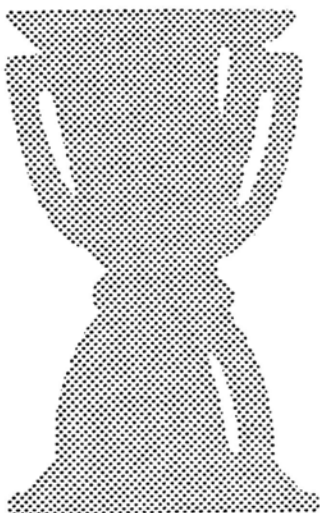


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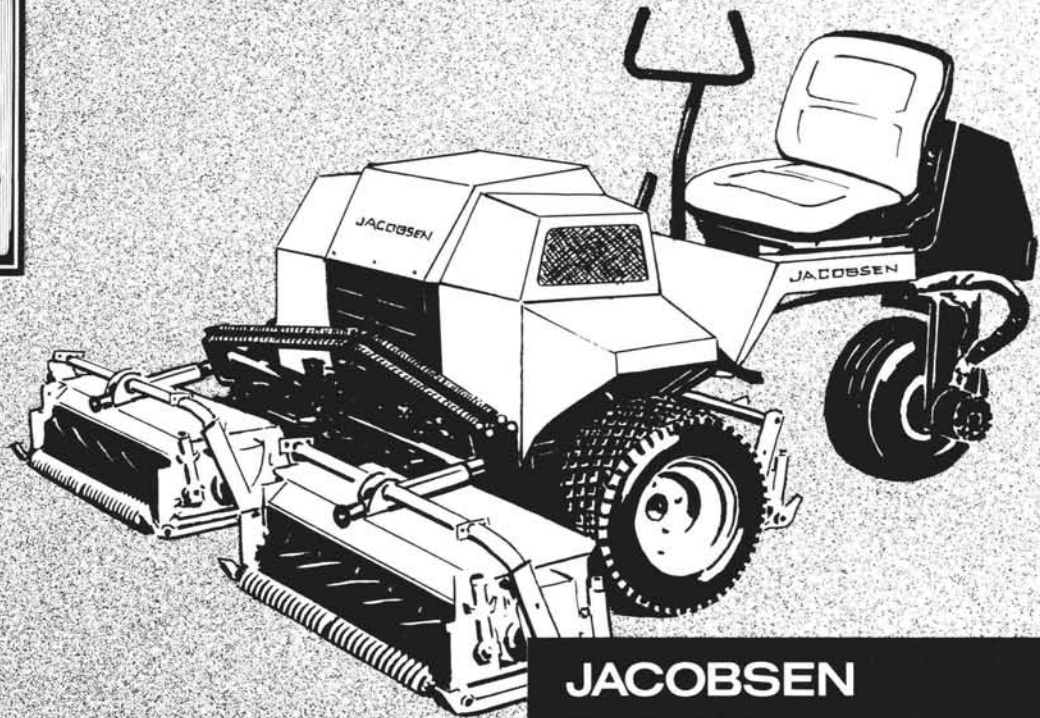
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## Midwest Breezes



### Upcoming Events — Mark Your Calendar

**February 6-13** — GCSAA Conference & Show, Anaheim, CA

**February 12** — GCSAA Prayer Breakfast, 7:30 a.m.

**February 22-26** — Flower Show, Rosemont Expo

**March 13** — MAGCS meeting at Nordic Hills C.C. at noon

**March** — CDGA Green Seminar

**April** — We need a meeting place

**May 15** — Joint Association meeting at Eagle Ridge, Galena, IL

**May 25** — Superintendent/Pro Golf at Bonnie Brook

**June** — We need a meeting place

**July** — We need a meeting place

**August** — MAGCS meeting at St. Charles C.C.

**September** — We need a meeting place

**October** — MAGCS meeting at Prestbury C.C.

**November** — Annual MAGCS meeting and clinic

The MAGCS will be hosting a booth at the **Chicagoland Home & Flower Show**. Association members are needed to man the booth, in order to provide positive P/R to show attendees. This show will run February 22-28, 1989 (Wed.-Sun.). Admission for participating association members is free. The show hours are as follows: 2:00 p.m. - 10:00 p.m. on Wed. & Thurs., 11:00 a.m. - 10:00 p.m. on Fri. & Sat., and 11:00 a.m. - 6:00 p.m. on Sun. Any association members interested in participating can contact Timothy Kelly, at Village Links — 469-2077 for additional information.



*Dr. Gary Kling, U of I*



*Dr. Tom Green*

At the GCSAA conference the MAGCS will have a hospitality suite in the Hilton Hotel Towers. The sponsors of our suite will be Turf Products and Chicago Turf & Irrigation on Thursday, Arthur Clesen, Inc. on Friday, Illinois Lawn Equipment on Saturday and Huber Ranch Sod on Sunday evening. The hours will be from 5:30 p.m. to 11:00 p.m. each night.

FOR SALE: 160 Rugg Bunker Rakes. Best offer. Call Thorngate C.C., (312) 945-0568.

Oops Department: We apologize to Martin Implement Sales, Inc. for leaving out the prices on their ad in the January issue. The prices should have been the following: BSD 333 - \$3,575.95; BSD 33H - \$3,663.95; BSD 42 - \$4,417.95; and BSD 444T - \$5,443.95.

Bob Breen, Sr. packed them in again at the January meeting at Arrowhead C.C. This meeting seems to always draw a large crowd and the remodeled clubhouse is quite nice.

Dr. Gary Kling from the University of Illinois spoke on how the drought of last summer affected the woody plants. He has promised an article for our newsletter on this subject. But to hit some of the high points he reminded us to have a long memory of last year. Not to just forget about it because we have a few rains. The soil moisture in many areas is still very low. In the years coming, don't put off watering plants by waiting for the rain that is surely coming tomorrow. Our plants have been very stressed and they will take years to overcome this stress. An open winter like we have been having can put more stress on the plants by freezing and damaging the upper roots. Some of the more drought tolerant plants he recommended are: Hedge Maple, Tree of Heaven, Chinese Chestnut, Burr Oak, Black Oak, Hawthorns, Kentucky Coffee Tree and the Cork Tree.

Remember to attend the GCSAA Prayer Breakfast in Anaheim. It is on Sunday morning, February 12 at 7:30 a.m. Rosie Greer will be the speaker.



*John Lebedevs getting pointers from the old pro Albie Staudt at the NCTE*

## Research Update - 1988 Crabgrass Control

by Clark S. Throssell, Asst. Professor  
Turfgrass Science

A preemergence crabgrass control study was conducted on a fairway at New Albany Country Club, New Albany, IN. The fairway was a blend of perennial ryegrasses and annual bluegrass. The maintenance of the fairway included 4.0 lbs. actual nitrogen per 1,000 sq. ft. per year, preventative fungicide applications, irrigation to prevent drought stress, and mowed three times or more per week at 0.90 inches with clippings returned. Preemergence herbicides were applied on April 8, 1988 and split applications were applied six weeks later on May 20, 1988. All herbicides were watered in 30 minutes after application.

The crabgrass and goosegrass pressure was severe. Two experimental products, MON 15151 and prodiamine provided excellent season long control from a single application. MON 15151 will be available in 1989 with an Experimental Use Permit (EUP). Prodiamine will be on the market in the early summer of 1989. Split applications using commercially available products generally provided better control than a single application. Ronstar 75 WP at rates of 1.5 lbs. a.i./A and greater, Pendimethalin 60 WDG and Team 2G also provided excellent control. Ronstar 75WP caused a phytotoxic response in the turf that was unacceptable for 2 to 4 weeks after application.

Balan 2.5 G, Dacthal 75 WP, Presan 12.5 G, Ronstar 2G, and Scott's Goosegrass/Crabgrass did not provide satisfactory control this year. The performance of a given preemergence herbicide will vary from year to year for reasons that are not understood.

## Update on White Grub Research

by Timothy J. Gibb, Ext. Entomologist

The Department of Entomology at Purdue University, in cooperation with Midwest Regional Turf Foundation, has conducted white grub insecticide efficacy research in 1988. As of this printing the following preliminary results are available:

(1) All insecticide treated plots had substantially increased white grub mortality when compared to untreated plots. Nematodes also appeared to provide adequate control. Statistical tests now underway may indicate further significant differences between chemicals.

(2) Caging gravid beetles proved to be an ideal method of concentrating and obtaining young white grub larvae for study.

(3) Insecticide movement through blade, thatch and soil zones was very minimal. Testing procedures were not as accurate as had been hoped, however, it was evident that very little of the total chemical applied to the turf actually reached even the uppermost soil layer.

(4) Drought is thought to be responsible for a delay in peak emergence of Northern Masked Chafer adults observed in much of Indiana this season. Results from black light trapping indicated that emergence from pupation and subsequent oviposition began later, and extended over a longer period of time than normal. Practically, this meant that optimum timing for insecticide application also changed from late July to mid-August in 1988.

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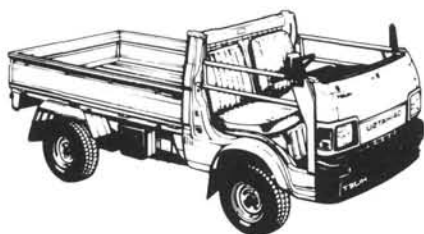
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## An Architect's Opinion Developing Space By Tree Planting

by Bob Lohmann

Due to a combination of relatively flat topography, disease epidemics, and plant sales, golf courses have become major clients of tree sales business. Even though both the golf course and trees are natural parts of the environments, proper planning is needed to make them compatible with each other. Trees don't grow in turf, but instead grow naturally in the woods with other trees where there is no competition between the fine manicured turf and the fragile feeder roots of the trees. So, placing trees on the golf course requires more thought than just filling in the open spaces. All golfers need room to play the game, and all trees need room to mature. Through a mixture of tree groupings and open space, both the golf course and the trees can survive.

Overplanting is the easy way to place trees on the golf course. Just as in the entire golf course facility, trees should be part of a planning program that begins with the initial analysis and inventory, and leads to an overall planting and replanting plan. Before any trees are placed on a golf course, the existing plant material should be analyzed. To determine the importance of any particular tree, one must anticipate the life span, the potential size, and the present condition of the tree. If a group of specimen trees are interfering with an existing sand bunker, the out-of-play bunker should be removed, and the trees should remain. But when weedy and trash trees grow old and lose their branches adjacent to fairways, sand bunkers, or greens, they should be removed.

Trees provide the framework and background of the golf course. The best planting plans may be drawn in a day, but it takes many years and a lot of work for a golf course to develop a mature woody look that does not inhibit the golfer's game. During this maturing process, a sense of direction, through a landscape space, is developed. The designer's intent is to control the visual experiences of the golfer while allowing the golfer to concentrate on the game.

A few well placed trees become important strategic elements of the golf course design. They can be used to define target areas and fairway turning points. But when too many trees get close to golfers, they become a nuisance. Along with destroying the original design of the golf course, the maintenance of an old tree is costly. Trees tend to prune themselves of small twigs throughout the year. They should be planted no closer than 30 to 40 feet from tees, greens, and fairways depending on the species of the plant and the design of the golf hole. Trees with high open crowns are ideal near and around tees and greens, while low branching trees and shrubs should be avoided.

Plantings can be done in small tight groups for immediate effect and mulched beneath to eliminate grass mowing. An uneven spacing gives the planting a natural look similar to what is found in the woods. Planting done in moderation, using a mixture of tree varieties, will avoid monotony while not overwhelming the golf course. If trees need to be close to the fairway, they should be clean, open-crowned trees planted far enough apart to allow room for maintenance equipment and golf play.

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## "A Quick Tour of Spraying Systems Company"

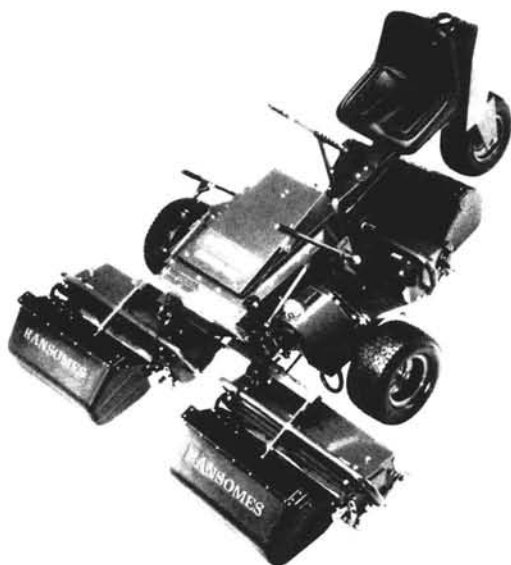
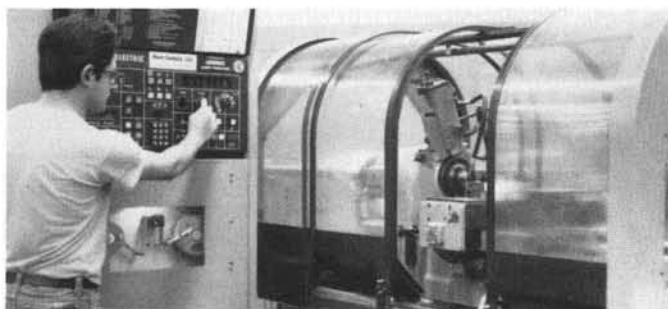
by Fred D. Opperman, CGCS & Editor

Recently I was given a tour of the Spraying Systems Co. Plant located in Carol Stream, Illinois. I was very impressed with what I saw. The plant is huge with hundreds of people all working at various tables, stations, and complicated machines.

For more than 50 years, Spraying Systems Company has been one of the leaders in the design and application of spray nozzles for agriculture and industry. Today, they make more than 18,000 different types of nozzles that are used in some 200 different markets. Some of those markets outside of the golf courses are spray drying and poultry cooling to printing plant humidification, or spraying a release agent in the manufacture of golf balls. Other diverse applications include cake decorating and the cooling of rocket launch pads.

The manufacturing techniques used call for specialized production equipment with extensive quality control checks throughout the entire production process. For example every TeeJet spray tip, is checked for spray pattern integrity and flow rate before it is shipped to us. During my tour I watched as some spray nozzles were rejected due to one thing or another. I can now understand the cost of a spray nozzle when you get to watch it develop from a bar of material (whether it be stainless steel, plastic, brass) to the finished product after going thru hundreds of different stages to reach the spray boom on your golf course.

If you are ever given a chance to tour this facility that happens to be in our back yard — do it, is my recommendation.



## RANSOMES

The Motor 180 is versatile enough to trim golf tees and surrounds, ideal for large private and public lawns, just the machine for maintaining smaller playing fields. Its low profile design hugs the ground giving outstanding stability and performance, even on steep slopes. Instant response from the single foot pedal control for forward or reverse drive gives the ultimate in handling ability. Choice of 5 knife fixed head and 7 knife floating head cutting units lets you choose the right finish for your turf. With cutter drive completely independent of ground speed the cutting efficiency is maintained even when manoeuvring at low speed. Units latch out of work manually. Mechanical lift to units from the operator's seat and grasscatchers are optional.

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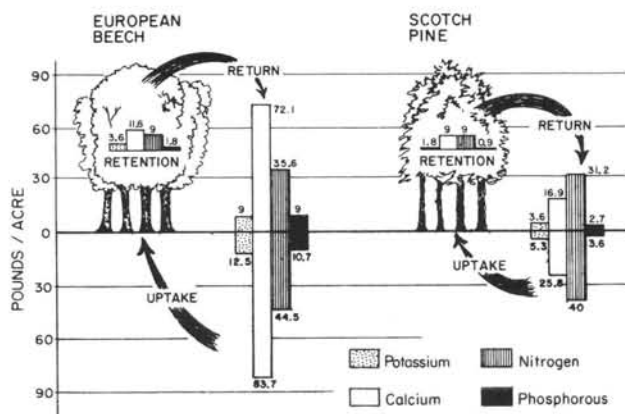
## Photosynthesis: Sugar from Air, Water and Sun

The complex chemistry of photosynthesis goes on exclusively in the minute confines of the chloroplast like the one shown in the diagram below. Millions of chloroplasts are found in the cells of a single leaf, and within each chloroplast there are hundreds of layers of chlorophyll.

Photosynthesis proceeds in the chloroplast in a series of steps:

- Water molecules brought into the chloroplast from the plant's roots constantly come in contact with the layers of chlorophyll.
- Sunlight passing into the leaf strikes the chlorophyll, giving it the energy to break the water molecules apart.
- The oxygen from the broken water molecule is exhaled by the leaf and the hydrogen stays in the chloroplast — combined with a driver molecule that has absorbed the excess energy.
- The energy-laden drive molecule next causes the hydrogen to combine with simple carbon compounds already built up in the chloroplast by carbon dioxide taken from the air.
- With this last reaction, the change from light energy to chemical energy is complete — the complex stable energy-rich carbohydrate known as sugar has been formed.

### Macronutrients: Rotating Capital for Forest Soil Fertility



Annual uptake (values below the soil line), retention (values in tree crowns) and return (values above soil line) of macronutrient elements in Scotch Pine and European Beech. Note the large fraction of nutrients returned to the soil in the form of litter.

## Chemicals Losing Their Punch

According to biologist and entomologist, Robert L. Metcalf, "We may be rushing headlong back into the agricultural and medical dark age that existed before the discovery of modern insecticides and antibiotics. The outlook is dismal and getting worse," said Metcalf, a University of Illinois Professor at the annual meeting of the American Association for the Advancement of Science.

"Malaria, once thought to be eradicated, is coming back because carrier mosquitos have become immune to most common insecticides and the infectious protozoan itself has become immune to anti-malarial drugs. In 1976, the World Health Organization abandoned its 21 year-old malaria eradication program after spending nearly \$2 billion in the attempt", said Metcalf. In 1938, there were only seven insects known to have developed resistance to a chemical. Now the list has increased to nearly 450.

Brian Croft, entomology professor at Oregon State University, says "what is required is a variety of chemical management strategies to keep the bugs off balance and prevent them from developing resistance. These include rotating crops, using less insecticide and avoiding compounds that have a long residual period, which encourages the bugs to adapt. Croft said, because prolonged exposure to a given pesticide encouraged resistance, using the same thing **over and over again is not in the interest of anybody**". (Columbus Dispatch, Ohio Pesticide Newsletter and Ga Pesticide Digest, July 1988).

Editor's Note: What is said about insects can also be said about the organisms which cause turfgrass disease.

## Cool-Season Turfgrass Responses to Drought Stress

L. J. Aronson, A. J. Gold & R. J. Hull  
Crop Science, Volume 27, Number 6  
Pages 1261-1266, 1987

As the supply of water available for turf irrigation becomes limited, the importance of water-efficient and drought-tolerant turfgrasses increases. In order to establish the critical soil water potential at which cool season turfgrasses begin to experience drought stress, the growth and quality responses of Baron Kentucky bluegrass, Yorktown II perennial ryegrass, Jamestown Chewings fescue and Tournament hard fescue have been determined in research conducted at the University of Rhode Island.

Kentucky bluegrass and perennial ryegrass exhibited a more rapid decline in evapotranspiration rate, quality and leaf growth under moisture stress than the fine fescues which demonstrated a greater ability to thrive with limited soil moisture.

The rainfall pattern in southern New England can produce periods of summer drought even though annual precipitation exceeds annual evapotranspiration. Irrigation should be withheld until drought symptoms are imminent to utilize summer precipitation most efficiently. A delay of irrigation until the onset of temporary wilting results in a significant decrease in water consumption by turf. Clear indicators of impending drought stress must be identified to minimize unnecessary application of irrigation water. In addition, grass species need to be selected which can maintain acceptable visual quality during lengthy rain-free periods.

## "February Fantasy"

As We listen to what the Groundhog has to say,  
About the length of Winter's stay,  
And join Weatherwatch for hints of Spring,  
Hoping Winter will soon lose It's sting,  
With Spring fever rampant, in full bloom,  
And that March Hare, looking for room,  
To Strut around in anxious Spring style,  
Knowing that in just a little while,  
We will All have found good reason,  
To turn loose a New Golf Season.

Kenneth R. Zanzig