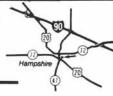
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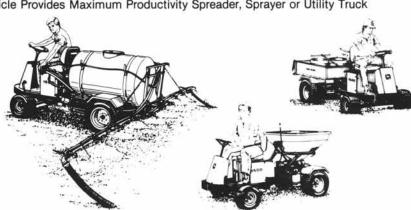
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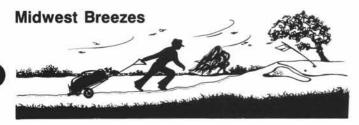
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## Upcoming Events — Mark Your Calendar

**June 6** — MAGCS monthly meeting at Lake Shore C.C.

June 30-July 3rd — Western Open at Butler National

**July 18** — MAGCS monthly meeting at Springbrook C.C.

July 21 — Field Day at University of Illinois

August 2 — Purdue Field Day at Agronomy Farm

August 3 — ILCA Field Day at Morton Arboretum

August 15 — MAGCS monthly meeting at Balmoral Woods

**September 13** — MAGCS monthly meeting at Crystal Lake C.C.

**September 26** — ITF Golf Day at Knollwood G.C.

October 10 — MAGCS monthly meeting at Lake Barrington

November 2 — Annual Meeting & MAGCS Turf Clinic

December 6-7-8 — NCTE, Pheasant Run

Jan. 23, 24, & 25 — Midwest Regional Turf Foundation Seminar, Indianapolis

This month marks the 42nd year for the publication of our newsletter "The Bull Sheet". During that time we have had only 9 Editors. The Editors were from first to present: William Stupple, 5 years; Bert H. Rost, 2 years; Ted Woehrle, 5 years; Doug Jabaay and Tom Burrows, 1 year each; Dick Trevarthan, 3 years; Roger LaRochelle, 1 year; Ray Gerber, 111/2 years; and Fred D. Opperman, 5 years. Ever-Redi Printing has been our only printer all of those years.

Paul Voykin writes that he is a very proud father in the fact that his daughter has been accepted into the Veterinary School of Medicine at U of I. Paul, also is trying to keep the GCSAA on track by sending them many letters of advice (of which he copies to this editor).

Congratulations to Sue & Roger Stewart on the birth of Roger A. III, on April 18, 1988. And we thought Roger talked alot before — now with a new son, you can't shut him up.

## Assistant Golf Course Superintendent

Supervises grounds and equipment maintenance for an 18-hole county golf course. Two years experience in golf course maintenance preferred plus college level courses in turf management. Send resume to:

> Randi Baltz Lake County Forest Preserve District 2000 N. Milwaukee Avenue Libertyville, IL 60048 (312) 367-6640

The EPA has pulled diazinon off the golf courses. If you feel we should have this product, copy this letter and send it to Tom Walker at the address listed below.

## Partnership for Turf 1988

The Midwest Regional Turf Foundation is a nonprofit organization chartered to support turf research and education at Purdue University. The Foundation serves as a vehicle for both professional turf managers and businesses to promote the turfgrass industry within Indiana and the Midwest. The MRTF has already improved and expanded its research program by adding personnel to meet the growing needs of turfgrass managers.

This year the MRTF is conducting a drive to gain new members. Everyone associated with the turf industry is asked to join a "Partnership for Turf" program. The additional revenues generated by new memberships will be used to support turf activities such as the annual Midwest Turf Conference, Chemical Use Seminars, and Turf Field Days.

As President of the MRTF, I ask your consideration and support in becoming a "Partner for Turf". Enclosed is a membership application for your classification.

NOW ... is the time to move forward for the Purdue turf program and the Midwest Regional Turf Foundation.

> John Turner, President MRTF

Something terrible happens when you don't support turf ... "NOTHING!"

Dr. Randy Kane would like to remind area superintendents that he is available for on site diagnosis and consultation concerning diseases or other turf problems. His name and new phone number (\*\*954-2753\*\* 24 hr. hotline) now appear on page 2 of every Bull Sheet issue, just under the board listing.

<name>
<address>
<city>, <state> <#zip>

Dear <lastname>:

Subject: Use of Triumph\* Insecticide on Golf Courses

The U.S. Environmental Protection Agency recently finalized its position prohibiting the sale and use of diazinon containing products on golf courses. Diazinon offered users an economical and effective method for controlling various peats on this turf site. In addition, we have been addised that the EPA's administrator has expanded the definition of lanns' to include golf courses.

The (golf course organization) believes that the EPA action against diarinon creates a void in our pest management programs and that the administrator's expansion of the site definition, as noted above, is cause for concern. With these facts in mind, the (golf course organization) wishes to request that CIBA-GEIGY's Triumph 45 (EPA Reg. No. 100-64) be granted a special local need label to permit and clarify its use on golf courses. The product is currently registered for use on lawns.

We understand that CIBA-GEIGY is supportive of this effort and will be submitting the appropriate information directly to you. CIBA-GEIGY has also advised us that they are seeking full federal registration for this use and are targeting July, 1988, for submission to EPA.

We believe that your approval of this state label will ensure the availability of a necessary pest management tool and provide appropriate directions for use that meet the needs of professional golf course superintendents.

Your support of this action is appreciated.

Tom Walker, Administrative Assistant Bureau of Plant & Apiary Protection IL Department of Agriculture State Fairgrounds Springfield, IL 62794-9281 Phone: 217/785-2427 Stad THIS Levier To:

CR/mpb/0501

## A Soil Primer: Physical Characteristics

#### Patrick Kelsev

Soil information has long been a mainstay for farmers, engineers, and land managers, but soil management in the urban landscape has received little attention from horticulturists, arborists, landscape professionals, or the average homeowner.

Soil information, when used by these groups, is usually limited to fertility considerations. But there is more to learn. Adverse urban soil conditions present serious environmental stresses for woodly landscape plants. Compaction, poor site drainage, man-made "soil" (mortar, building rubble, etc.), alkalinity and clayey materials are just a few of the physical limitations in urban planting sites.

By understanding basic soil properties, both the landscape professional and the homeowner can enhance planting sites and eliminate some of the differences between nursery conditions and urban planting sites. Analysis of site soil conditions is not generally part of the landscape design phase, but it should be. Homeowners embarking on new landscaping projects should insist on obtaining a complete soil analysis. If soil information is not provided during design, it should be gathered and utilized during plan implementation. Site modification is more difficult at this stage, but may be necessary to increase the survival rate of woody plants on the site. Remedial action to improve the environment after completion of planting can be very costly and possibly unsuccessful.

Physical properties critical to the establishment of trees in urban landscapes include soil texture, structure, bulk density, permeability, drainage, and water table depth. The homeowner and landscaper should be familiar with these characteristics in order to plan a successful project. Because of the complex interrelationships among physical properties, no single factor in the following discussion is more important than another.

## SOIL TEXTURE

Soil texture, the ratio of particle sizes (sand [largest], silt, and clay [smallest]), can be estimated quite easily. Textures can be estimated without the use of specialized equipment. Simply knead the soil between the thumb and forefinger. Gritty particles in the sample are sand; silt particles feel like flour; and clay particles are sticky. Often, this simple analysis is enough to give a basic idea of the soil texture. For large projects, more accurate textural analyses can be obtained from commercial laboratories.

Soil texture is important because it directly affects the permeability, moisture-holding capacity, nutrient bioavailability, and consistency (friability) of soils. These characteristics are described below.

#### SOIL STRUCTURE

Soil structure refers to the size and shape of soil aggregates — clumps of soil held together by a complex of organic compounds. Soil structure is described by the shape of the aggregate: granular, crumb, blocky (angular and subangular), prismatic, columnar and platy. The structure of the soil controls its permeability and gas exchange capacity and thus can affect drainage characteristics by "perching" or concentrating water in some layers of the soil.

Compaction resulting from the movement of heavy equipment causes soil structure to break down. Tilling compacted soil will help to increase its permeability and aeration. However, if the compaction is severe and the structure is destroyed, reaggregation may not occur. This is true of many urban situations, particularly where organic matter levels are low.

If poorly aggregated soil cannot be improved by tilling, the incorporation of organic matter such as peat moss, composted leaves, grass clippings, garden refuse, and other organic materials will lessen some of the permeability problems. However, this is not a long-term solution. There is no quick fix available. Gypsum is commonly used to "improve" aggregation, but it is only effective in saline soils. Its ability to improve soil structure in fine-textured alkaline soils has not been demonstrated. Recent research on organic polymers to improve aggregation is promising, but few commercial products are available.

#### WATER-HOLDING CAPACITY

Available water holding capacity (AWHC) refers to the capacity of the soil to hold water that plants can use. It is controlled largely by soil texture. Silt loam and loam textures provide the greatest AWHC. Coarse textures (sand, sandy loam, etc.) have less microscopic surface area to hold the water for plants than do fine-textured soils (silty clay loam, clay loam, clay, etc.). Though these fine-textured soils contain large surface areas for holding water, the clay particles bind much of the water so tightly that little of it is available to plants.

#### **BULK DENSITY**

Bulk density is most commonly used as an indicator of soil compation. It is a measurement of the mass of soil per unit volume (usually grams per cubic centimeter). Bulk density usually ranges from 1.0 to 2.0 for mineral soils. Durng the compaction process, soil structure is destroyed and large soil pores collapse. Density is an indirect indicator of the adequacy of soil pore space. High densities in fine-textured soils (greater than 1.8) are indicative of compact, poorly aerated soil that cannot be penetrated by water or roots. Bulk densities between 1.0 and 1.4 are optimal for root growth. Root growth is reduced at densities between 1.5 and 1.8.

### **PERMEABILITY**

Permeability is a measure of the ability of water, gases, and plant roots to move through the soil over a period of time. Pore space, texture, and soil structure control the permeability of soil. Soils with coarse textures are more permeable than fine-textured soils. Large pores transmit water and gases more readily than do small pores. Transmission of water depends on the ability of water to move either laterally or vertically. Most of the root growth, gas exchange, and water movement through the soil occurs in the large pores along the faces of the soil aggregates.

#### SOIL DRAINAGE

Soil wetness is determined by a number of factors including rainfall, soil structure and texture, permeability, and infiltration characteristics. The degree of soil wetness can be broadly classified into seven categories, but only four of these are significant in our region: 1) somewhat excessively drained soils are rapidly permeable and have low levels of soil moisture, but they support plants well where there is no droughty season; 2) well-drained soils have an optimal amount of drainage to support plant growth without inhibiting root growth, yet they provide adequate moisture to the plants throughout most growing

(continued on page 15)

seasons; 3) somewhat poorly drained soils are wet for long periods of time. These soils restrict the rooting development of most plants; 4) poorly drained soils are wet throughout most of the year. They restrict root development in all plants other than wetland species.

Installation of drainage tiles is an effective management tool for somewhat poorly drained soils and poorly drained soils.

WATER TABLE DEPTH

The seasonal high water table and drainage characteristics are determined in undisturbed natural soils by marking the highest depth at which splotches of color occur. These splotches, termed "mottles", occur in many colors but are usually either dull dray or bright reddish orange. Gray colors dominating the soil indicate that the water table remains at that depth for the majority of the year, unless the area has recently been drained with tiles.

Mottling of the soil is a good indicator of water table depths only in undisturbed soils. On urban sites where fill materials are brought in, soil mottling is not a satisfactory indicator of water table depth.

In disturbed soils, monitoring of near-surface water tables is usually the only reliable measure of potential water-logging. Unfortunately, site investigations are rarely undertaken until plants have been killed by poor drainage or a high water table.

Except in areas with fine-textured soil materials that have been severely compacted, water table and drainage problems are easily overcome by installing tile drains. Severe compaction may call for the use of dry wells or the complete replacement of the soil environment in which the tree is to be planted.

## CONCLUSION

Early detection and correction of soil problems are important for successful plant growth. The homeowner and/or land-scaper who understands soil characteristics should analyze for soil texture, structure, water-holding capacity, bulk density, permeability, and drainage, as well as for water table depth. This is especially important in urban and suburban locations where the soils have been manipulated in the past. With the information gained, the enlightened homeowner or landscaper can make the suitable corrections which will help to ensure the success of the project.

Credit: The Morton Arboretum Plant Information Bulletin, N. 35, Autumn 1987

## "June Bug Blues"

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Kenneth R. Zanzig

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## New Exotic Weed Act bans sale, planting of three plants in Illinois

It is now illegal in Illinois to buy, sell, offer for sale, distribute or plant the seeds, parts or whole plants of Japanese honeysuckle (*Lonicera japonica*), multiflora rose (*Rosa multiflora*) and purple loosestrife (*Lythrum salicaria*).

The three species have been declared exotic weeds and are banned under the new Illinois Exotic Weed Act, which was passed in 1987 and went into effect last fall.

Noting that "these plants spread quickly and become serious problems when they are planted", Conservation Director Mark Frech urged in a personal letter to nursery operators across the state that they take the new Exotic Weed law into account when ordering 1988 stock.

Frech pointed out in his recent letter that violators of the act are subject to a fine of up to \$500 and/or a six-month jail term. When a violation is a continuing offense, each day is considered a separate violation.

Exotic weeds offered for sale within the state also are subject to confiscation and destruction by agents of the Department of Conservation, unless the plants and sales are specifically exempted, Frech explained.

The exemption to which Frech alluded was the law's approval of commercial propagation of the three species for sale outside Illinois.

John Schwegman, head of the Conservation Department's Botany Section, also points out that while the law prohibits new plantings, it does not require landowners or homeowners to remove existing plants. However, the plants may not be sold or transferred for re-establishment elsewhere.

At least two of the three plant species, Japanese honeysuckle and multiflora rose, originally were propagated here as answers to other problems. Later, however, it was discovered their drawbacks outweighed their benefits. It is not recorded how, when or why purple loosestrife was first planted here, but the species was known to have existed in the eastern states for decades before its relatively sudden burgeoning into a menace there and its subsequent migration to Illinois.

Japanese honeysuckle, spread largely by birds, is a woody vine that rapidly smothers out native vegetation with its thick, clinging growth. It is an especial threat to endangered plant species. Originally, it was introduced as a planting to stabilize roadsides, but it also has been used for ornamentation.

Multiflora rose was touted for years in Sunday supplement ads in newspapers all across the nation as an excellent wildlife habitat planting, for use as a living fence, as a property line marker, fencerow planting, soil stabilizer and a variety of other uses. However, expansion of the thorny shrub is rapid, impossible to control and very difficult to totally halt. The species grows and spreads underground through its root system, and eventually crowds out all competition. Because of its thorniness, one cannot pass through it and the plant is difficult to circumvent. It has become a substantial problem in natural areas and on agricultural land.

Despite its beauty and colorfulness, purple loosestrife has become a serious and prolific invader and destroyer of wetland areas in Illinois. It has no natural competition and now threatens to choke out many of the state's most pristine wetlands, upset ecological balances and destroy many plants and animals.

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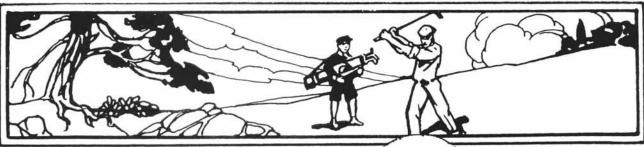


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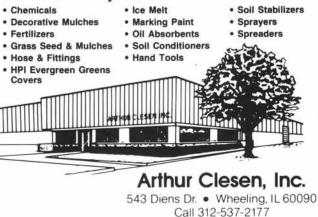
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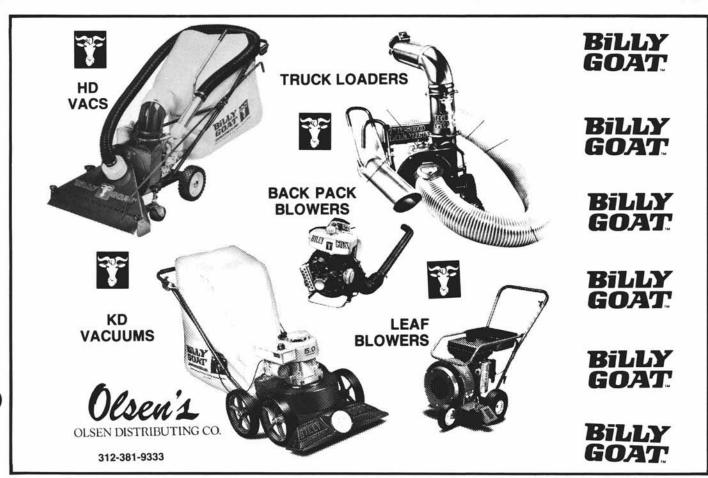
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(cont'd. next page)



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## Care of Live Christmas Trees

by James A. Fizzell, Sr. Ext. Adviser Horticulture

The trend in recent years is that more and more homeowners like to have a live Christmas tree, a growing tree with roots.

It is recommended that you take these steps in order to get the best results and pleasure from your live tree.

First, dig the hole whre you anticipate planting the tree, preferably before the ground is frozen. Mulch the hole to prevent freezing too far down. Keep the soil from the hole where it will not freeze, and can be used when you plant your live tree.

Buy your tree from a local nurseryman or supplier. Plan to keep the tree indoors for as short a time as possible. Make the change in temperature by a series of graduations ... perhaps one day in the garage, one day in a cool basement and then into the room where you plan to set it up and decorate it. Repeat this same process in reverse when you take it outdoors.

It is usually better if the suppliers pots the tree for you. A balled and burlapped evergreen tree should be placed in a porous pot, but keep the pot small so it will be inconspicuous. Try the use of a plastic antidesiccant spray on the foliage before bringing the tree into the house.

Water the tree as you would a house plant. Water frequently and thoroughly. Never let the soil get either dried out or muddy.

Keep temperatures as cool as possible, especially at night. Be sure the tree does not receive direct sunlight, even through a window. Never place the tree near a fireplace or against an operating radiator or other source of heat.

As soon as possible, plant the tree outdoors in the hole you prepared. Use unfrozen soil in order to be sure it is firm around the roots of the tree. Be sure to mulch well.

Soak the soil thoroughly after planting to settle it around the soil ball, and every month or so if the temperature remains mild and there is no rain. Watering will be necessary during droughty periods next summer, too.

It is fun to have a live Christmas tree especially if this year marks a special event such as a wedding, a birth of a new family member, or arrival of a new grandchild. Use the tree indoors at Christmas and then use it outdoors as an evergreen in your foundation planting or as a specimen tree where it will remind you of the Joy of Christmas 1988.

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