patrick (206) 754-0825
- October 7** NTA First Annual Golf Tournament for Research – Contact Blair Patrick (206) 754-0825

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