

* * * * *

This next little ditty gets our "What will they think of next?" award.

A group calling itself the GNSA (Golf Nut Society of America) sent out a release announcing that Patrick O'Bryan was its 1987 Golf Nut of the Year. The GNSA calls itself the voice of the lunatic fringe of golf. The leader of the group is called the Head Nut.

Anyway, O'Bryan, a 38-year-old bachelor from Chicago, won the award after compiling the most points in the "lunatic fringe" behavior category.

The release itemized some of O'Bryan's exploits, including:

- Taking a one-month golf vacation to Britain that turned into an eight-month golf odyssey spanning 20 countries and 67 golf courses.

- Quitting his job and starting a travel business specializing in golf vacations in order to support his golf and travel habit, which costs him over \$10,000 annually.

- Playing over 140 golf courses since his "retirement" in 1981, while managing to avoid anything closely resembling work during that time.

- Travelling, in one three-week span, over 33,000 miles to play the world's highest-altitude, lowest-altitude, southernmost, northernmost, easternmost and westernmost golf courses. While on his voyage, he arranged a putting competition in the aisle of the airplane as it crossed the International Dateline.

Now that's a guy who is an 8-iron short of a full set of clubs.

The **GRASSROOTS** is a bi-monthly publication of the Wisconsin Golf Course Superintendents Association. Editor and Publisher — Monroe S. Miller, Editorial Staff and Business Affairs — Rodney Johnson — Sheboygan Country Club, and Michael Semler — Cherokee Country Club. Printed in Madison, Wisconsin by Kramer Printing. No part or parts of the **GRASSROOTS** may be reprinted without expressed written permission of the Editor.

THE GENTLE GIANTS

Here are E-Z-GO's hard workers in three-or four-wheel, gas or electric models.

With durable, diamond-plated steel Polane-coated panels and load beds, including options such as sprayers, aerators, spreaders, top dressers, and more. Each one tough but easy on turf.

The GXT-7

Here's the heavy-duty workhorse in the line. Powered by an 18 H.P. engine for payloads of up to 1500 pounds. For golf course or public grounds, its large load bed has sides and tailgate. Options include a hydraulic dump, PTO, and range changer. The GXT-7 adapts to many accessories: sprayers, spreaders, top dressers, and aerators to handle any job.

The GXT-800

Reliable, economical, this mid-size hauler more than pulls its own weight. It has a two-cycle, 244cc engine with rack and pinion steering, heavy-duty springs, and hydraulic shocks, plus a whopping 1000-pound load capacity. Options and accessories such as cabs, bed covers and loading ramps make it an ideal all-around utility vehicle.



The XT-300

This is a reliable three-wheel electric answer for a wide variety of jobs where maneuverability is critical. It provides a payload capability of up to 1000 pounds in its roomy 5.7-cubic foot, diamond-plated load bed.



For Further Information
Call 1-800-654-3794

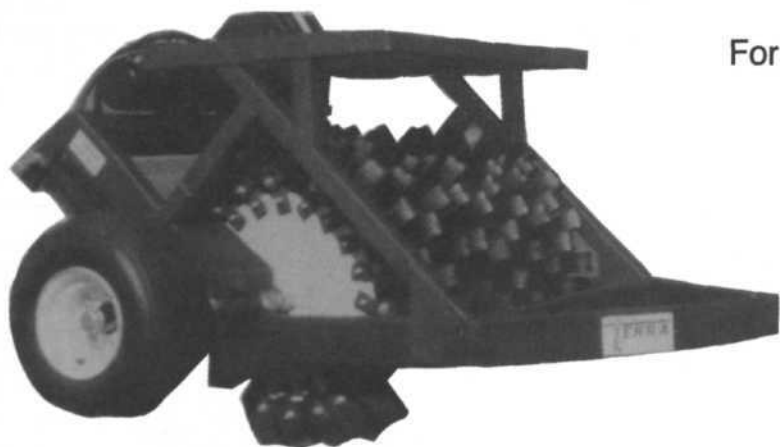
E-Z-GO Chicagoland
24404 N. Hwy. 12
Lake Zurich, IL 60047

TERRACARE AERATORS



TERRA 140

For Home Lawns and Smaller Turf Areas.



TERRA 320

Golf Course Fairways & Large Turf Areas. Recommended by Turf Experts.

TERRA 200

Net Weight - 1060 pounds
Overall Length - 7 feet 8 inches
Overall Width - 4 feet 8 inches
Overall Height - 40 inches
Tire Size - 16 x 650 x 8
10 Discs - 20 Tines per Disc
Aerating Width - 3 Ft.
Aerating Pattern - 3½" x 4¼"
Discs run on Needle Bearings
Disc Shaft - 1¾ dia.
Actuation - Electric hydraulic pump



WISCONSIN TURF EQUIPMENT CORP.

* * TWO LOCATIONS * *

1917 W. Court
JANESVILLE, WI 53545
608-752-8766

21520 W. Greenfield Ave.
NEW BERLIN, WI 53151
414-544-6421

There were other highlights in Houston. Wisconsin's delegation to the GCSAA golf tournament gave excellent grades to the host of the tournament, The Woodlands. The opening session featured an NFL referee, Dr. Jim Tunney. Tunney, a talented and experienced public speaker, gave an inspiring message that seemed very appropriate for the opening of the conference.

Randy Smith and Jerry Kershasky, again, did an excellent job of organizing and hosting THE WISCONSIN ROOM. Our hospitality program has become more and more popular each year.

The trade show is always one of the most important reasons to travel to the conference. The show was nothing less than awesome this year. The latest in equipment and products were on the show floor to see, and staff people were there to answer questions. This reporter will never cease to be impressed by the distinguished and formidable numbers from the turf industry that come from our state as manufacturers.

Houston isn't very often a travel destination for most Wisconsinites, so the conference gave a chance to see the "boom and bust" town we've read about. This city, the largest in the south, reminded me of some "Rust Belt" cities. Rooms, even floors, of the city's many skyscrapers are vacant. There are 60,000 houses for sale. The boom times from 1973 to 1982 went bust with the oil prices in 1983. Nevertheless, the city made visitors to the GCSAA Conference welcome. The George R. Brown Center was a beautiful place for a conference. And there were interesting sites to visit in free time, despite the miserable weather during the first week of February.

All in all, the 1988 conference was another class act. It is the focus of the professional year for GCSAA. The effort put forth by GCSAA staff was very evident.

No one should have been disappointed. I wasn't.



WGCSA members Jeff Bottensek and Jerry Kershasky.



JoAnn Smith and Pat Roberts, two of the spouses who travelled to the 1988 Conference.



Rod Johnson and Steve Schmidt, two of the members of the GOLDEN TEE CLUB.

LAWN-BOY SOON TO BE "MADE IN WISCONSIN"!

Wisconsin's economy received a boost in mid-January when Lawn-Boy, a major manufacturer of rotary lawnmowers and garden tractors, announced it will move its national headquarters from Memphis, Tennessee to Plymouth, Wisconsin.

Jerome Stumbers, Vice President of Outboard Marine Corporation and General Manager of Lawn-Boy, said Lawn-Boy plans to hire as many as 100 new employees at the Plymouth headquarters in addition to the 200 managers, engineers and technicians to be moved from Memphis to the Plymouth area. Lawn-Boy, a division of OMC, already employs more than 600 people in Plymouth where it owns the factory and headquarters building it acquired from the Gilson Brothers Company in October of last year.

Gilson, long Plymouth's largest employer, went out of the lawnmower

business when it was purchased by Lawn-Boy after a labor dispute and several layoffs. Lawn-Boy has called back about 200 workers who have been getting the plant ready for production. The facilities are located on Plymouth's east side on Highway 57.

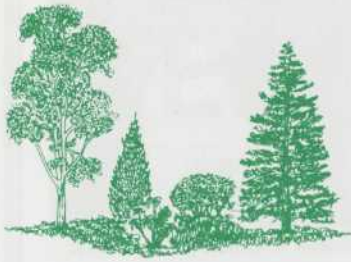
It is expected this move will be complete by about March 1. Almost half of Lawn-Boy's Memphis employees will be asked to move to the Plymouth operation.

Stumbers noted that some of the best outdoor power equipment engineers, research and development people and assemblers are located in Wisconsin. Lawn-Boy joins Ransomes, Inc. of Johnson Creek, Jacobsen Division of Textron in Racine, Toro in Tomah, Kohler engines in Kohler, Briggs and Stratton engines in the Milwaukee area, Tecumseh engines (and related equipment) in New Hol-

stein, Grafton and Sheboygan Falls, and Simplicity at Port Washington.

The announcement was made simultaneously at Lawn-Boy's present headquarters in Memphis and new headquarters in Plymouth. Few were happier about this good news for Wisconsin than Governor Tommy Thompson. "Lawn-Boy will be joining a growing number of companies that are beginning to realize that their base operations can benefit from the state's many pluses, including proximity to expanding markets, and good cultural, recreational and educational resources," Thompson said.

Lawn-Boy's products are sold by more than 8,000 dealers in the United States. Sales in 1987 were \$116 million, and the Gilson acquisition is expected to increase sales by 50% this year.



FLOWERS ON THE GOLF COURSE: WHAT'S NEW FOR '88?

By Dr. Lois Berg Stack
University of Maine

Spring is not as far away as it seems! It's time once again to order flowers for the golf course. Sure, it's easy to order the same plants every year — geraniums for that full-sun bed, and impatiens to brighten up the dark corner near the clubhouse. But why not try some new things this year? Try new plants, or new combinations of plants. Be creative!

Take advantage of what the plant breeders have done! For many years, flower breeders responded to the needs of greenhouse growers. The growers asked for plants that would flower at a younger age so that their production time would be reduced, and the flower breeders developed early cultivars. Growers asked for plants that would not get leggy during production, and plant breeders responded with compact plants. Some of the "new and improved" cultivars that were developed over the years may have been superior in greenhouse production, but they did not all perform satisfactorily in the landscape.

That has changed. In the past several years, flowers have become so important in the landscape that plant breeders have begun to respond to the needs of landscape gardeners. They have bred plants that suffer less damage from insects and diseases, produce increased numbers of flowers, and have the ability to withstand environmental stress. The results are quite outstanding. Why not try some of these new introductions?

THE NEW PERENNIALS

Perennials usually require a higher initial investment than annual flowers, but they are less expensive in the long run because they are permanent plantings. The one major drawback of perennials on the golf course has always been that most perennials have a fairly brief period of flowering, perhaps two to four weeks in the summer. In gardens where you want full color all season, perennials are

generally not good performers.

Of course, there are some exceptions — roses flower most of the summer, but they require a great deal of maintenance; some asters flower most of the summer but they tend to fall apart and develop poor form; rudbeckias flower for several weeks but they often develop unsightly powdery mildew.

One of the lowest-maintenance perennials is the daylily, but each individual plant has, in the past, produced flowers for only a few weeks. In recent years, there has been a great breakthrough in daylily breeding. 'Stella de Oro' daylily was introduced a few years ago, and is now widely available. 'Stella de Oro' ("Star of Gold") is a low-growing daylily, forming a clump about 18" tall. It produces yellow flowers very reliably from late May or early June through September. It's an ideal edging plant for a flower bed. Spaced 16"-24" on center along the edge of a flower bed, these plants will fill in and show good color by the second season. They are extremely hardy and rarely develop any pest problems.

An alternate use for this outstanding perennial is to use it as a groundcover in a full-sun or lightly shaded bed, interplanted with daffodils. The yellow daffodils will give good color in April, and their dying leaves will be covered by the developing daylily plants later in the summer.

Or, why not use a few clumps of 'Stella de Oro' in shrub borders?

Another perennial worth considering this spring is the mum, or garden chrysanthemum. More and more greenhouse growers are producing fall-flowering garden mums in spring, as 4" potted flowering bedding plants. These mums can be placed on the clubhouse dining tables for a week, then set outdoors in full flower, then cut back in early summer and pinched periodically until early July to promote

well-branched plants. The plants will flower again in fall.

Plant breeders have developed garden mums that flower early enough to give good color before frost, and many of them are quite hardy. Of course, to be certain that they will survive the harsh Midwest winter, you will want to mulch them. On the other hand, consider the fact that you purchased them as 4" flowering plants and they flowered a second time — perhaps you've already gotten your investment back from them.

White lilies have traditionally been considered marketable only at Easter. Growers estimate their production needs and grow enough potted lilies for the holiday, and often throw out or drastically mark down the price of those that don't sell for Easter.

Easter lilies are very hardy and durable perennials. If you see some on sale after Easter, buy them to plant into the back of your flower borders. Plant them a little deeper than they sat in the pots, cut the stems back to about 6" from the ground, and let the plant grow. They will send up another flower stalk in late summer, and will faithfully flower each year after.

Don't limit yourself to white lilies. Many hybrid lilies are available, in stunning colors. Asiatic hybrids such as 'Enchantment' (orange), 'Fire King' (scarlet), 'Connecticut King' (golden yellow) and 'Rosita' (dusty pink) are often potted up and sold in the spring by garden center and nursery operators. They produce clusters of large flowers on 20" to 24" stems. Plant clumps of them in groundcover beds in light shade, or in the back of your annual flower beds, or among the shrubs in a border.

Many perennials flower the first year from seed, but one has one special recognition this year. 'Snow Lady' Shasta daisy is an All-America Selections winner for 1988. It is the earliest Shasta daisy to flower on a dwarf plant. It reaches a height of 10", and produces 2½" white daisy flowers with yellow centers just sixteen weeks after the seeds are sown. Once in flower, it continues to produce blossoms until frost.

'Snow Lady' performs best in full sun. Try planting a line of them on 10-12" centers along the front of a flower garden. They will produce a perennial edging plant that will reliably flower each summer from mid-June until frost. Many growers are producing 'Snow Lady' this season.

THE NEW ANNUALS

Flowering cabbage and flowering kale have always attracted a great deal of attention in the autumn, when the falling night temperatures cause the plants' leaves to change from bluish-green to purple, pink or white. Unfortunately, these plants have always been rather unsightly until that time in the fall when they turn color. Newer cultivars of both flowering cabbage (broader, more open, less frilled leaves) and flowering kale (often somewhat tighter plants with frilled leaf edges) are more compact, staying attractive all summer and then becoming quite spectacular in the fall. They're worth a try.

Rather than planting them in the spring, why not plan for them this fall? Plant your flower beds as usual this spring, and contract with a grower to produce 5" or 6" pots of flowering cabbage and flowering kale to put in around the time the other annuals start to droop. They will give excellent color for several weeks after hard frost. Try a few around the clubhouse and in shrub borders.

Cannas are a traditional tender perennial seen in many public parks. The older types are 4' to 5' tall, often with very coarse-textured dark bronze leaves. These plants start to flower in midsummer and continue reliably until frost. Although the giant cannas are quite attractive, their size and boldness make them somewhat difficult to use. Why not try the smaller cannas? 'Los Angeles' is pale pink, and 'King City Gold' is pale yellow; both grow to be 3' tall.

The dwarf cultivars like 'Lucifer' (24" tall, red-and-yellow bicolor) and 'Primrose Yellow' (24" tall, solid yellow) are even easier to combine with other

flowers in the garden. Try them with blue salvias, blue agertums, or red geraniums.

When you think of planting annuals in a shady garden, you probably first think of impatiens. This excellent bedding plant can be highlighted with other outstanding tender perennial, the caladium. Caladiums have large heart-shaped leaves with red, pink or white markings. The plants reach a height of 16" to 18", and the clumps of broad colorful leaves rising from the ground are very tropical in appearance. Caladiums require evenly moist soil and medium shade — perfect for planting with impatiens. Select a good white-leaved cultivar like 'Candidum,' the most popular white type. Or try some of the newer types, with "strap" leaves. The leaves of these types are narrower and more numerous. 'Miss Muffet' has broad white markings along the leaf veins, with red speckles over the leaf surfaces. 'Red Frill' has leaves that are deep red, with green margins.

Among the other annuals to consider for this year's flower beds are herbs. Herbs have made a comeback in popularity in the past few years, and should be in good supply this spring. Look for ornamental basil such as Spicy Globe, which forms a 10" mound of tiny green leaves, or any of the red-leaved types. Red-leaved lettuce such as 'Red Sails,' a recent All-America Selections winner, and extra-curved parsley are also very attractive along the edge of flower gardens.

Two annual flowers were awarded All-America Selections honors for 1988. The first is Celosia 'New Look'. 'New Look' produces dwarf plants, about 10" to 14" in height and 8" to 10" in width. The foliage is vivid bronze and

the 4"-long plume-like flowers are scarlet. 'New Look' is the first dwarf celosia with bronze foliage. Celosia has long been popular for its ability to continue to produce flowers under hot conditions, either droughty or humid.

The second annual that was given an AAS award for 1988 is a petunia, 'Ultra Crimson Star.' The award given to this plant is AAS' first Bedding Plant Award, which implies superior performance both in the greenhouse and in the garden. 'Ultra Crimson Star' is a grandiflora petunia, with large crimson flowers decorated by a uniform white star pattern. It flowers early and has good recovery ability after stress. Try it with a blue salvia or a blue ageratum for a red, white and blue garden.

A NEW PRODUCT FOR HANGING BASKETS

Water-absorbing polymers were introduced into the greenhouse industry many years ago, and have shown some potential for outdoor plantings as well. The dry crystals are first hydrated and then added to soil mixes, where they store water for later use by plants. They are capable of holding up to 400 times their weight in water, and over 95% of it remains available to plant roots.

Think of the potential of such a product for outdoor hanging baskets! It could reduce your watering tasks by perhaps half. When you contract for hanging baskets this spring, discuss the water-absorbing polymers with your grower and recommend that they be used. You might try the gel crystals in half your baskets and containers, to make some comparisons under your own conditions.



COUNTRY CLUB greenskeeper

- Homogenous Granulation
- High Methylene Ureas (W.I.N.)
- Balanced Feeding
- Fits Your Budget

Gregory Senst
608-238-9715

ROY G. ZEHREN PH: (414) 242-5740 NATURAL ATHLETIC TURF INC.

GOLF COURSE RENOVATION & NEW CONST.

Specializing In

Green & Tee Renovation & Rebuilding
USGA & "Purr-Wick" Systems

"NEW METHOD" DRAINAGE SYSTEMS

Also: ASTROTURF CH-4 "DRAG MATS"

BY CONTRACT OR "T & M" BASIS

11040 N. Buntrock Ave. Mequon, WI 53092

MILORGANITE

A WISCONSIN ORIGINAL

Slowly released natural organic source of
nitrogen—phosphorus—iron
Granular—Easily Spread—Non-burning
Just right for Dormant Fertilization
Trouble-free Spreader Calibration
Ready Availability—Low Cost
Bulk or Bag Delivery

Ask us about sprayable fine grade for greens and tees.

Wisconsin Turf Equipment Corp.

P.O. Box 708
1917 West Court Street
Janesville, WI 53545
(608) 752-8766

Milwaukee Metropolitan

Sewerage District
735 North Water Street
Milwaukee, WI 53202
(414) 278-2034

Horst Distributing, Inc.

444 North Madison Street
Chilton, WI 53014
(414) 849-2341



LEARNING THE TERMINOLOGY

By Dennis Thorp

Fortunately, I took the first draft of this article to your conscientious editor for proofreading, and watched him struggle to get through it. The problem, it soon became clear, wasn't that he didn't like it — he didn't understand one word of it. It might as well have been written in Russian — the language was that foreign. We finally decided to start by defining certain commonly used terms. I would like to make one thing perfectly clear: computers are very difficult to understand, but not difficult to use. When I was selling computers, the average customer could be doing useful work within 30 minutes and difficult tasks within a few hours. Understanding exactly how the computer works is not necessary, but understanding some of the terminology is, if we are to make intelligent, informed buying decisions.

To illustrate my point, I am going to reproduce a portion of an ad that appeared in the January 20th edition of the *Wisconsin State Journal*:

XYZ Brand XT Turbo

Switchable 4.77/8 MHz, 256K (expandable to 640K), 360K floppy, 20MB Seagate, Monographics card & Monitor, 150W power supply, AT-style keyboard, 1-year warranty

Grand Opening Special \$899.00

XYZ Brand AT

Switchable 6/10 MHz, 512K (expandable to 1MB), 1.2 MB floppy, 200W power supply, AT-style keyboard, 1-year warranty.

- with 20MB Seagate, Monographics card & monitor \$1,499.00

- with 20MB Seagate, EGA card & monitor \$1,949.00

This ad provides all the necessary facts for an informed buyer to make an intelligent purchasing decision about these machines, and by the end of this article, the reader will hopefully understand this information.

WHAT IS A COMPUTER?

At the heart of every computer is a **central processing unit** (or CPU)

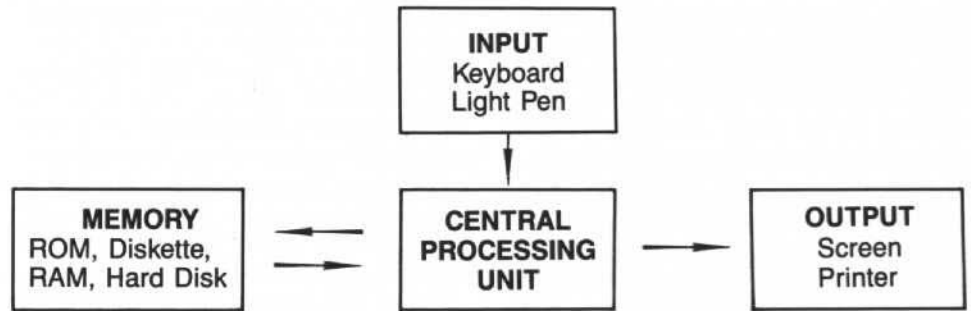


Figure 1. The main components of a computer.

which performs the commands you specify. This unit carries out arithmetic, makes logical decisions and so forth. In essence, the CPU is the "brain" of the computer. The **memory** of a computer allows it to "remember" numbers, words and paragraphs, as well as the list of commands you wish the computer to perform. The **input units** allow you to send information to the computer; the **output units** allow the computer to send information to you. The relationship of these four basic components of a computer are shown in Figure 1.

In a Personal Computer (PC), the CPU is contained in a tiny electronic chip, called a **microprocessor**. As a computer novice, it will not be necessary for you to know about the electronics of the CPU, but it is necessary to know that the type of microprocessor is one of the main distinguishing characteristics of the different types of computers. Figure 2 will hopefully clear up some of the confusion about the PC, XT, AT and 386 machines. For now, view the CPU as a magic device somewhere inside the case of your computer and don't give it another thought!

To keep things simple, I will refer to all models and brands of personal computers as "PC's". No reference to the IBM Personal Computer is meant, unless I specifically word my remarks that way. The main input device of the PC is the computer keyboard. We will discuss the special features of the keyboard at a later time. For now think of the keyboard as a typewriter. By typ-

ing symbols on the keyboard, you are inputting them to the computer.

The PC has a number of output devices. The most basic is the "TV screen" (sometimes called the video monitor or **video display**). You may also use a printer to provide output on paper. In computer jargon, printed output is called **hard copy**.

There are four types of memory in any PC: **ROM**, **RAM**, **hard disk**, and **diskette**. Each of these types of memory has its own advantages and disadvantages. I will attempt to make the memory as versatile as possible by combining the good features of each.

ROM stands for "read only memory." This type of memory can be read by the computer (that is, the CPU), but you cannot record anything in it. The ROM is reserved for the computer language which the CPU utilizes. This language will be discussed later. For now, just remember that ROM contains the information necessary for the computer to understand your commands. This information is pre-recorded in the factory and is permanently situated in ROM.

RAM stands for "random access memory." This is the memory which you can write into. If you type characters on the keyboard, they are then stored in RAM. Similarly, results of calculations are kept in RAM awaiting output to you. There is an extremely important feature of RAM which you should remember:

****Important: If the computer is turned off, then RAM is erased****

Therefore, RAM may not be used to store data in permanent form. Nevertheless, it is used as the computer's main working storage because of its great speed. It takes about a millionth of a second to store or retrieve a piece of data from RAM.

To make permanent copies of programs and data, we may use either the hard disk or the diskette file. A diskette drive records information on flexible diskettes which resemble phonograph records. The diskettes are often called "floppy disks" or just "floppies", and they can store several hundred thousand characters each! (A double-spaced typed page contains about 3,000 characters.) Diskette drives come in different sizes and capacities. The eight inch disk was once common, but is seldom seen anymore. The five and one quarter inch disk has been the standard for the last several years, and some machines are now coming with three and one half inch disks. Remember that "K" is shorthand notation for Kilobyte, or 1024 characters. Round that off to 1000 for simplicity. A Megabyte or "MB" is one million characters. The standard disk drive used to be the 360K. This is a 5¼" Double Sided Double Density (DS DD) drive. Then came the 1.2 MB drive. It looks like the same physical size, but it is Double Sided Quad Density (DS QD). The 1.2 MB drives can usually read 360 K diskettes, but it doesn't work the other way. The newest entry is the 3½" drive and it too has two capacities: 720 K and 1.4 MB. This is not meant to confuse you, only to begin to bring up the "compatibility problem." If Superintendent A has developed programs he wishes to share with Superintendent B, they may be out of luck if their diskette drives are of a different size and capacity. Beware of this one!

Now I am going to jump on two of my "favorite" terms: "User friendly" and "State of the Art". In the early 1980's, every PC and piece of software tried to describe itself as "user friendly" to convey to the consumer that it was easy to understand and use. **Doonesbury** had a whole series of cartoons based on that term alone. Many early purchasers became very disillusioned when they found that neither the hardware nor the software was "user friendly" as advertised. One of the popular brands is being marketed as "state of the art". You might well ask "from what year?" In researching this article, I had more fun with this part

than any other. I was also more outraged! It turns out that what they have done is take 1981 technology, in the case of the IBM model 25 and 30, stick it in a new case and call it "state of the art". The model 50 is 1984 technology and only when you get to the model 80 do you get 1987 technology. The prices are about three times too high on all models, in my opinion. Those of you who require "name brand" recognition would do well to shop around and read a little before jumping into a purchase. Even your vendors may have been seduced. Refer back to Tom Harrison's article on the "will-fit" market in the last issue of the *Grassroots*. There is a "will-fit" market in microcomputers, also. I also discovered that for \$99.00 I could install a 3½" 720K drive in my present computer and then I too would have a "state of the art" machine.

Hard disks have followed a path similar to the floppy diskettes. With a hard disk, the storage media is permanently sealed into a case and that case is then installed in your machine. Dust and dirt particles cannot get at it. That is one of the reasons I recommend them for use on a golf course. Floppy drives eventually get dirty and then you will "eat" your disks and destroy the information on them. Hard disks are defined by a size and an access time. For example: 20 MB (65 MS) — 20 megabyte storage capacity with an access time of 65 milliseconds. Larger capacities and faster access times are correspondingly more expensive.

Now I hope you have enough information to interpret the ad at the begin-

ning of the article and in Figure 2. Let's go through them step by step: Any PC that says it is PC or XT compatible has a microprocessor designated as an 8088 and can slow itself down to 4.77 MHz (Megahertz). That is the clock speed of the original IBM PC. Most programs will run perfectly well at faster speeds. XT is shorthand for "Expanded Technology". The 8086 in the IBM PS/2 Model 25 and 30 is a brother of the 8088. Any AT (Advanced Technology) compatible machines have an 80286 microprocessor and speeds vary from 6-16 MHz and any machine that has 386 in the name has an 80386 processor. Remember that the 8088/8086 machines were available in 1981, the 80286 machines available in 1984 and the 80386 was released in 1987, unless you are IBM and then you discontinued the PC, XT and AT in 1987 and rereleased them as the different models of the Personal System 2.

Back to my examples: 256K and 512K refer to the amounts of RAM on the motherboard (main system board inside the box, containing the CPU and the microprocessor). 360K and 1.2MB refer to the sizes of the 5¼" floppy drive included and 20MB Seagate refers to the size and brand name of the hard disk. Monographics refers to the Green or Amber monitor that comes with the system and that it will display graphics on the screen. Not all monochrome cards will display graphics on the monitor and it is a desirable feature. The size of the power supply, keyboard style and warranty information are self explanatory, with this

Figure 2.

	\$599	\$999	\$1,250	\$2,450
Base System	PC-XT Compatible Turbo System	PC-AT Compatible Turbo System	PC-AT Compatible Super Turbo	PC-AT 386 Compatible Super Turbo
Intel processor:	8088	80286	80286	80386
Speed:	4.77/8.1MHz	6/10MHz	10/12MHz	16MHz
RAM on motherboard:	640K	640K	640K	1024K
Floppy drive:	360K	1.2MB	1.2MB	1.2MB
Power supply:	150W	220W	220W	220W
Keyboard style:	PC-AT 84 Keys	AT Deluxe 101 Keys	AT Deluxe 101 Keys	AT Deluxe 101 Keys
Monitor:	12" high-resolution monochrome graphic monitor with swivel base			
Printer port:	Parallel Parallel, Serial & Clock Calendar card			
Additional features:	Hercules Compatible Monochrome graphics card Full documentation; 10 Omni Disks preformatted for PC; FREE software			
Mono Graphic System with Seagate Hard Drives				
20MB (65MS)	\$ 939	\$1339	\$1590	\$2790
30MB (65MS)	\$ 997	\$1397	\$1648	\$2848
40MB (28MS)	\$1174	\$1575	\$1825	\$3025
60MB (39MS)	\$1249	\$1649	\$1900	\$3100
EGA Color System	\$1070	\$1470	\$1721	\$2921
• Basic System features plus				
• Enhanced graphics adapter				
• 14" EGA color monitor				
with				
Seagate Hard Drives				
20MB (65MS)	\$1410	\$1810	\$2061	\$3261
30MB (65MS)	\$1468	\$1868	\$2118	\$3319
40MB (28MS)	\$1645	\$2045	\$2296	\$3496
60MB (39MS)	\$1720	\$2120	\$2371	\$3571

note: The original IBM PC came with a 63 watt power supply and those desiring to install a hard disk must also replace the undersized power supply.

I have gone way longer on the topic of hardware than I originally intended, but I feel that this amount of detail is necessary background information before we get into the more interesting topics of "what the machine can do for us as superintendents" and "what software will help me". One comment on software before I close: There are literally thousands of software programs available and they all have some use. It is kind of like choosing a mate — there is no accounting for taste. As a matter of fact, my wife and I use different word processing programs. Hmmm?

Tentative topic for next issue: Telecommunications and the "Turf Grass Information File".

FOR SALE

Hahn Tm-140 Aerifier. 6', pull behind or 3 pt. hitch. Call Creekwood Farms, Inc. Ask for Loren. 414/648-2377.

FOR SALE: Two 1986 Toro 450-D Fairway Mowers, excellent condition, used only one season, will separate, asking \$27,000 each. Illinois. Please contact Joel, (312) 941-1651.

GOLF COURSE SUPERINTENDENT

Maple Grove Country Club
Twelve-month position at 18 hole golf course. Position available immediately. Salary negotiable plus benefits. Contact Gary Isakson, Route 1, West Salem, Wisconsin 54669. Phone (608) 786-1500.

GOLF COURSE SUPERINTENDENT

Prairie du Chien Country Club
Contact Mr. Guy Ralph, 111 East Glenn Street, Prairie du Chien, WI 53821. Phone (608) 326-2829.

JOB OPENING

Head equipment service technician; Westmoor Country Club, Brookfield, Wisconsin. Open immediately.

— Be part of a progressive implementation program in golf course management

— Opportunity to grow professionally and to be a leader in your field.

— Annual salary, benefits and vacation will vary depending on personal skills, experience and/or schooling.

CONTACT:

Jerry Kershasky
Westmoor Country Club
400 South Moorland Road
Brookfield, WI 53005
(414) 786-0351

ASSISTANT

GOLF COURSE SUPERINTENDENT

Quincy Country Club
Quincy, Illinois
Twelve-month position starting June 1 at \$15,000 plus fringe benefits. Contact Randy Van Fleet at: (217) 223-4045.

**Scotts most
successful product is
not available for sale...**

**only for advice and
support... your ProTurf Tech Rep.**



Dick Evenson
Senior Technical Representative
ProTurf Division
O.M. Scott & Sons

443 Woodview Drive • Sun Prairie, Wisconsin 53590
Telephone: (608) 837-6563

Turf-Type
Perennial Ryegrass

Still the Best

That's right. For the second year in a row Palmer turf-type perennial ryegrass scored number one in the National Ryegrass tests conducted by the U.S.D.A. coast to coast:

U.S.D.A. National Perennial Ryegrass Test Turf Quality 1-9 (9 = Best)

Variety	2-Yr. Avg.	Variety	2-Yr. Avg.
Palmer	5.9	Derby	5.5
Gator	5.9	Yorktown II	5.4
Prelude	5.8	Cowboy	5.4
Repell	5.8	Pennfine	5.3
Tara	5.8	Diplomat	5.3
Premier	5.7	Regal	5.3
Citation II	5.6	Barry	5.2
Manhattan II	5.6	Delray	5.2
Blazer	5.6	Omega	5.1
All Star	5.6	Elka	5.1
Ranger	5.6	Manhattan	5.1
Birdie II	5.5	Citation	5.0
Fiesta	5.5	Linn	3.4
Pennant	5.5		

It's no wonder courses like Bay Hill in Florida, Shinnecock in New York, PGA West in California and Sahara in Nevada are only a few of those that are demanding the excellent performance of Palmer.

As a turf professional wouldn't it be nice to know you're using the best? Use Palmer.



"Kellogg's supplied us with Palmer and other quality seeds that we needed. Kellogg's personnel are experienced and their recommendations and service is excellent."

—Wayne Otto
Supt. of Ozaukee Country Club



Kellogg Inc.
Seeds & Supplies
322 East Florida Street
Milwaukee, Wisconsin 53204
(414) 276-0373

1-800-792-3504 ext. 492