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President's Message

Winter is here! I know this because my morning paper which all summer was placed neatly in my mailbox is now frozen on my driveway. I also know this because I hear myself and my neighbors telling our children not to lick the ice off of any metal. If they do, their tongues will stick to the surface and will most likely have to cut away. This is what I was told as a child and even though I cannot attest to that theory's accuracy from personal experience, I know it got my attention.

What do we do now that our beautiful courses are blanketed with snow. Naturally, this is the traditional time for people in the golf business to take vacation. In fact, most of you won't be reading this until after you've returned from Houston. Most of us, however, don't take off for the entire three months of Winter.

Aside from planning our maintenance programs for the upcoming season and checking out new equipment, maybe we should spend a little time on our public relations program. This is an area I believe can always use some improvement.

According to GCSAA's Public Relations Manual, there are four basic principles of good public relations. They are as follows:

1. Do a good job
2. Do a good job
3. Do a good job
4. **TELL** people you're doing a good job.

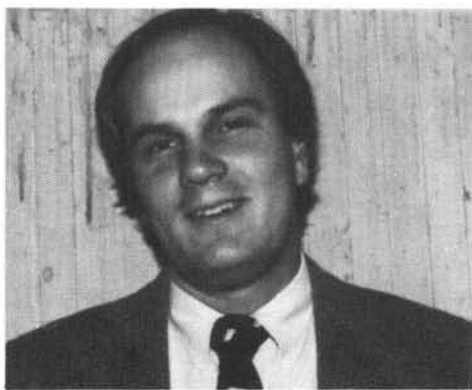
I know all the members of MAGCS are very astute at the first three principles, but there is probably always room for improvement upon the fourth principle.

There are several avenues to getting the word out. There is a letter to the membership, or greens committee; articles in the club newsletter; your green committee meetings; or playing golf with a group of members. Whatever way you choose I have always made sure I started with a complete list of positive accomplishments before embarking upon any discussions of current trouble areas or requests for funds. It is always nice to start on an upbeat.

I am sure there are other ways to improve our public relations programs. Maybe if everyone gives it just a little thought over the next few months we can individually come up with some ideas that can help make our respective positions easier and maybe a little more profitable.

Mike Nass

Director's Column



A Wonderful Life

by Dave Louttit, Innsbrook C.C.

It was usually on a Monday, during the summer months, that I would be awakened by my father at 4:00 a.m. He would quietly tell me it was time to get dressed and eat some breakfast. I would rush to get dressed and eat my cornflakes. You see, the sooner this was done, the sooner we could get to the golf course.

Mondays at Gary C.C. (in Merrillville, Indiana) were special days. The club was closed on Mondays, and although it was my dad's busiest day of the week, it was a day of adventures for me. It was a day where I could watch the sunrise and the birds carry out their early morning tasks. It was also a day to learn how to play golf or to take a hike on the course, where I could see all the different trees and wildlife. And sometime during the day, I knew that I would hit the mother lode; a ride on a golf cart!

As the saying goes, "The more things change, the more they stay the same". I'm now the golf course superintendent (at Delaware C.C. in Muncie, Indiana). The club is located in a rural area, and with the house that is provided for me and my family, it is now my sons who enjoy daily adventures. Even though the open spaces surrounding the house give a youngster plenty to do, the highlight of the day is a tour of the golf course on a golf cart. The questions asked and the look of the eyes is an earlier reflection of myself. And each time my sons and I take that golf cart ride, I'm reassured about this unique and demanding profession. It is indeed a wonderful life!

Favorable Temperatures for Lawns

Lawngrasses are temperature sensitive. Favorable temperatures for root development are different than those for growth of foliage. For cool season [northern] grasses, roots grow best when soil temperatures are 50 to 65 degrees Fahrenheit. Foliage growth of these grasses is best when air temperatures are 60 to 75 degrees Fahrenheit. For warm season [southern] grasses, roots produce best growth when soil temperatures are 75 to 85 degrees Fahrenheit. Foliage grows best when air temperatures are 80 to 95 degrees Fahrenheit. When temperatures are within these ranges, lawn care practices will always be most effective.

A.N.V.I.L. Seminar

Association for the Use of Native Vegetation in Landscape through Education — 871 Shawnee Ave., LaFayette, IN 47905

We are scheduling a technical seminar for March 15, 1988 at 9:00 a.m. at Kishwaukee College in Malta, IL. The cost of the seminar is \$10.00 per person. This includes lunch.

Jock Ingels of Lafayette Home Nursery and his crew will have a demonstration of a prescribed prairie burn.

Jim Safran of McGinty Bros., Inc. and his crews will demonstrate proper methods of prairie installation using a rangeland drill and hydroseeding at the field day.

Don Lutyens of American Excelsior will demonstrate proper methods of installing erosion control blankets.

Weather permitting, the seminar will be held outside. Make sure to wear appropriate attire. This seminar will be geared for hands on experience of prairie installation and maintenance.

A.N.V.I.L. is a relatively new organization dedicated to educate, preserve and enhance our heritage of native prairies, wetlands and woodlands.

The executive director, Dr. Ray Freeborg, formerly of Purdue University, will be happy to answer any questions you may have regarding the Association. He may be contacted at (317) 463-1943.

Your support of the educational objections of A.N.V.I.L. is much needed and will be greatly appreciated. Any questions regarding the seminar contact JoAnne at McGinty Bros., Inc. at (312) 438-5161.

MAGCS Seeks 1988 Monthly Meeting Sites

The Midwest Association of Golf Course Superintendents, through its Arrangements Committee, is in the process of establishing a tentative monthly meeting schedule for this year, 1988. It is, once again, our goal to arrange a geographically balanced schedule with a variety of golf courses for all MAGCS members to enjoy. If you are interested in offering your time and your club or facility for such an event; complete, clip and return the form below to:

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Dr. James R. Watson Honored



Fred V. Grau Award for Turfgrass Science

James R. Watson, vice president and agronomist for the Toro Co., and adjunct professor in the University of Minnesota's Department of Horticulture and Landscape Architecture, has received the Fred V. Grau Turfgrass Science Award. The award, presented for significant career contributions in turf science, was made at the annual meeting of the Crop Science Society of America, Nov. 29-Dec. 4 in Atlanta. The principal criteria are the significance and originality of research, teaching effectiveness, implementation of programs in extension and/or industry, administrative effectiveness, and total impact on turfgrass science.

Throughout his career, Dr. Watson has lectured and consulted both internationally and domestically on turfgrass care and management, and has made significant contributions to the development of equipment used in maintenance of all turfgrass facilities. His fellowship for graduate study was placed at Pennsylvania State University by Dr. Fred V. Grau, who was director of the U.S. Golf Assn. Green Section at the time. It was the first fellowship specifically designated for support of an advanced degree in turfgrass science.

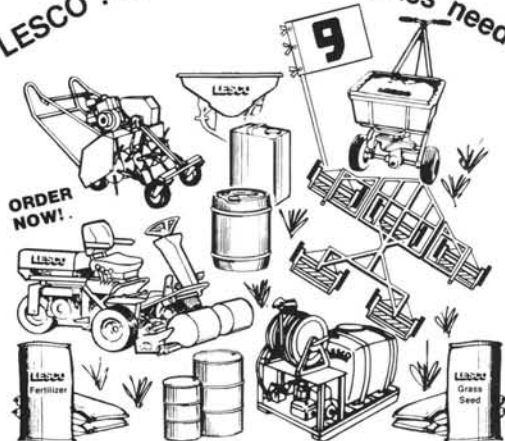
Brochure on Design, Maintenance of Golf Greens Available from ASGCA

A 24-page illustrated brochure, which covers the historical, engineering, construction and maintenance aspects of golf greens, now is available from the American Society of Golf Course Architects. For a copy of the "Evolution of the Modern Green," send a \$5 check to the ASGCA, Suite 3900, 221 N. LaSalle, St., Chicago, IL 60601.

Written by Dr. Michael J. Hurdzan while he was president of the Society, the brochure provides comprehensive information on green design, construction and maintenance, as well as colorful illustrations.

"Evolution of the Modern Green" provides in-depth information for those planning a new course or remodeling an existing layout — superintendents, green committees, golf professionals, club managers, developers, municipal officials, and others interested in building and maintaining the best possible greens.

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Cultural Practices Can Influence Root Development for Better Transplanting Success

Gary W. Watson

INTRODUCTION

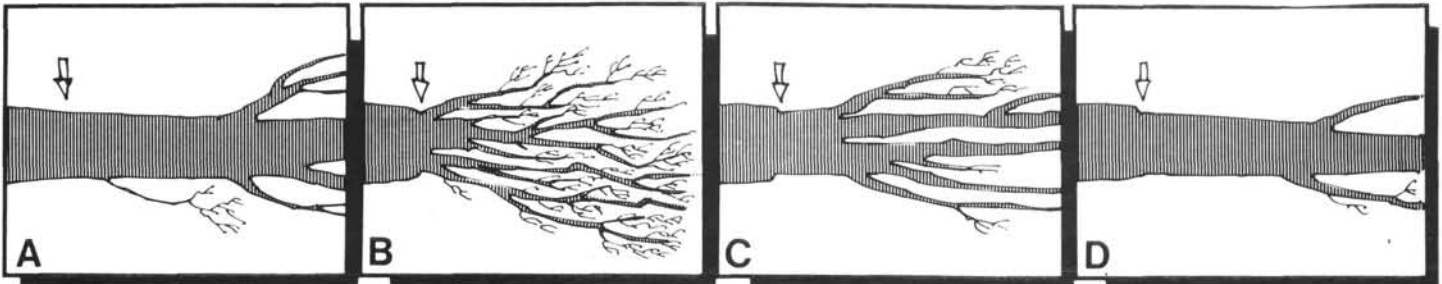
Transplanting results in a great deal of stress on landscape plants and is a difficult procedure, even under the best conditions. When accepted nursery practices are followed, less than 5% of the root system may be moved with the tree (1). The extreme state of imbalance between the root system and the crown results in an extended period of stress and slow growth, often described as transplanting shock. Cultural practices used in both the nursery and landscape can have a significant influence on root growth and development, thus helping to reduce the severity and duration of this period of post-transplanting stress.

ROOT PRUNING IN THE NURSERY

If the proper technique is used, root pruning can produce a root ball with several times the amount of fine roots compared to an unpruned plant (unpublished data, G.W. Watson). This would no doubt aid in survival and establishment at the new site. The timing and location of the pruning is critical.

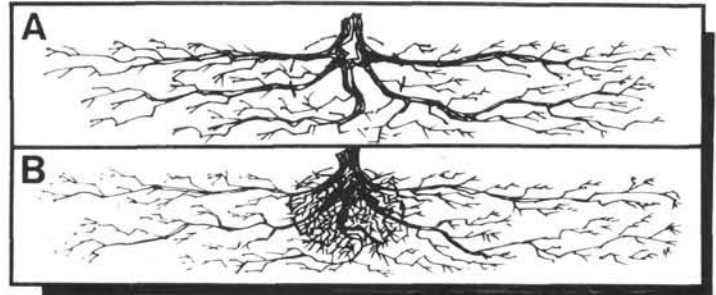
In order to root prune properly, it is important to understand how and where root regeneration takes place. When a root is severed, nearly all of the replacement roots are regenerated from the callus formed at or near the wounded surface (2,3)

Fig. 1 Stages in replacement of a severed root. A. Root is severed at the arrow. B. Initially, many small roots are regenerated from the callus collar at the severed end. C. Within 12–24 months, one root becomes dominant and continues to elongate, while the other remain stagnant or begin to die. D. Eventually, only a single root remains in place of the original root.



(cont'd. page 9)

Fig. 2.



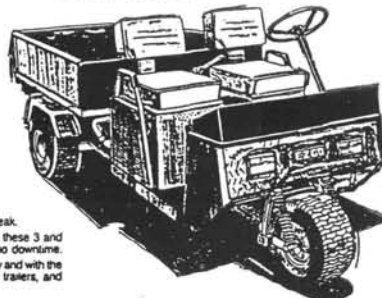
and like most roots, these new roots grow in a nearly horizontal orientation. Usually, many roots are produced from each severed root end and these replacement roots can average 45 cm (18 in) of growth per year. Recent evidence (unpublished data, G.W. Watson) indicates that one (or at most, a few) of these roots become dominant within a year or two and the remainder of the small roots eventually die (Fig. 1). Thus, after several years, the root system again begins to resemble the original root system in both structure and distribution.

Root pruning practices can be designed to take full advantage of natural root regeneration. Figure 2A illustrates a root system which has never been pruned with that portion included in a typical root ball outlined. Note the evenly distributed, but diffuse, fine root system. Figure 2B illustrates how root pruning could be used to produce a dense root system. A greater portion of the root system can be moved along with the tree without altering the ball size. The pruning should be performed between the 2nd and 5th years before the tree will be harvested. The final root ball cut should be made at least 10–15 cm (4–6 in) away from the pruning cut. Preliminary studies have shown this method to be effective in producing a root ball with several times the root surface area (unpublished data, G.W. Watson). This should help to alleviate post-transplanting stress and aid in holding the root ball together during handling. Additional research is needed to refine the root pruning techniques to optimize the horticultural and economic benefits of root pruning.

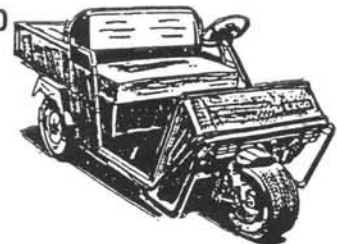
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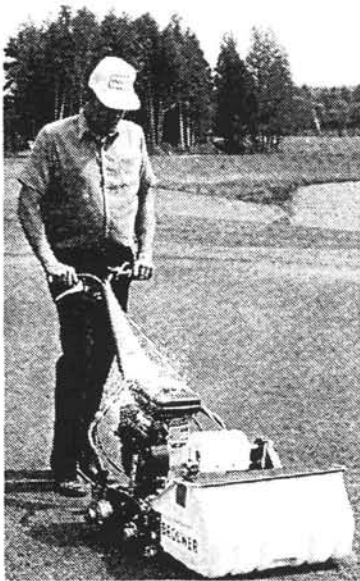
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A Floundering Resource

by Tony Rzdzki, Asst. Supt.
Cantigny Golf Club

A few weeks ago I ran into an old acquaintance of mine, John Maguire. John Maguire is the mechanic at Sunset Ridge Golf Club and president of the Midwest Association of Golf Course Mechanics. Remember that fledgling organization that attempted to spring to life in 1986?

After recently attending the NCTE meeting at Pheasant Run and seeing the equipment getting more sophisticated, then seeing the great response once again by the mechanics to their seminars (over 150 attended); I felt once again, as John does, that we have to carry this knowledge further. The monthly meetings that John proposed two years ago can be an invaluable aid to all of us.

John is still trying hard to get this group started, but he has run into a few obstacles along the way.

It seems that many of the mechanics have had a hard time getting away from work once a month to attend these meetings. Some of the guys have to leave work without pay. Some of the superintendents think that John is trying to form a union! Nothing is further from the truth. I think that if we can overcome these few stumbling blocks, everyone involved will be greatly rewarded.

Face it. Not all mechanics are that good that they know everything about every place of each machine at your shop. At a monthly meeting the host or another mechanic can demonstrate some phase of his operation that he excels at. The one on one, give and take in a very informal atmosphere, where the mechanics can learn to repair or maintain something better, makes this organization an ideal "training association".

It sure beats the down time you would have on a machine if your mechanic could fix it. He would also become more familiar with the other guys. If he has a problem he can call someone that he knows for help. Superintendents and assistants are also welcome to participate at meetings that may interest them.

John has planned to try to work at locating better prices on 'generic' parts rather than relying on manufacturers inflated prices on bearings, seals, lubricants, and the like. He already has a list of mechanics with their specialties, and many other ideas to help us all do a better job. It's a share that this resource has to flounder!

Presently, John Maguire is the solo member of the M.A.G.C.M. But he has a lot of heart and he told me he won't be dismayed by what has already happened.

John Maguire needs your help. He needs mechanics and superintendents to work together at this project and get this organization started. In the long run we will all greatly benefit from a couple of hours spent once a month.

Editor's Note: **The Bull Sheet** supports this effort completely and will print articles that will help all concerned. John Maguire's phone number is (312) 446-5222.

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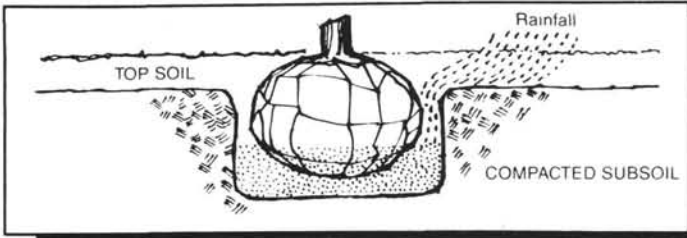
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PLANTING SITE MODIFICATIONS

Urban planting sites are often characterized by artificial soil horizons with dense, compacted subsoils and very thin topsoil layers. On this type of site, water is often in excess and oxygen is unavailable in sufficient quantities to support root growth or even for roots to survive (4,5). Water cannot easily infiltrate into the subsoil and eventually flows to the lowest

Fig. 3. Water cannot penetrate subsoils and flows laterally to the lowest point. Planting holes fill up with water and suffocate the root systems.



point, the planting hole, where it can remain for weeks, suffocating the root systems (Fig. 3). Some of these planting holes never dry out. Above ground symptoms (chlorosis, leaf scorch and twig dieback) resemble drought stress (4) and the trees are often watered, compounding the problem.

When trees are planted on this type of site, the fine root system must develop near the surface where oxygen is most available. There are few roots at the bottom of the hole where soil conditions are the most waterlogged, most oxygen starved and least conducive to root growth. A more effective method of promoting root regeneration might be to redesign a better planting hole. Figure 4 illustrates that as the top of the hole is enlarged, with the sides sloping towards the base of the root ball at a progressively more oblique angle, the amount of backfill soil with favorable growing conditions (near the surface) increases rapidly. Since the diameter of the hole decreases with depth, effort is concentrated in the upper soil layers which are most favorable for root growth.

If the planting hole is only 25 percent larger in diameter than the root ball, with vertical sides (Fig. 4A), the backfill material volume is equivalent to only 67 percent of the root ball volume. Up to two-thirds of the soil available for root growth is often waterlogged. If roots are unable to penetrate the compacted site soil, the root system may never be able to regenerate

to even 10 percent of its original size within this planting hole. The abrupt impenetrable vertical interface with the compacted site could act to promote circling roots, just as in container grown plants.

If the surface diameter of the planting hole is expanded to twice (Fig. 4B) or three times (Fig. 4C) the diameter of the root ball, with sloping sides, the backfill volume increases to 150 and 400 percent of the root ball volume, respectively. The well-aerated surface soil increases up to 10 fold in volume. The majority of this good backfill soil is in the well-aerated upper layers and a large interface is created with the compacted soil, giving greater opportunity for roots to penetrate cracks and crevices in the otherwise impenetrable, poorly aerated soil. The sloped walls also serve to direct growing root tips up to the surface rather than in a circling direction.

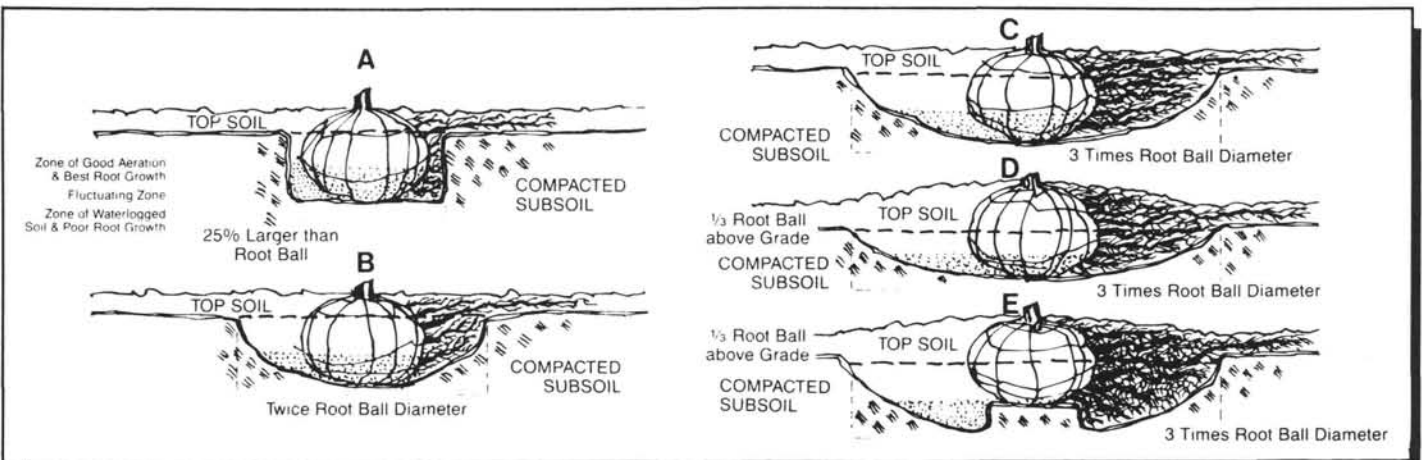
On very wet sites, the root ball can be planted so that at least one third is above grade (Fig. 4D). This will keep the majority of the root system out of saturated soil even during very wet periods. Paterson (4) has recommended placing the root ball on a pedestal of compacted soil to avoid settling. This would also elevate the root ball out of the wet soil at the bottom of the hole (Fig. 4E).

SIGNIFICANCE TO THE NURSERY INDUSTRY

Trees are subject to tremendous stress when transplanted because of the extremely small amount of root system typically moved with the plant. Reducing the severity and duration of this stress can be achieved by either root pruning to produce a more dense, concentrated fine root system which can be included within the root ball, and/or modifying the planting hole to encourage fine root development in the shallow, well-aerated backfill soil. While it is recognized that these practices will increase the cost of planting, it is very likely that increased survival rates will offset these costs. The improved professional image resulting from higher quality plantings cannot be measured in dollars and cents.

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NGF's Top-50 List Targets Metro Areas Most in Need of Public Golf Courses

JUPITER, Fla. — In its continuing effort to help avert what its research indicates is an impending crisis in golf, the National Golf Foundation has identified the 50 metropolitan areas in the U.S. most in need of public golf courses.

Ten of the 50 areas are in California. Next is the State of Washington with five, Wisconsin with four, Colorado and New Jersey with three each.

The list, according to NGF President and CEO David Hueber, was created to identify for municipalities and developers those areas with the greatest need and opportunity for golf facility development.

Earlier this year, an NGF research report concluded that the U.S. could be facing a shortage of more than 4,000 golf courses by the year 2000 if the rate of development of new facilities continues to fall behind the rising public demand for golf.

“Based upon current growth trends, we need to open a golf course every day between now and the year 2000 just to maintain the current level of access,” says Hueber, “And we are currently in a situation of undersupply throughout the sunbelt areas and most metropolitan areas in the U.S.”

NGF research shows that there are approximately 20.1 million golfers and 12,400 golf facilities in the U.S. today. This research also notes that, while the number of golfers in the U.S. has been increasing steadily at a rate of 3% a year over the past 10 years, growth in the total number of golf facilities has been increasing at only 0.5% a year.

If the U.S. golfer population continues to grow at its present rate, the NGF projects it will skyrocket to 31 million golfers by the year 2000, creating an estimated shortage in capacity of more than 4,000 golf facilities.

With this in mind, the NGF has launched a campaign to encourage the development of new golf facilities (especially public courses) where they are needed. As part of this program, the NGF is following up with communities in the targeted metro areas; talking with officials and civic leaders about how they might proceed in creating new public golf facilities.

Where interest is expressed, the NGF is offering its expertise and services to assist these communities or developers in the various stages of planning, building and operating a golf facility.

“Communities and local developers need a central source of information and assistance in creating new golf facilities,” says Hueber, “and the NGF has the network of resources to fill that need.”

A nonprofit golf market research and promotional organization, the NGF is supported by more than 5,000 members of the golf industry. Included are golf course architects and builders, national and state golf associations, golf course owners and operators, and, the major golf companies.

Grass Roots

One single grass plant has a tremendous root system. There may be as much as 375 miles of roots; 13,815,762 individual roots and 2,554 square feet of root surface. In watering your lawn, be sure to soak it long enough for moisture to penetrate this tremendous root system. A thorough soaking once a week is better for established lawns than frequent surface sprinklings.

Top 50 Metropolitan Areas with the Most Opportunity for Golf Facility Development

MSA — Name

Albuquerque, N.M.	Modesto, Calif.
Anaheim-Santa Anna, Calif.	New Haven-Waterbury-Meriden, CT.
Anchorage, Alaska	New York, N.Y.
Bergen-Passiac, N.J.	Oakland, Calif.
Boston-Lawrence-Salem-Lowell-Brockton, MA	Odessa, TX
Chicago, Ill.	Oxnard-Ventura, Calif.
Danville, Va.	Pueblo, Colo.
Denver, Colo.	Racine, Wis.
Detroit, Mich.	Sacramento, Calif.
El Paso, Texas	Salt Lake City-Ogden, Utah
Fayetteville-Springdale, N.C.	San Francisco, Calif.
Fresno, Calif.	San Jose, Calif.
Greeley, Colo.	Santa Fe, N.M.
Iowa City, Iowa	Seattle, Wash.
Janesville-Beloit, Wis.	Spokane, Wash.
Jersey City, N.J.	St. Louis, Mo.
Johnstown, Pa.	Tacoma, Wash.
La Crosse, Wis.	Toledo, Ohio
Las Vegas, Nev.	Vancouver, Wash.
Los Angeles-Long Beach, Calif.	Vineland-Millville-Bridgeton, N.J.
Manchester-Nashua, N.H.	Wausau, Wis.
Medford, Ore.	Wichita, Kan.
Miami-Hialeah, Fla.	Williamsport, Pa.
Milwaukee, Wis.	Yakima, Wash.
Minneapolis-St. Paul, Minn.	Yuba City, Calif.

This list was derived from a recent National Golf Foundation study of 298 U.S. metro areas in which each area was analyzed and quantified in terms of:

- (1) Its total number of golf holes.
- (2) Total resident population.
- (3) That region's ratio of golfers vs. non-golfers
- (4) The average number of rounds played per year by golfers in that region.

The 50 areas listed here are not necessarily those with the highest raw number of golfers per golf hole. They are instead those which (because of their high number of frequent golfers) appear to have the greatest under-supply of golf holes for the size of the existing demand.

It should be noted that the analysis was based on resident golfers only and did not weigh the additional impact on demand of seasonal residents or tourists.

By the same token, the analysis also did not take into account the number of facilities that may be available for public play outside a given metro area.

The NGF recognizes that lack of available land often limits a metro area from golf course development. In these cases, facilities in outlying areas are becoming targets of opportunity ... especially for public courses.

In this regard, NGF research has detected an increasing willingness among metro area golfers to travel to surrounding areas ... again, especially if the facilities there are public, well-managed and maintained.

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