

**Scarlet Oak** *Quercus coccinea* is the most rapid growing oak and transplants well, requires pruning every three to four years.



soil. Flooding, even for a short period of time, can cause decline in White Oak, as in the Chicago area due to extremely wet periods during the early 1970's. Researchers at the University of Illinois report that White Oak has a very shallow fibrous root system which doesn't compete favorably with grass. This indicates that a good companion plant for White Oak or, in fact, many of the oak would include pachysandra or myrtle as a ground cover rather than turf. White Oak is a good specimen tree which should be grown in full sun, in parks, golf courses, or on institutional grounds. It is the state tree of Illinois. The advantages of White Oak include resistance to ice breakage, good tolerance to highway salt, high degree of resistance to oak wilt, longevity, and low maintenance. This is such a low maintenance tree that no more than one or two prunings are needed for the life of the planting. The main disadvantages of *Q. alba* include oak anthracnose (*Gnomonia* species) and a slight susceptibility to ozone and sulfur dioxide as reported by Davis and Gerhold. White Oak should still be considered a high value, low maintenance specimen for large area landscapes.

**Swamp White Oak** (*Q. bicolor*) adapts well to rich, acid-wet soils found in flood plains. It is outstanding as a specimen for golf courses, institutional grounds, parks, and the home landscape. *Q. bicolor* has a somewhat open, round crown which reaches 50 to 60 feet in height. The summer leaves are dark green on the upper surface with a dull or silver-green lower surface. Swamp White Oak is sensitive to highway salts and is not easy to transplant in larger sizes, but comes with all the advantages of White Oak while tolerating high moisture soils. It certainly should be used more extensively in large area landscapes.

**Bur Oak** (*Q. macrocarpa*) has an oval habit, reaching 80 to 90 feet in height. The plant adapts well to urban conditions, being tolerant of highway salts and ozone. It adapts well to many soil types while thriving in calcareous, well-drained, almost

**Bur Oak** *Q. macrocarpa* has the benefits of a white oak and is a promising low maintenance tree if transplantability can be improved.



droughty soil. It does have a pronounced tap root, therefore, does not transplant easily. Research should be initiated to understand and improve ease of transplantability for this otherwise outstanding tree. The foliage is dark green on the upper surface with a white tomentose on the underside, turning yellow during late fall. The trunk is massive with a thick bark (4 inches), which makes it very fire resistant—a survival factor in its native range of the Great Plains. It is one tree which competes well with grass for nutrients and water; therefore, it can easily grow in fine turf areas. It carries most of the desirable characteristics of White Oak, thrives in urban conditions, and is a low maintenance tree (requiring little pruning after establishment).

Oaks are an exciting genera which could be more effectively used in the landscape. Their native range is extensive throughout the entire Northeastern and Eastern United States. They grow in soils ranging from heavy clays to well-drained. Generally, many of the plants display good tolerance to urban conditions and are aesthetically outstanding. Most oaks are poor competitors with turf; therefore, ground covers, such as pachysandra or myrtle, would be good companion plants. All oak types have not been readily available from the trade because of their difficulty in transplanting. Research is appropriate in the areas of mycorrhizae, transplant ability, propagation by cuttage of selected cultivars, and the development of area trees, e.g., Great Lakes or New England States White Oaks. We must realize that provenance, local adaption, plays an important role in the survival of many oak transplants. Oak should headline the list of desirable adaptive trees for landscape architects, nurserymen, and urban foresters.

**WTT**

# VEGETATION MANAGEMENT

By Roger Funk, Ph.D., Davey Tree Expert Co., Kent, Ohio

**Q:** Why is coring supposed to be better than spiking to relieve compaction? Both techniques provide a channel for better air exchange and water penetration.

**A:** An ideal soil contains 50 percent pore space which allows for proper penetration and availability of air and water. When a soil becomes compacted, the particles are pressed closer together reducing the pore space, and in effect creating a situation where the soil contains too much particulate matter and not enough space.

To relieve compaction, then, you should remove some of the soil matter which can be accomplished by coring. Spiking, however, does not remove any soil but simply rearranges it. In fact, spiking can aggravate compacted soils by causing additional compaction around the edges of the hole.

**Q:** What is LB urea? Can it be used to fertilize turf?

**A:** "LB" is commonly defined as urea with less than 0.25% biuret. It can be used for either foliar or soil fertilization of turfgrasses.

**Q:** How can you control crabgrass in dichondra?

**A:** Betasan (Bensulide) can be used for preemergent control of crabgrass on seedling or established dichondra.

**Q:** Will insecticides in a lawn application kill slugs?

**A:** Liquid fertilizers might desiccate slugs but I am not aware of any insecticide effect. The standard recommendation is metaldehyde/Mesuroil bait or a shallow (3/4-inch) pan of beer placed in areas of high feeding activity.

**Q:** How large should the soil ball on a 15-foot hemlock be?

**A:** According to the American Standard for Nursery Stock, the diameter of the ball of a 14 to 16-foot pyramidal evergreen should be 42 inches and the depth should be not less than 60 percent of the width. The American Standard for Nursery Stock is published by American Association of Nurserymen, 230 Southern Building, Washington, DC 20005.

**Q:** Can St. Augustine be hydro-sprigged with a Bowie 350 machine?

**A:** Because of limited and inconsistent success, it is not recommended that St. Augustine be vegetatively established by the hydromulch process.

**Q:** Is it possible that a low seeding rate—one pound per 1,000 square feet—is successful? What would

be a suitable rate for a mixture in New England?

**A:** The seeding rate would depend upon the turfgrass species included in the blend or mixture as well as seed viability, establishment procedures, and environmental conditions.

In general, Kentucky bluegrass blends are seeded at a rate of 1 to 2 pounds per 1,000 square feet, although certain of the new improved cultivars have been established successfully at rates as low as 0.5 pounds per 1,000 square feet.

Seeding rates for other cool-season turfgrasses are listed below:

Species	Seeding rate (Lbs./1,000 sq. ft.)
red fescue	3-4
tall fescue	7-9
perennial ryegrass	7-9
bentgrass	0.5-1

The proper seeding rate for mixtures of two or more species is determined by the ratio or percent of each species in the mixture.

**Q:** In attempting to establish centipede grass from seed, what is the best method to control crabgrass? Since centipede takes several weeks of constant moisture for germination, the crabgrass gets a tremendous head start, thus inhibiting the centipede grass.

**A:** The best method of crabgrass control when establishing centipede grass from seed is to fumigate prior to seeding. Pre-emergent herbicides cannot be used until the grass becomes established, by which time crabgrass has also become established. There are no post-emergents currently labeled although Metribuzin (Sencor—registered trade name of Mobay Chemical Corp.) has given favorable results in research tests.

An alternative would be to establish centipede grass vegetatively and follow immediately with an application of Atrazine (AATrex—registered trade name of Ciba-Geigy Corp.).

**Q:** Residents surrounding a lake were questioning one of my employees about whether or not our lawn service could cause eutrophication. What is your opinion?

**A:** Eutrophication is a condition in stagnant ponds characterized by a dense growth of plant life, the decay of which depletes the shallow waters of oxygen in the summer.

Except in a few isolated cases, there is no evidence that fertilizers are a major cause of eutrophication. In fact, studies have shown that in areas where severe water pollution exists, the removal of all fertilizer nitrogen and phosphorus would not prevent eutrophication.

pots 19 percent; larger containers 12 percent; and hanging baskets 19 percent of the total foliage plant sales.

The majority of foliage plants sold by retailers come from outside sources, rather than company-grown stock, according to the survey results.

ELECTIONS

**Howell new president of Perlite Institute**

William R. Howell, Perlite Ore products manager of the Minerals Division, Grefco., Inc., Oak Brook, IL, was elected President of the Perlite Institute at its 31st annual meeting.

Howell, who has been associated with the Perlite industry since 1946, last year received the Lewis Lloyd award, which is the highest honor that is granted by the industry.

The Perlite Institute is an international trade association of producers, expanders, and applicators. Members in 22 countries establish product standards and specifications and encourage the development of new products through research and marketing activities.

INDUSTRY

**OPEI reports increase in power products**

Industry shipments of lawn and garden power products have increased 4.7 percent this year in an eight-month period from September, 1979 through April, 1980, according to estimates made by the Outdoor Power Equipment Institute (OPEI).

The largest increase estimated by OPEI was in the shipments of the walk-behind rotary tillers, which was 11 percent over last year's units. Walk-behind power lawn mowers increased 4.5 percent.

Although garden tractor shipments registered a small decline, lawn tractors and riding mowers grew 3.6 percent. Front-engine riders advanced 3.6 percent and rear-engine riders 2.6 percent.

FERTILIZERS

**Allied Chemical plans big research program**

Allied Chemical Corporation is planning a \$3.4 million fertilizer "forward research" program with \$1.2

million of it going to foliar fertilizer technology research.

According to Dr. Ramon Garcia, manager of Agricultural Research and Development, part of Allied's fundamental fertilizer research projects will concentrate in the areas of energy conservation, fertilizer efficiency, and breakthrough technology for yield increases.

Garcia says, "The company may

add substantial research dollars during the decade to develop new fertilizer technology that will be needed to deal with increasing demand for world food supplies, rising energy costs, and fertile soil losses."

Another important portion of the "forward research" program, says Garcia, is that it will be carried out by universities across the country, under grants from Allied Chemical.

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# SOD PRODUCER NEWS

## Volcanic ash doesn't seriously affect Washington sod growers

Washington sod growers, hit hardest by the eruption of Mount St. Helens, did not suffer much from volcanic ash, although complications are still arising from its remains.

Most of the state's sod growers live east of the Cascade Mountains and away from the heaviest streak of ash which dropped across the center of the state. This area still shows the remnants of a snowfall of material like talcum powder that is beginning to kill some lawns and create an unsightly crust on others.

Clark & Sons, a grower in Spokane, has received calls from homeowners in selling areas 30 to 80 miles away since they discovered their lawns were insured. A heavy rain in the area after the ash fell turned it into an impenetrable crust that blocked sunlight and additional water from the turf.

Dr. Roy Goss, a research turf agronomist with the Western Washington Research and Extension Center in Puyallup, said the impact on the sod grower was very minimal. He said a grower in Castle Rock, north of Portland, OR, had just seeded and netted

his farm when the third eruption hit. He was forced to take up the netting, plow the ash over, and reseed—a costly project.

Except in this area and the Moses Lake-Ritzville area in central Washington, the ash filtered fairly well into the ground. Its potash, iron, and small amounts of phosphorus are useful to the soil. Yet it is "physically very poor—structureless—and may require more aerifying and maybe wetting agents to reduce surface tension and let water filter in," says Goss.

A high iron and zinc content could cause a slow death, says Dale Kenyon, owner of Elite Sod Farm in Richland. "If it had turned hot after, it would've caused a lot of damage." He said a 9-square-foot roll, which normally weighs 25 to 30 pounds, is weighing 60 to 70 pounds and becomes impossible to harvest.

Because of its abrasiveness, the ash has damaged tractor blades and ruined motors. Farmers have increased lubrications and oil changes and promptly replaced clogged air filters.

## Pros view research results at Texas turfgrass field day

Recent research shows that more than two million homeowners in Texas maintain turfgrasses and are interested in ways to do a better job at it, professionals were told who attended a turfgrass field day at Texas A&M University in May.

Statistics total the land area with turfgrasses for functional, recreational, and aesthetic purposes at about 3.1 million acres. It costs about \$620 million each year to establish and maintain these turfs.

"Energy and non-renewable resources devoted to maintaining all these turfgrasses will be of increasing concern as supplies become more limited and costs increase," said Dr. James Beard, professor of turfgrass physiology with the Texas Agricultural Experiment Station and Texas A&M.

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# WT&T EVENTS

The current issue of **WEEDS TREES & TURF** carries meeting dates beginning with the following month. To insure that your event is included, please forward it, 90 days in advance, to: **WEEDS TREES & TURF Events**, 9800 Detroit Ave., Cleveland, OH 44102.

**2nd Exhibition for Horticulture and Landscape Construction**, "Gruen 80," Basel, Switzerland, thru **Oct. 12**. Contact Beat Baechler, 104 South Michigan Ave., Chicago, IL 60603, 312/641-0050.

**Farwest Nursery Garden & Supply Show**, Seattle Center Coliseum, Seattle, WA, **Aug. 24-26**. Contact Dan Barnhart, Farwest Nursery Show, 224 S.W. Hamilton St., Portland, OR 97201, 503/221-1182.

**International Symposium on Inland Waters and Lake Restoration**, Portland, ME, **Sept. 8-12**. Contact Dr. Ann N. Clarke, Project Manager, Associated Water and Air Resources Engineering, Inc., P.O. 40824, Nashville, TN 37204, 615/794-0110.

**Ohio Turf and Landscape Day**, Ohio Agricultural Research and Development Center, Wooster, OH, **Sept. 9**. Contact Dr. Dave Nielsen, OARDC, Wooster, OH 44691, 216/264-1021.

**Northern Michigan Turfgrass Field Day**, Traverse City Golf and Country Club, Traverse City, MI, **Sept. 9**. Contact Thomas M. Smith, 323 Agriculture Hall, Michigan State University, East Lansing, MI 48824, 517/353-4417.

**International Exhibition of Groundsmanship**, University of London Athletic Grounds, Motspur Park, New Malden, **Sept. 9-11**. Contact British Information Services, 845 Third Ave., New York, NY 10022, 212/752-8400.

**University of Illinois Turfgrass Research Field Day**, Ornamental Horticulture Research Center, University of Illinois, Urbana, IL, **Sept. 10**. Contact Dr. David Wehner, Room 10, Horticulture Field Lab, Urbana, IL 61801.

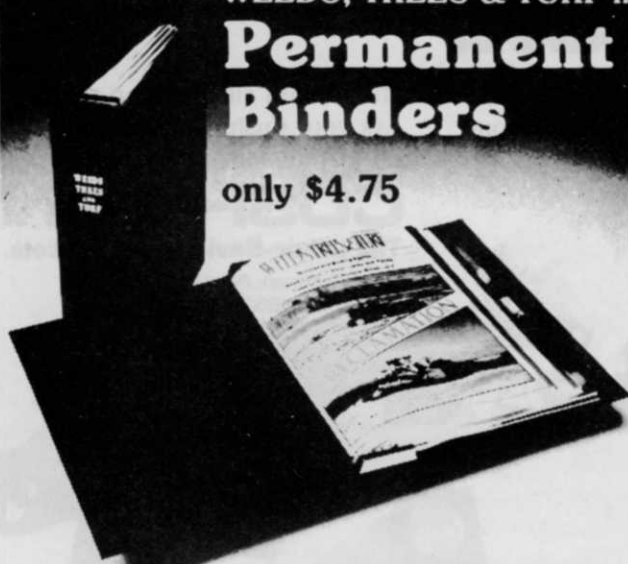
**Interior Landscape Div. Conference**, Denver, CO, **Sept. 10-12**. Contact John Shaw, Executive Director, ALCA, 1750 Old Meadow Rd., McLean, VA 22101, 703/821-8611.

**The Interior Plantscape Annual Meeting/Trade Show**, Hyatt Regency Hotel, Dallas, Texas, **Sept. 11-14, 1980**. Contact Interior Plantscape Association, Stephen R. Arkin, Managing Director, 11800 Sunrise Valley Drive, Reston, VA 22091, 703/476-8550.

**6th Annual Garden Industry of America Conference Trade Show**, Convention Center, Baltimore, MD, **Sept. 12-14**. Contact Garden Industry of America Conference & Trade Show, Box 1092, Minneapolis, MN 55440, 612/374-5200.

**International Public Works Congress and Equipment Show**, H. Roe Bartle Hall, Kansas City, MO, **Sept. 13-18**. Contact Robert Bugher, Executive Director, APWA, 1313 East 60th Street, Chicago, IL 60637, 312/947-2520.

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**Tree Care—Urban Forestry Foreman Training**, Kent, OH, **Sept. 15-26**. Contact Richard E. Abbott, Davey Environmental Services, 117 South Water Street, Kent, OH 44240, 216/673-9511.

**Tree Diagnostic and Evaluation Workshop**, Holiday Inn, 328 West Lane Ave., Columbus, OH, **Sept. 15-17**. Contact Alan D. Cook, Executive Director, Ohio Chapter, ISA, The Dawes Arboretum, 7770 Jacksonstown Rd., S.E., Newark, OH 43055.

**VPI & SU Turfgrass Research Field Days**, Turfgrass Research Center, Blacksburg, VA, **Sept. 16-17**. Contact John R. Hall, III-Extension Specialist, Turf VPI & SU, 426 Smyth Hall, Blacksburg, VA 24061, 703/961-5797.

**Drip Irrigation Short Course**, Orlando, FL, **Sept. 16-18**. Contact The Irrigation Association, 13975 Connecticut Ave., Silver Spring, MD 20906, 301/871-8188.

**Pacific Horticultural Trade Show**, Long Beach Convention Center, Long Beach, CA, **Sept. 16-18**. Contact

PHTS Manager Richard C. Staples, 1419 21st Street, Sacramento, CA 95814, 916/443-7373.

**National Lawn and Garden Distributors Association** Annual Convention, Century Plaza, Los Angeles, CA, **Sept. 16-19**. Contact Lawn and Garden Distributors Association, 1900 Arch Street, Philadelphia, PA 19103.

**Residential Design Course II**, Milwaukee, WI, **Sept. 17-19**. Contact John Shaw, Executive Director, Associated Landscape Contractors of America, 1750 Old Meadow Rd., McLean, VA 22101, 703/821-8611.

**Interior Plantscape Association** annual meeting, Hyatt Regency Hotel, Dallas, TX, **Sept. 18-21**. Contact Ms. Carol Felix, Executive Director IPA, 11800 Sunrise Valley Drive, Reston, VA 22091, 703/476-8550.

**Fertilizer Institute World Fertilizer Conference**, Hyatt Regency, San Francisco, CA, **Sept. 21-23**. Contact Barbara Schoen, The Fertilizer In-

stitute, 1015 18th St. NW., Washington, DC 20036, 202/466-2700.

**Northwest Turfgrass Annual Conference**, Sunriver Lodge, Sunriver, OR, **Sept. 22-25**. Contact Dr. Roy Goss, Executive Secretary, Northwest Turfgrass Assn., Western Washington Research and Extension Center, Puyallup, WA 98371, 206/593-8513.

**Rocky Mountain ISA** chapter meeting, Denver Botanical Gardens, Denver, CO, **Sept. 24-25**. Contact Ervin C. Bundy, ISA Executive Director, P.O. Box 71, 5 Lincoln Square, Urbana, IL 61801, 217/320-2032.

**The Florida Growin' Show**, State Fairgrounds Expo hall, Tampa, FL, **Sept. 26-28**. Contact Fla. Nursery & Allied Trades Show, P.O. Box 16796, Temple Terrace, FL 33687.

**70th Annual California Association of Nurserymen's Convention**, Konocti Harbor Inn, **Sept. 30-Oct. 2**. Contact Richard Staples, California Association of Nurserymen, 1419 21st Street, Sacramento, CA 95814, 916/448-2881.

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**Central Plains Turfgrass Foundation,** Kansas State University Turf Conference, KSU Union, Manhattan, KS, **Sept. 30-Oct. 2.** Contact Dr. R.N. Carrow, Secretary/Treasurer, Horticulture Dept., Waters Hall, Kansas State University, Manhattan, KS 66506, 913/532-6170.

**International Pesticide Applicators Association** Annual Convention, Sea-Tac Red Lion Motor Inn, 18740 Pacific Highway South, Seattle, WA, **Oct. 1-3.** Contact William Harlan, P.O. Box 681, Kirkland, WA 98033, 206/823-2600.

**Bedding Plants Incorporated Trade Show,** Marriott Hotel, Atlanta, GA, **Oct. 4-7.** Contact BPI, Box 286, Okemos, MI 48864, 517/349-3924.

**Mid-Atlantic ISA** chapter meeting, U.S. National Arboretum, Washington, DC, **Oct. 5-7.** Contact Ervin C. Bundy, ISA Executive Director, 5 Lincoln Square, P.O. Box 71, Urbana, IL 61801, 217/320-2032.

**Tissue Culture Techniques for Plant Propagators,** W. Alton Jones Cell

Science Center, Lake Placid, NY, **Oct. 6-8 and 9-11.** Contact Course Secy., Cell Science Center, Lake Placid, NY 12946, 518/523-2427.

**Aquatic Toxicology Symposium,** Philadelphia, PA, **Oct. 7-8.** Contact J. Gareth Pearson, U.S. Army Medical Bioengineering Research and Development Laboratory, Ft. Detrick, Fredrick, MD 21701, 301/663-7207.

**16th Annual Turfgrass Equipment, Irrigation, and Supplies Field Day,** Rutgers Stadium and Golf Course, Rt. 18, Piscataway, NJ, **Oct. 7.** Contact Dr. Henry W. Indyk, Executive Director, Soils & Crops Dept., P.O. Box 231-Cook College, New Brunswick, NJ 08903, 201/932-9453.

**Centor Pivot Irrigation Short Course,** Lincoln, NE, **Oct. 7-9.** Contact The Irrigation Association, 13975 Connecticut Ave., Silver Spring, MD 20906, 301/871-8188.

**Minnesota Park Supervisors Association** fall meeting, Red Wing, MN,

**Oct. 10-11;** and winter meeting, Washington County Park Dept., **Dec. 2.** Contact Thomas Feltl, M.P.S.A. Secretary, 8200 Wayzata Blvd., Golden Valley, MN 55427.

**New England ISA** chapter meeting, Berkshire Hilton Inn, Pittsfield, MA, **Oct. 12-14.** Contact Ervin C. Bundy, ISA Executive Director, 5 Lincoln Square, P.O. Box 71, Urbana, IL 61801, 217/320-2032.

**Symposium on Turfgrass Insects,** Columbus, OH, **Oct. 14-15.** Contact Dr. B.G. Joyner, Plant Diagnostic Labs, ChemLawn Corp., 6969 Worthington-Galena Rd., Suite L, Worthington, OH 43085, 614/885-9588.

**Southwest Turfgrass Association** Annual Conference, New Mexico State University, Las Cruces, NM, **Oct. 16-17.** Contact Arden Baltensperger, New Mexico State University, Agronomy Dept., Box 3-Q, Las Cruces, NM 88003, 505/646-3138.

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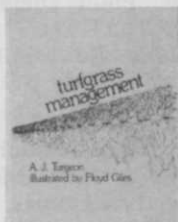
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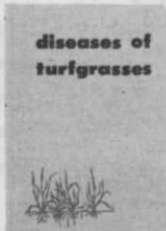


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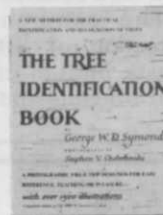


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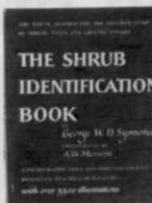
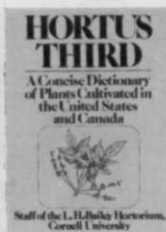
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