

Planting Trees and Shrubs

By RONALD C. SMITH and DALE E. HERMAN
North Dakota State University

Trees and shrubs are available in sizes varying from seedlings to large trees. The size of a tree or shrub at planting time often affects its ability to establish. For practical and economic reasons, consider buying medium sizes of trees and shrubs since they usually recover more readily from transplanting shock and establish faster than larger plants. A general rule of thumb is that for each inch in diameter of trunk size, a year is required to adjust for transplant shock or root loss.

Bare-Root Trees and Shrubs

Bare-root trees and shrubs are the most economical type to buy but the most difficult to store and establish. With bare-root stock, care is necessary to protect plants until they are planted. Examine the condition of your stock upon arrival. Keep moist packing material around the roots and store plants in a cool place out of the sun and wind. Plant as soon as possible. Plant bare-root nursery stock in early spring before growth starts. The later bare-root stock is planted, the greater the danger of reduced survival and vigor.

Balled and Burlapped Stock

Balled and burlapped stock is plant material dug with a portion of the root system undisturbed. The soil ball is held intact by a burlap wrap. Evergreens as well as large non-evergreen trees may be handled and sold in the manner. It is desirable to plant B&B nursery stock in spring before growth starts. Pine and spruce may also be moved in late August and September

and hardy non-evergreen trees upon leaf-drop. Research has shown that fall planted nursery stock, especially evergreens, should be planted four weeks before soil temperature drops below 40 degrees Fahrenheit. Soil temperatures below 40°F inhibit new root growth.

Potted Stock

Potted stock is plant material that has been grown in a container for less than one growing season. Local nurserymen obtain bare-root stock and pot prior to spring sale. Such stock can be planted throughout the growing season. Remove containers and take care to maintain the root ball intact at planting time.

Container-Grown Stock

Container-grown stock has been growing in a container for one or more seasons. Consequently, the soil medium in the container is usually bound well by dense roots, making transplanting an easier task. Always remove containers before planting. Caution: roots of vigorous container grown plants may grow around and around the inside of the container. Recent research shows that these "circling" roots may not develop strong new anchor roots, but continue growing in a circle around the soil-root ball and may eventually girdle the plant. We recommend that these roots be spread or cut at planting time to encourage normal root growth.

Instant Trees

"Instant trees" include large-sized stock transplanted by a machine.

Large non-evergreen trees are best moved in early spring before growth starts. Hardy species can also be successfully moved in the fall upon leaf-drop. Large evergreens are also best moved in early spring. However, spruce and pine can be successfully moved in late August or September. Caution: Transplanting shock is severe when large trees are moved in active growth.

Planting

Dig each hole about twice the diameter of the container or rootball. Remove clay subsoil from the bottom of the holes and replace with topsoil when planting. This is especially important near foundations where poor soil may have been used for backfill. Water thoroughly after planting to settle the soil. Supply water every 10 days during the establishment period. With larger size stock, attention to watering should extend through the second or additional growing seasons according to the rule of thumb above. Therefore a three-inch diameter tree may need watering for three years.

*See Diagrams
for Planting
On
Page 23*

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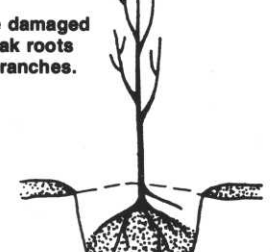
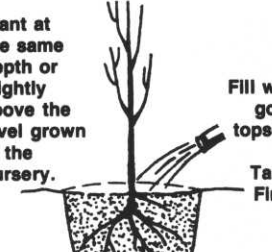

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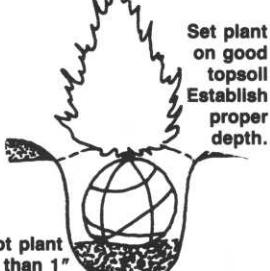

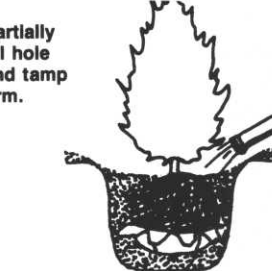
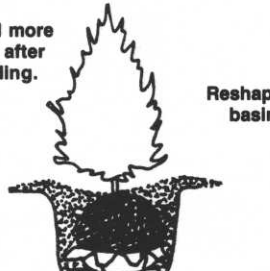
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HOW TO PLANT BARE-ROOT PLANTS

<p>Before planting soak overnight but not over 24 hours.</p>  <p>Dig a hole wider but at same depth as root length.</p>	<p>Prune damaged or weak roots and branches.</p>  <p>Set on firm mound of good topsoil, spread roots.</p>	<p>Plant at the same depth or slightly above the level grown in the nursery.</p>  <p>Fill with good topsoil. Tamp Firm.</p> <p>Fill basin with water. Add topsoil to reshape basin.</p>	 <p>Small trees, eight feet tall or less, usually do not need support.</p> <p>Support larger trees if necessary for one growing season only.</p>
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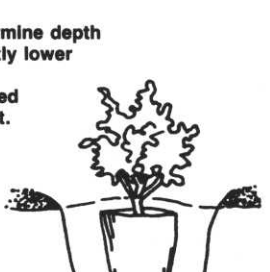
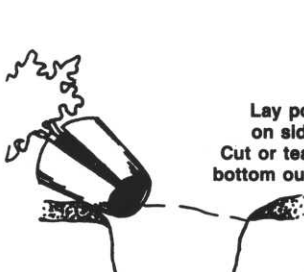


HOW TO PLANT BALLED AND BURLAPPED PLANTS

Handle balled and burlapped items carefully. Do not drop. Lift or carry by holding the soil ball – not the plant

 <p>Set plant on good topsoil. Establish proper depth.</p> <p>Do not plant more than 1" deeper than ground level or top of ball.</p>	<p>Cut twine tie from around plant stem.</p>  <p>Loosen and fold back burlap.</p>	<p>Partially fill hole and tamp firm.</p>  <p>Carefully fold back burlap to bottom of hole for total soil contact.</p>	<p>Add more soil after settling.</p>  <p>Reshape basin.</p> <p>Water regularly.</p>
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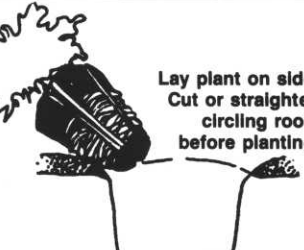


HOW TO PLANT POTTED STOCK

Always remove pots at planting time regardless of material. Maintain the rootball intact at planting time.

<p>Determine depth slightly lower than planted in pot.</p>  <p>Dig a generous-sized hole.</p>	<p>Lay pot on side. Cut or tear bottom out.</p>  <p>Slit one side of pot. Leave rest of pot intact.</p>	<p>Place one hand on open bottom to hold soil.</p>  <p>Hold cut pot together with other hand, lower into hole.</p>	<p>Fill hole with loose soil.</p>  <p>Gently slip pre-cut pot-ring out. Add more soil — Tamp — Water.</p>
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HOW TO PLANT CONTAINER-GROWN PLANTS

Roots of container grown stock usually bind the soil. However, careful handling at planting time will prevent injury. Always remove containers before planting. Cut encircling roots when present.

<p>Tapered cans: Turn upside down. Tap rim sharply on edge of a raised surface.</p>  <p>Straight cans: Cut on opposite sides and fold back metal.</p> <p>Dig hole before removing plant from container.</p>	<p>Lay plant on side. Cut or straighten circling roots before planting.</p>  <p>Leave rest of roots intact.</p>	<p>Backfill with top soil.</p>  <p>Tamp firm but not hard.</p> <p>Fill basin with water.</p>	<p>Add more soil after settling.</p>  <p>Reshape basin.</p> <p>Water regularly.</p>
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Mini-Seminar—

(Continued from Front Cover)

decisions made while routing the course.

Erik Christensen talked about current technology and management practices of irrigation systems. Included was an insight on possible designs and techniques for the future.

The MGCSA thanks all seminar attendees and encourages members who could not be there to make plans to attend next year.

If you have any ideas for topics, speakers or general improvements for future seminars, please express your thoughts to your MGCSA Board of Directors.



JOHN HARRIS, Minnesota's top amateur golfer, gave his view on course conditions and playability at the MGCSA Mini-Seminar in March.

Soil Scientists In Minnesota Must Be Licensed

Soil scientists practicing in Minnesota must now be licensed by the state. Applications for license made before August 5, 1998 will be grandfathered and no examination will be required if the applicant meets certain education and work experience requirements. For an application packet describing licensing procedures, call 612/296-2388.



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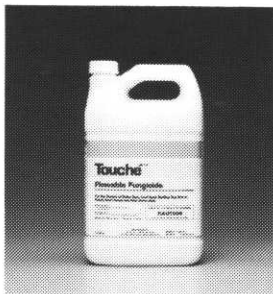
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MTGF UPDATE

By Patrick A. Walton, CGCS
Rolling Green Country Club

The MTGF held Board Meetings on February 17 and March 18 at North Star Turf Supply. The MTGF Executive Director Search Committee has offered the Executive Director position to the top candidate and awaits an answer. The MTGF Executive Director position will be a 50% job share position with the University of Minnesota.

Hillcrest CC's Mike Brower is the MGCSA director who serves on the MTGF Conference Committee. The 1998 MTGF Conference and Show will be held December 9, 10 and 11 at the Minneapolis Convention Center. Mike is working hard to ensure that the MTGF Conference continues to be a strong turf conference.

If you have any feelings to share on how the MTGF Conference and Show can or should improve, contact Mike Brower at (612) 777-7463 or myself, Pat Walton, at (612) 478-2179. The cost of the conference and show for vendors and attendees will remain the same as this past year.

The Annual MTGF Golf Tournament will be held July 27th at Elk River Country Club. Please try and participate in this tournament. It is a good opportunity to meet fellow professionals in the turf and grounds industry.

The MTGF, MGA and the University of Minnesota will be meeting on March 20 to reorganize the direction of the Rosemount Project.

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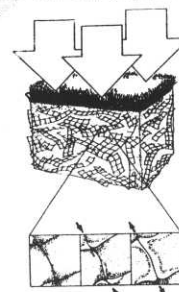
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W: (319) 377-7676
- Jeff Cichoski**
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- Thomas M. Ryan**
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W: (612) 323-0517
- Nancy Diepenbrock**
Cannon Golf Club C
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W: (507) 263-0831
- Pete Felland**
Troy Burne Golf Club C
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W: (612) 755-6530
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- Rod Lidenberg**
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(W: (612) 929-3255

RECLASSIFICATIONS

- Brent Belanger**
Majestic Oaks Golf Club Student to B
- Chris Leach**
Wildflower Golf Course C to B
- Jud Crist**
Cloquet Country Club C to B
- Thomas Schmidt**
Moorhead Country Club C to B
- Dale M. Hiebert**
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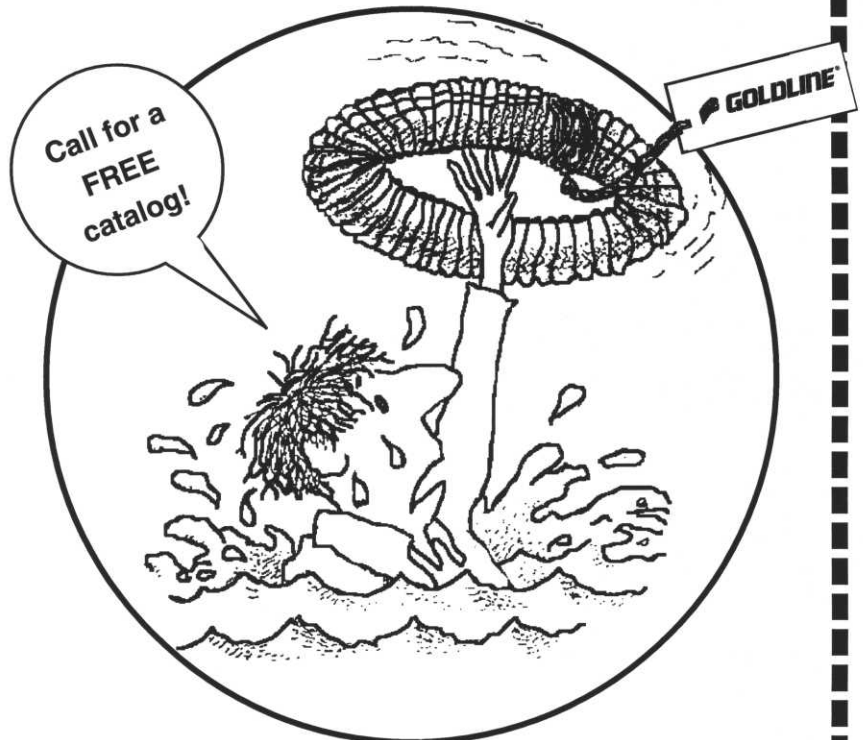
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Unfortunately, some of us have inherited push-up greens that leave much to be desired in the area of drainage. As we all know, the cost and inconvenience of rebuilding a green is often not a viable alternative. Of course tiling helps, as does regular aerifying.

In recent years, the benefits of the deep tine aerification has become quite evident. In fact, greens that were aerified once or twice per year, for several years, were for the most part spared the devastating turf losses experienced throughout the state last spring. In similar fashion, the industry has accepted water injection as a standard maintenance practice.

Recognizing these needs, we at Continental Golf have established a new division, "Continental Golf Turf Services" or CGTS. We have purchased the most up to date equipment and hired an operator with years of experience in golf course maintenance.

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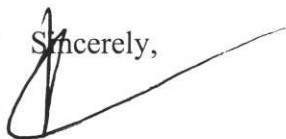
If you decide to schedule both our deep tine and water injection services within the same year you will receive an additional 10% discount!

If you or your board are unsure about the benefits of deep tining or water aeration, you might refer to the October 1997 issue of *Golf Course Management* entitled "When its Time To Aerify . . ." (If you do not have a copy of that article, I would be happy to send one to you, along with any other additional literature that might assist you.)

If you require more information, or are ready to schedule a date for your course, please give me a call at (612) 929-3255. If for some reason I am not immediately available, please leave a voice mail message. I guarantee that your call will be returned within 24 hours.

We look forward to working with you and visiting your course this season. I hope you will give us the opportunity to be of service--you won't regret it.

Sincerely,



Rod Lidenberg
Director of Operations

P.S. If you have already scheduled your aeration services for this season but are looking for a better price or a more convenient date please give us a call today!

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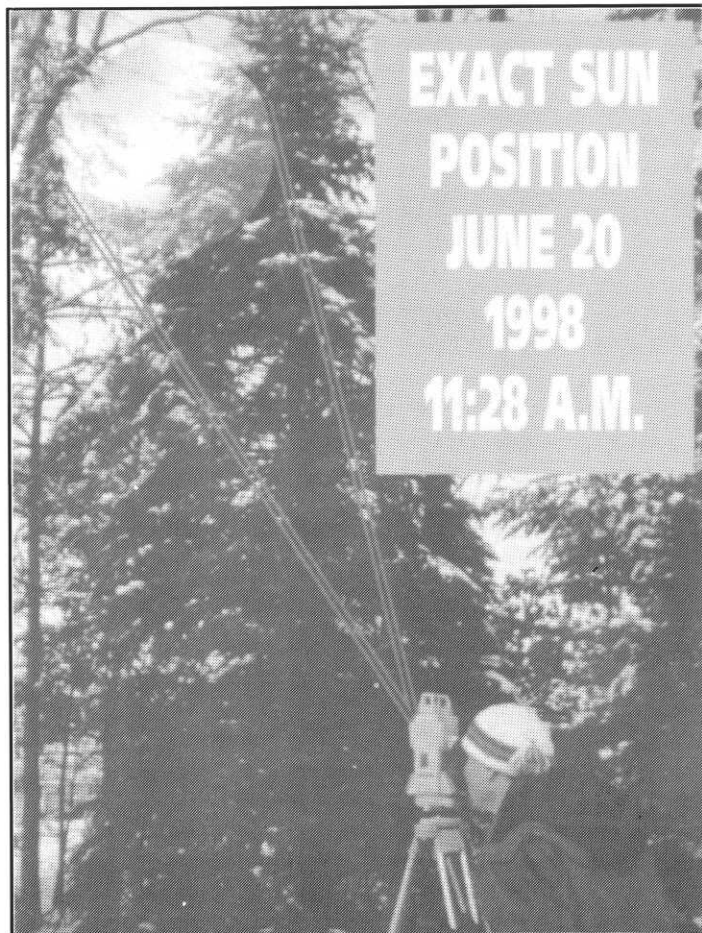
(Editor's Note: This article deals with a problem many of us face, especially those managing older golf courses — shade. It appeared in the February 1998 issue of ON COURSE, the official publication of the Midwest Association of Golf Course Superintendents, and is presented here with permission from editor Fred Opperman.)

* * * *

People have had a long-standing love for the game of golf. The attraction of the greens and fairways is irresistible to so many. Walking the course, enjoying the scenery or making a good score are all part of the draw that keeps so many coming back to the great clubs and courses. There remains, however, an ongoing problem for those who must manage these courses: balancing the aesthetics of many trees with the demanding needs of top-quality turfgrass. Much misunderstanding exists on the parts of those who make critical decisions on golf courses as to the removal and pruning of trees to allow maximum light exposure. This is where the golf course superintendent finds his calling — making trees and golf course turfgrass compatible.

Agronomists have long recognized the importance of light as a key growth factor for a number of plant species and have attempted to maximize its effect, largely for commercial reasons. One group that increasingly finds it difficult to balance the light requirements of plants with the need of trees is golf course superintendents. These skilled professionals find themselves in a challenging situation in attempting to balance the need for trees on golf greens for depth perception for the golfers with the need of the turf on greens to have large, extended amounts of direct sunlight. Many golf courses are placed in heavily-wooded areas, and decision-makers at these courses want to retain the existing trees while, at the same time, maintaining healthy, vigorous turfgrass. Much of the leaf surface is maintained at a short height making it even more difficult for the greens to gather the required amount of direct sunlight.

The challenge becomes removing only those trees that directly hinder the penetration of light to the green without aesthetically affecting the green or making a major impact on the playability of the course. If we are to prune only those limbs or trees that are blocking the sun, we need to



NEW TECHNOLOGY allows you to go onto golf greens in January and determine the position of the center of the sun in June within 1/16 in. at 200 ft. from the sun location instruments.

know exactly where the sun is. Though multiple methods have been used through the years, with varying degrees of success, a new technology is making this task into an exact science with a user-friendly, highly applicable tool.

Putting this technology to work can produce impressive results. It minimizes the impact, aesthetically, on the trees involved in many situations, including recreational areas, residential lighting needs, gardening requirements, in

(Continued on Page 31)