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**Contact Lee at the STA office for more info.**



## STA Membership Fees

Thank you to all members renewing in 2000! Invoices for membership fees will be mailed at the end of March and are due and payable on or before May 1<sup>st</sup>.

Please take a moment to verify your information as it appears on the memo accompanying your Membership Invoice. The Membership Roster is compiled from this information entered in our database. For questions with regard to your renewal, please contact Lee Huether at the STA office.

### SPORTS TURF MANAGER

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328 Victoria Road South, Guelph, ON N1H 6H8  
Tel: (519) 763-9431, Fax: (519) 766-1704  
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### SPORTS TURF MANAGER

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#### EDITOR

Michael Bladon

#### PUBLISHER

New Paradigm Communications  
R.R. #8, Owen Sound, ON N4K 5W4  
Tel. (519) 371-6818, Fax: (519) 371-5789  
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#### STA OFFICE HOURS

Lee Huether is in the office from 9:00 a.m. to 2:00 p.m. Monday, Wednesday and Friday.

The office phone number is (519) 763-9431.

At other times, a message may be left on the voice mail system. Please include the vital information of name, telephone number with area code, and time of calling. The office may be reached at any time by faxing (519) 766-1704 or via e-mail.

# STA Annual General Meeting

JANUARY 4-6, 2000, REGAL CONSTELLATION HOTEL, TORONTO



The Sports Turf Association AGM was held on January 4 at the OTS. Left: Bob Sheard presents Chris Mark (right) with a plaque honouring his five years as STA President (1994-1999). Below: STA Year 2000 Board of Directors. From left to right: Bob Sheard, Andrew Gaydon, Gord Dol, Roy Forfar, Rick Lane, Lee Huether (Executive Manager), Paul Turner, Chris Mark, Harold Van Gool and Bill Campbell. Absent: Jane Arnett-Rivers and Mike Bladon.



## NEW STA MEMBERS

- **Henry Kortekaas**  
Henry Kortekaas & Associates Inc., Ajax
- **Tim Callabert**, Working Foreperson, Town of Markham
- **Ken Bannerman**  
Sports Turf Maintenance Crew Chief, City of Barrie
- **James McGovern**, Sales Manager, Hunter Industries Incorporated, Scituate, MA, USA
- **Bill Hamilton**, President Mountainview Turf Agronomics Ltd., Quyon, QC

**Welcome to the STA.**

## PLEASE NOTE

The opinions expressed in articles published in *Sports Turf Manager* are those of the author and not necessarily those of the Sports Turf Association, unless otherwise indicated.

**June issue content deadline  
APRIL 14, 2000**

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## The President's Desk

JANE ARNETT-RIVERS

**H**appy New Millennium and cheers to all members! I will start by introducing myself. I am Jane Arnett-Rivers, your President for the next two years.

I am presently with the Town of Oakville as Supervisor of Parks. My obligations range from washrooms, garbage collection, horticultural plantings and pruning to grass cutting and of course, sports field management.

We have a large variety of fields here in Oakville – lit, irrigated, sand, soil, baseball, football, soccer, etc. – with the heaviest of clays and the lightest of sands. We hold major tournaments and host more than 16,000 people playing house league and rep baseball and soccer for a grand usage total of 47,000 hours on 125 surfaces. Constantly, we face management challenges.

This brings me to one of my goals as President. Many of us face similar challenges in our workplaces. Whether they are environmental, budget or staffing, someone else has likely already solved the problem. We need to disseminate this information. I would like to encourage open dialogue between our board and members. The STA board which I have served on for six years is made up of established, experienced experts crossing all aspects of the turf industry field. To sit at our board table and throw out a question is to have it answered. I encourage you to use this wealth of expertise as I do. Please call me with queries. I would be glad to share information that I have and put you in touch with others to help. As an association, we are all striving for the same goal of *better, safer sports turf*.

Over the past five years, Chris Mark has captained us with dedication and commitment. My new position is all the more daunting following him. Thank you, Chris. I am sure I will refer to you often and hope

to continue the success and respectability that you have helped bring to this elite board. I'd also like to welcome Bill Campbell, our newest Director. We are looking forward to working with you!

I hope that everyone has been re-energized and motivated after attending the OTS 2000. Thank you to Pam Charbonneau and the OTS crew for once again putting on what I consider to be the most unique three days of information, equipment and networking of the year. Thank you as well to Bob Sheard for successfully representing the Sports Turf Association on the OTS Board.

This year's OTS showcased the debut of the Sports Turf Challenge. Kudos to Marjie Fraser, Jim Galbraith and Dwayne McAllister for captaining the teams which participated. It was 30 minutes of fast and fierce competition with the winner not being revealed until the last minute of Final Jeopardy. Congratulations Oakville on your win. See you again next year when I'm sure challengers will step up to try to

take your trophy. Anyone wishing to participate next year, please contact me – it will be a lot of fun. Thank you John Bladon for stepping in, you did Alex Trebek proud!

I have to commend Mike Bladon for taking on Editor of the *Sports Turf Manager* for another year. You always ensure we put out an informative and current publication. Thanks also to Harold Van Gool for accepting another term as Treasurer and Paul Turner for welcoming the nomination of Vice President. I know I speak for everyone when I say this association will continue to strive to serve our members and bring you current industry information.

In closing, a sincere thank you to all who have supported our association in the past. Please pass on the *Sports Turf Manager* to your co-workers – especially those in the field. To the STA board and members, I look forward to my new position as President with excitement! ♦

— Jane Arnett-Rivers

### Meet New Board Member Bill Campbell

**B**ill was born and raised on a dairy farm near Avonmore, Ontario (Cornwall area). His academic achievements include a BSA in Agronomy from the University of Guelph in 1955, a MSA in Soils from the University of Guelph in 1957 and a MBA from McMaster in 1971.

In the fall of 1958, Bill planted his first 20 acres of sod near Lynden, Ontario. He started harvesting sod full time in 1960, selling 143,000 square yards. Expansion followed with farms located near Valleyfield, Quebec; Youngstown, Ohio; Breslau, Ontario; Tilbury, Ontario; Ottawa, Ontario; Que-

bec City, Quebec; Cleveland, Ohio; and finally in 1980, Kissimmee, Florida, near Disney World. Bill is now retired, selling most of the farms to their various managers.

Bill's family life includes his wife Dorothy, who he married in 1955, and their two children – Barbara born in 1960, a graduate of the University of Waterloo in Civil Engineering, and David born in 1962, a graduate of Ryerson Institute Theatre School.

We are pleased to welcome Bill and his wealth of expertise to the Board of Directors of the STA. ♦

— excerpts from *The Horticultural Herald*



# The Service Department

JOHN BILLSBOROUGH, EQUIPMENT TECHNICIAN, UPLANDS GOLF CLUB

**T**o rebuild or replace – that is the question! Determining if a motor is really in need of a rebuild can be a time consuming job as well as create down time on that particular piece of equipment. Simple checks before you make your decision are:

- Check spark as well as condition of the plug, does it foul, burn hot, etc.?
- Fuel: is the engine flooding or is no fuel at all getting to the piston?
- Engine oil: check for water in oil, filings, contamination, cracks in the block.
- Compression test: this will help you determine the condition of piston and rings.
- Exhaust: does the engine push blue smoke?
- Vibration: is there a chance of major bearings needing to be replaced?

Face it, motors won't run forever. No matter how well maintained an engine, rebuilding or replacing is inevitable. The question is: which to do?

Once you have determined that your motor in question is in need of major re-

pairs, one of the toughest questions a technician has is to rebuild or purchase a new motor.

One has to look at things such as the cost of parts to rebuild, the labour costs involved to rebuild, and if your facility has the tools to assist your rebuilding efforts so that it may be done properly.

If your technician has to send the engine out to a qualified shop for rebuilding, then check out the credentials of the shop – talk to other customers to see if they are satisfied with the shop's quality of work.

Can the particular piece of equipment in question afford to be down for a couple of weeks or is it essential for daily maintenance practices such as a greens mower?

Check past maintenance records and the age of the piece of equipment. It may not even be worth putting any further money towards repairs. All of these as-

pects have to be considered before the technician can make a final decision.

Initially, it could be more costly to purchase a new motor, but the convenience of having the motor delivered and installed within a couple of days can be far more valuable, as well as keeping any valuable parts off.

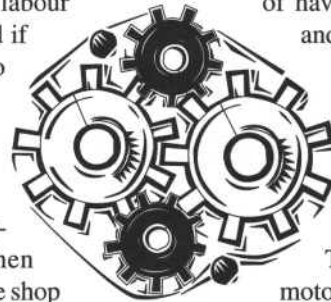
Does the new motor come with a warranty?

The purchase of a new motor can simplify your decision and eliminate any inconvenience of a lengthy downtime.

If the technician keeps records and does regular maintenance checks, the piece of equipment in question could be scheduled for rebuilding in the off-season.

Whatever the final decision the equipment technician has to make, many of the above questions and checks should help him/her arrive at the right conclusion. ♦

— *The Turf Line News, Volume 156, February/March 2000*





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**J. Robert Dippel**

**SEEDS**

**W**hen so many organizations are having to do more with less, it is no wonder that employees react with trepidation when their managers talk about delegation. It is tough for employees to get excited about taking on new tasks when they are already working as hard as they can. And it's doubly difficult when these new tasks are added and no old ones are ever taken away.

In the face of such resistance, managers often stop delegating. However, they need to realize that delegation itself is not the problem. Done properly, it can be not only an ideal tool for training employees, but also the key to making room in a manager's overloaded schedule.



**NOTE!**  
It's not fair to keep piling work on to your star employees and expect them to be enthusiastic about it.

It is important to understand what delegation is and what it isn't. It is not simple task assignment, or dumping or getting rid of unpopular tasks. Rather, delegation is taking a task from a manager's job description and teaching it to an employee. Managers would choose delegation as an option when they need more time for other work, when they want to develop an employee's potential, or when tasks need to be restructured to accommodate a new project.

So why do managers remain ambivalent about delegation in spite of the obvious advantages? One reason is poor planning. Too often, managers get so swamped with tasks and projects that they wait until the last minute to acknowledge that they need help to meet deadlines. With thinly veiled calm, they approach a subordinate and dump a nearly impossible task on his or her desk. Since they are overloaded and haven't time to explain the job, they leave

it with a pile of hastily scrawled notes and hope for the best. No wonder they leave employees running scared.

Another reason for the ambivalence is ego involvement. Sometimes the climb up the organizational ladder has been such hard work that a manager has a tough time letting go of tasks that seem too important for a subordinate to handle. The manager's sense of value comes from having certain responsibilities they want to believe can't be dealt with by anyone else. These managers don't realize that if their department can't run without them, they are not doing their job.

Another reason is fear of mistakes. There is a significant amount of risk any time people are left on their own to learn something new. The major fear for managers is that the employee will really botch the job and that they'll be left to clean up the mess or, worse still, provide explanations or make apologies.

It can be a real leap of faith to trust an employee to do the job as well as you can.

Finally, there is fear of intruding. This is particularly prevalent in organizations that have been significantly affected by downsizing. When employees are struggling just to keep up with their current workload, the last thing managers want to do is add more pressure. Instead, they suffer in silence, wanting to give more responsibility but fearing to ask the necessary questions about how a task might fit into a subordinate's schedule.

Although the obstacles to delegating effectively can seem insurmountable, learning to be an expert at it is really a matter of observing a few simple rules.

**Take your time.** Delegate only when you have time to teach and the employee has time to learn. Allocate time in your schedule to have a sit-down, face-to-face meeting with the subordinate to whom you are

delegating. Give clear and accurate instructions, and allow time for their questions, comments and concerns. Time invested at the early stages will pay off in the long run by reducing misunderstood directions.

**Delegate in bite-size pieces.** Do not try to overload the employee with information during the first session. As a general rule, delegate the job 20% at a time. When the employee can perform 80% of the task unsupervised, it's time to delegate the whole job and let it go.

**Watch your language.** Try to avoid phrases like "Could you do me a favour" or "I really hate to ask but ...." This is called personalizing and apologizing, and it tends to backfire by giving the employee the impression that this is above and beyond the call of duty. Make sure you tell the employee what you are delegating, when it needs to be done, and how you want it completed, and why you chose him or her.

**Add on a task only when you can subtract one too.** It's not fair to keep piling work on to your star employees and expect them to be enthusiastic about it. During your initial meeting with employees when delegating, estimate the amount of time the new task will add to their workweek and let them pass an equally weighted task on to someone else. This will allow them to make room for the new job, and it will give another employee an opportunity to learn something new. If you work in a very small office, you might trade tasks with subordinates to give them a chance to take on a new responsibility. They will have time to learn and you will have a chance to get acquainted with other office operations again.

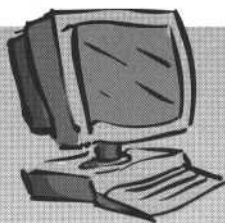
**Be available.** It is rarely advisable to stand over employees' shoulders while they are working, but it is absolutely appropriate to be accessible when they have

questions. Even better, encourage them to come to you for direction frequently. You obviously don't want them to wait for your approval to make every move, but frequent check-ins will make both of you much more comfortable in the long run.

**Delegate recurring tasks.** Employees are much more likely to improve their performance if they have several opportunities to do the same job. When a one-time-only task is delegated, what is learned will be easily forgotten. What gets repeated gets remembered, so choose things that the employee will be responsible for daily, weekly or monthly.

It's not always easy to keep people learning and growing in organizations today. With some planning and attention to detail, though, delegation can be a management skill that helps employees to develop and gets the job done too. ♦

— Reprinted with permission from Shaughnessy Howell Inc., Waterloo, ON, ©1994 (originally appeared in Exchange Magazine).



## Surfing for Turf on the Internet

**"www.uoguelph.ca/GTI"**

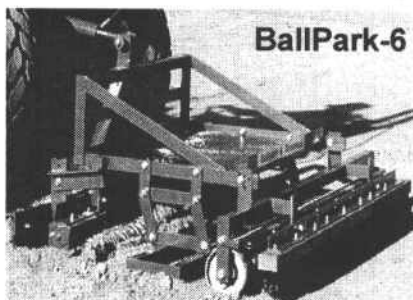
Are you looking for employment in turf management? Do you have a position that needs to be filled? The web site of the Guelph Turfgrass Institute hosts a *Turf Job Mart* for *Turf Jobs Available* and *Turf Jobs Wanted*. Postings are entered on a do-it-yourself basis. Once posted, all contact must be direct so be sure to give enough contact information.

Other Bulletin Boards at this location include *Turf Announcements*, *Turf Business/Education Forum*, *Turf Buy or Sell* and *Turf Events*. From the home page, choose *Interact* and then *Turf Managers' Bulletin Boards*.

**"www.pestfacts.org"**

This site was developed by RISE (Responsible Industry for a Sound Environment). It is a great source of information to support the responsible use of pesticides. The site hosts a pest of the month and has news stories such as how pesticides are needed to control cockroaches, fire ants, poison ivy, etc. around school yards. In the *Pest Identification* section, you can get information on both common weeds and insects including geographic location of the pest, description and picture, life cycle, prevention and control.

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# Managing Soil Versus Sand Fields

PAM CHARBONNEAU, OMAFRA TURFGRASS SPECIALIST

**A**s sports turf managers, you will have many different sports fields to manage with a range of rootzones. Using the same management techniques on these different rootzones could lead to disaster. This article outlines the major differences involved in managing a soil-based versus a sand-based field.

## Managing compaction: soil vs. sand

One way to manage compaction on a soil-based field is to control traffic. This can be achieved by having a practice field so that the field used for scheduled games receives less compaction. Proper irrigation management is a must. Avoid light, infrequent irrigation. You must be careful, however, if the turf roots are restricted to the top 0-5 cm. Due to compaction, you may need to water more frequently so that the portion of the soil that contains roots does not dry out.

A sports turf manager's major tool to fight compaction is soil cultivation. There are many different soil cultivation techniques which can help a compacted field. These include: solid tine coring, hollow tine coring, drilling, slicing, spiking and high pressure water cultivation. Core cultivation has many benefits. It increases water filtration, increases soil aeration and increases root penetration. The increase in root penetration is very evident when you cut into an aeration hole. The newly formed white roots stand out. One drawback of core aeration on heavy textured soils is the soil on the walls of the soil core become more compacted for a period of time after core cultivation. There is also the risk on heavier soils of forming a cultivation pan. This is a compacted layer of soil at the depth of the cultivation tines. On soil-based fields, core aeration of some form or cultivation is recommended at least twice per season.

One of the best ways to manage compaction is core cultivation followed by soil replacement. If the soil cores are removed and the core holes are filled with a properly specified sand, soil compaction will gradually be minimized.

Compaction on a properly constructed sand-based rootzone is rarely a problem. Over time, there may be a compacted zone that develops in the top 0-2 cm due to the accumulation of organic matter in that area from decaying turf roots. If this occurs, an infrequent core aeration will alleviate the compaction.

## Managing irrigation: soil vs. sand

Soil texture has a major influence on irrigation management and this is often the area that causes the sports turf manager the most trouble. Sand-based rootzones have poor water holding capacity because only half of the pore space will hold water and the other half will be filled with air. They do, however, have deeper roots than a soil-based field. On a soil-based field, there are many more micropores and usually much more water is held in the rootzone. There are two confounding factors however. The water in a soil-based field may be so tightly held by the soil that it is not available to the plant. Also, soil-based fields tend to have shallow roots, so the roots may not be able to get at all the water in the soil. In the end, both rootzones may require the same amount of water at the same frequency, but generally the sand-based rootzone will require water more frequently than the soil.

Water infiltration is often a problem on soil-based fields. They may not be able to absorb the amount of water delivered during one irrigation cycle. To get around this, a shorter cycle can be used and cycled twice at each irrigation. On the other hand, sand-based rootzones, if they do dry out, can become hydrophobic and at this point, are very difficult to almost impossible to re-wet.

## Managing fertility: soil vs. sand

Cation exchange capacity (CEC) is a relative measure of the soil's potential fertility. The magnitude of the CEC depends on soil texture, types of minerals in the soil and the amount of organic matter. Sand has a very low CEC and soils have a high CEC (see Table 1).

Because of sand's lower potential fertility, it will require a greater amount of fertilizer than a soil-based field. This is especially true during establishment where up to 1 pound of nitrogen per 1,000 square feet may be required each week until turf is established.

Table 1: Typical CECs

SOIL TYPE	CEC *
Sandy	2-10
Loam	7-25
Clay	20-40
Muck	25-100

\*centimoles/kg

With sand fields, there is also a greater potential for fertilizer to leach. It is important on sand rootzones to use a slow release form of fertilizer to minimize leaching and apply less fertilizer more often. Sand rootzones, especially during establishment, have very few microbes in them. It is important at this stage not to use a fertilizer that relies on microbes to release nitrogen. Sand-based fields are generally lower in phosphorus than soil-based fields. Potash is more likely to leach from a sand-based field and they are more likely to require micronutrients than a soil-based field.

Soil-based fields will require less fertilizer, less often than sand. This is especially true on compacted fields where the addition of excess nitrogen decreases rooting and weakens the turf plants. Fertilizers that rely on microbial degradation are suitable for soil-based rootzones. In general, there is very little nutrient leaching from a soil-based field.

## Thatch management: soil vs. sand

Thatch accumulates when the turf growth is greater than the soil's microbes ability to break down thatch. On sandy soils where there are fewer microbes, there is a greater tendency for thatch to form.

Thatch management on sand-based fields is usually accomplished with a topdressing that is the same as the rootzone. To manage thatch on a sand field, the topdressing frequency and amount must match the turf growth so that there is no excess accumulation of thatch. On soil-based fields, thatch management is accomplished through core aeration. The greatest tool is core cultivation in conjunction with soil replacement – removing cores and replacing them with a proper sandy loam soil.

As you can see, sand and soil fields are very different beasts, requiring different management practices which are summarized in Table 2. Hopefully, the information here will help you better understand what is happening below the turf and help you better manage the fields you have whether they are sand, soil or a combination of both. ♦

— reprinted from *Greenmaster*, Feb/March 2000, vol. 35 (1). Note: article has been edited to suit this publication.

**Table 2: Comparison of Management Practices**

**Soil-based Fields**

**Mgmt. Practice: Compaction Control**

- traffic control (practice field vs. regular field)
- keep traffic off when wet
- soil cultivation by hollow tine aeration, solid tine, slicing, spiking, drilling and high pressure water
- hollow tine cultivation followed by soil replacement
- frequency 2x per year
- more frequent on high traffic areas
- shallow cultivation and deep cultivation needed

**Mgmt. Practice: Thatch Control**

- less prone to thatch because of high microbial population
- can hollow tine cultivation and topdressing frequency 2x per year

**Mgmt. Practice: Irrigation Control**

- good water holding capacity
- poor water infiltration rates - may have to cycle irrigation to get a sufficient amount
- not prone to localized dry spots
- requires less frequent irrigation but can have very shallow roots
- should monitor soil moisture visually (soil probe)

**Mgmt. Practice: Fertility Management**

- high cation exchange capacity
- requires less nitrogen (2.0 kg/100 m<sup>2</sup>)
- less frequent applications necessary (3-4 times per year)
- phosphorus and potash not easily leached
- water soluble fertilizer and quick release fertilizers can be used
- nitrogen less prone to leaching
- micro-nutrients rarely needed
- high nitrogen on compacted soils could lead to very poor rooting
- fertilizers that require microbial break down are generally recommended

**Sand-based Fields**

- infrequent core aeration needed
- can be played on when wet without risk of compaction
- if the sand rootzone meets the USGA specs, it may not be needed at all
- may be required in the top 0-2 cm but rarely deeper

- more prone to thatch build-up because of low soil microbial population
- light topdressing only for thatch control recommended every 2-3 weeks

- poor water holding capacity
- good water infiltration rates - irrigation cycling not necessary
- prone to localized dry spots
- requires more frequent irrigation but can have very deep roots
- should monitor soil moisture visually (soil probe)

- low cation exchange capacity
- requires more nitrogen (4.0 kg/100 m<sup>2</sup>), especially at establishment
- more frequent applications necessary (6-8 times per year)
- phosphorous and potash easily leached
- water soluble fertilizer and quick release fertilizers not recommended
- nitrogen prone to leaching
- micro-nutrients often needed
- fertilizers that require microbial break down not generally recommended

**Weather Facts**  
*Climate vs. Weather*

CANADIANS HAVE an obsession with the weather. Today every country has a government department which forecasts weather and warns the populace of approaching storms, floods or drought. Whenever man has accomplished accurate weather forecasting, it has been achieved only because he has understood all the elements of weather.

A clear differentiation should be made between weather and climate. Weather refers to successive changes in atmospheric conditions such as wind, rain or frost in a given locality. Rainy weather is rainy only as long as it keeps raining. Climate is the average weather conditions of a region over a month, season, or year. The average is found by keeping daily records for many years. It has been proven that where records have been kept for about 50 years, the average for any season or month will accurately represent the kind of weather to be expected there during a corresponding season or month. The unit of measurement of climate, however, is what happens daily with the weather.

The elements responsible for our weather are: 1) the sun and its rays, or solar radiation; 2) the air covering the earth, or the atmosphere; 3) water vapour in the air, or humidity; 4) dust in the air; and 5) the shape, surface, and rotation of the earth.

Other less significant factors or influences are the heat given out from the centre of the earth, the moon's gravitation, and on a local level, forest fires and factory smoke or emissions. ♦

— Summarized by M. Bladon  
Reference: Gaer, Joseph. *Fair and Warmer*. Harcourt, Brace and Company, New York.



# No Mow Lawn on the Horizon

## GENETICS USED TO SLOW PLANT GROWTH



**W**ASHINGTON - Don't throw away the lawnmower yet, but scientists have found a way to stunt the growth of grass and other plants and keep them greener longer by tinkering with a single gene.

The gene regulates production of a steroid hormone that causes plants to grow, much the same way similar steroids work in animals. They have now succeeded in manipulating the gene to create dwarf versions of standard plant species, according to research published in the journal *Proceedings of the National Academy of Sciences*.

A tobacco plant that would normally grow to 1.8 metres tall was engineered to mature at 30.5 centimetres by scientists at the Salk Institute for Biological Studies in San Diego. The same technique worked with the Arabidopsis plant, a member of the mustard family that like tobacco, is frequently used in genetic studies.

"It very much parallels the steroids in football players. Plants buff up on it," Joanne Chory, the Salk study's senior re-

searcher, said of the newly manipulated plant gene. "If you do something ... so it isn't expressed, you get these little dwarfy guys."

The dwarf versions are identical to the standard plants in every way but size, she said.

Plant breeders have long searched for ways to slow the growth of grass to reduce maintenance on golf courses, as well as lawns and parks. But conventional breeding by cross-pollinating different varieties is far more time consuming and less exacting than engineering specific genes.

Golf courses are sprayed with chemicals to slow growth, but they still must be mowed frequently.

The plants the Salk Institute scientists used in their study are more similar to trees, so there may be difficulties in getting the technology to work with grass, said Andy Hamblin, a turf geneticist at the University of Illinois. But it is only a matter of time before scientists develop grass that only needs to be mowed once or twice

a year, he said.

Conventional varieties of grass take an average of 13 years to develop, and the latest breeds have only reduced mowings by only one or two times a year, he said.

Gene-engineered grass also raises environmental questions. Dwarf plants could cross-pollinate with standard plants and stunt the growth of their offspring, Hamblin said.

Governments would have to approve any new varieties of grass and could limit their use to avoid such problems. Hamblin said the approval process for a biotech grass could take several years.

As for its safety, the researchers said there would be no danger to children or animals from eating the grass, since it is essentially the same as conventional grass.

Chory said scientists expect eventually to be able to pinpoint and alter other genes that control the growth of leaves and flowers, enabling them to regulate the appearance of an entire plant. ♦

— Associated Press, *The Record*,  
December 21, 1999

  
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