

Which aeration hole is better for your greens?

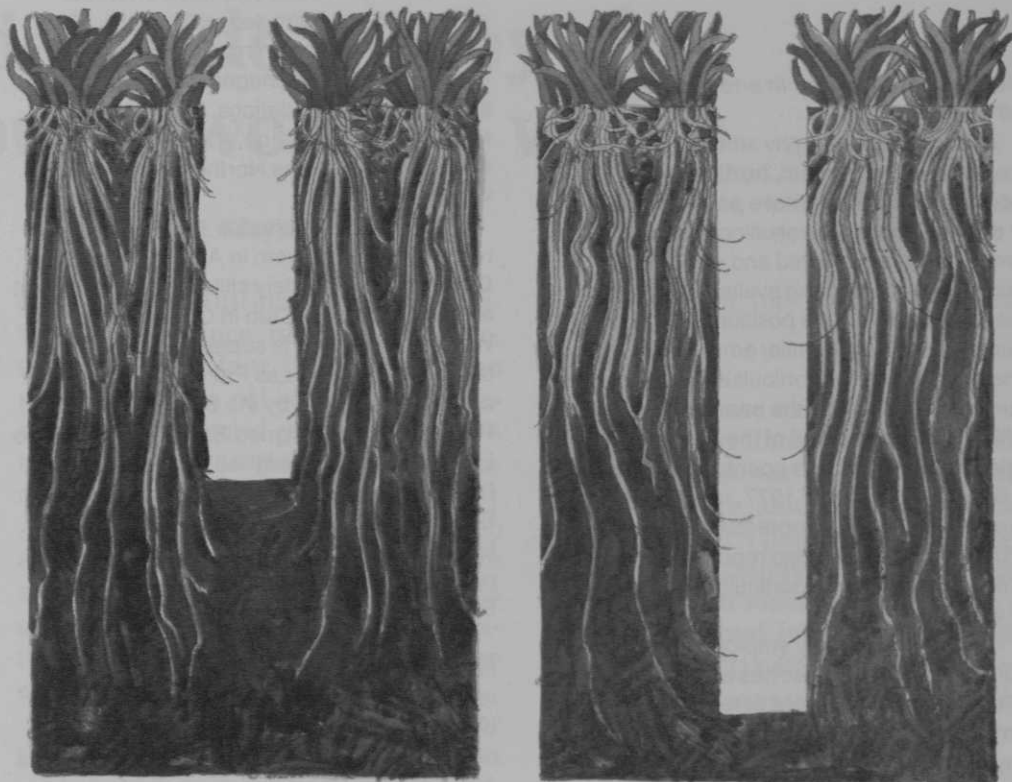
The answer, if you haven't already guessed, is the Greensaire II hole. And for good reasons.

One, it's deeper. The primary objective of aeration is to help air, water and fertilizer penetrate the soil. The Greensaire II removes cores up to 3" deep, allowing these vital nutrients to reach the root zone where they're needed.

The fact that there are 36 of these deep holes per square foot means that you also remove more soil. This not only relieves the toughest compaction problems, but it also allows you to replace more of the old, depleted soil.

The Greensaire II hole is precise. It won't affect the roll of a golf ball, so your green is back in play sooner. You can aerate most greens in 45 minutes or less.

And when you use the Greensaire II, you can also use the unique Ryan Core Processor attachment. It catches the



cores, separates good soil from debris, puts the good soil back on top, and bags the debris. You aerate, top dress and collect thatch in one operation.

If you want these same fine aerating qualities, but on a smaller scale, choose the Greensaire 16. It aerates a 16" swath instead of a 24", uses the same selection of tines

and has a convenient windrow attachment that makes core removal easy.

Of course, like all Ryan equipment, these machines are built to last. So when you aerate, don't just scratch the surface. Get the deep penetration you need with the Greensaire II, Greensaire 16 and Core Processor.

Write for your free Ryan catalog today.



Ryan Greensaire II. The turfman's timesaver.

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78-CUR-1

Clippings

Brief bits of news from in and around the golf business. . . .

According to a lengthy article in *The Wall Street Journal* last month, **horticulture is becoming one of the more popular majors for college students**, resulting in a great number of green oriented and educated young people becoming available for summer jobs as well as full-time positions with golf courses, parks, and similar employers. The American Society of Horticultural Science, the *Journal* reported, says the number of horticulture majors in 48 of the largest departments around the country grew to 10,637 by the spring of 1977, up from 1,577 ten years earlier. That represents an increase of 575 percent. It was also reported that "half or more of the nation's horticulture students are women."

For workers already employed by golf courses, Cushman-Ryan has announced its **1978-79 national service school curriculum**. Ivan Vagts, national service manager for the turf care equipment manufacturer, said four 5-day basic Cushman courses will be held in Lincoln, Neb., beginning November 6, December 4, January 8, and January 29. One Ryan training session will run February 19-21. The Ryan course will highlight aerification and sod cutter equipment. Cushman programs range from basic engine repair to study of electrical systems.

All of the above programs are open to any Cushman-Ryan customer; preregistration fee is \$25. Contact Cushman-Ryan, Service Department, 920 North 21st St., P.O. Box 82409, Lincoln, NE 68501.

Kern Turf Supply Co. of Bakersfield, Calif., has become a full-line **franchised distributor for Rain Bird** Sprinkler Mfg. Corp. Owned by Bill Zing and Rudy Barrera, the firm sells irrigation equipment for golf courses and other applications.

Owners of **Ditch Witch** model C, M, 1500, J20, 2200, V30, and R30 machines can now get plastic-laminated "operating tips" instruction cards to provide quick, job-site reference for machine operators. A separate card is available for each machine; each is waterproof and abrasion-resistant and can be attached to the machine with the nylon strap provided. See your Ditch Witch dealer or contact The Charles Machine Works, Inc., P.O. Box 66, Perry, OK 73077.

TUCO, division of The Upjohn Co., offers a free 16-page situation report titled **Grub Control in Turf**. The report discusses the problems caused by soil-inhabiting insects such as white grub, billbug, Japanese beetle, European chafer, May beetle, and others — then suggests means to control them. Among many illustrations is the life cycle, depicting treatment. Write to TUCO, Dept. 9823-190-1, Kalamazoo, MI 49001.

Full particulars on **Regal perennial ryegrass**, a new turf-type variety from North American Plant Breeders, are presented in a free brochure which comes in two versions. One focuses on golf course applications in the South, with particular emphasis on winter overseeding of warm season grasses. The other, for Northern turf managers, deals with college trail data, management specs, and cultural recommendations. Write to NAPB, P.O. Box 2955, Mission, KS 66205. Specify whether you want the Northern or Southern version.

Contrary to erroneous information relayed via this column in August, **Emilio Castorena** is definitely still the superintendent at Sunrise Country Club in California. Ty Weldon Thompson is superintendent of two courses at Rancho Las Palmas. All three courses are owned by the Sunrise Co. Ted Robinson, who designed Sunrise and Rancho Las Palmas, also designed the new 18-hole, 6,200-yard-plus course due to open under Sunrise ownership at Monterey CC after the first of the year, according to Warren Smith, newly appointed director of golf for the Sunrise Co.

The American Registry of Certified Professionals in Agronomy, Crops and Soils recently awarded **Richard Hurley**, research director of Lofts Pedigreed Seed, Inc., his certification as a professional agronomist. The American Society of Agronomy organized the registry about a year ago; certification requirements are strict and necessitate extensive educational and practical backgrounds for those hoping to become certified.

Johns-Manville Sales Corp. has appointed **Paul R. MacDonald** manager of marketing of its Ag-Turf Department, headquartered in Fresno, Calif. He will be responsible for marketing, product development, and sales of Buckner irrigation system products and Febco backflow prevention devices. He has a rich background in the sport and the business of golf, having served as vice president of sales and marketing for Dunlop golf products, president of the National Golf Foundation, president of the Golf Ball Manufacturers Association, and on the staff of the United States Golf Association.



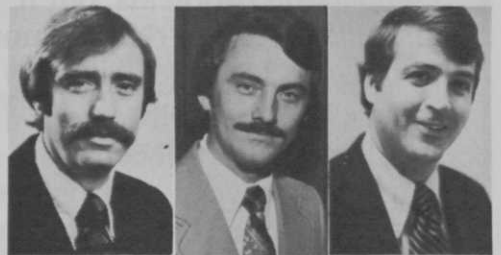
Hurley MacDonald Pyle

Sandi Pyle has been named communications coordinator for OMC-Lincoln, which markets Cushman maintenance vehicles and Cushman-Ryan professional turf maintenance equipment. Working in the firm's Lincoln, Neb., headquarters, she will be responsible for public relations, national trade shows, dealer

field days, and Yellow Page advertising.

Lakeshore Equipment & Supply Co. has appointed **Arthur D. Wick** northeast regional sales manager for its LESCO Products Division. Wick has been the company's top salesman for the past 3 years and has been in the turf industry for 18 years. He is a past president of the Pennsylvania Turfgrass Council. His area of responsibility now includes Northeast Ohio, Pennsylvania, New York, Connecticut, Massachusetts, New Jersey, Maine, New Hampshire, Rhode Island, and Vermont.

Polaris E-Z-Go, golf car manufacturing division of Textron, Inc., announced a number of personnel changes last month. **William C. Gaddis, Jr.**, formerly advertising and sales promotion manager, was promoted to merchandising manager. **Bruce D. Rushton**, formerly special products manager, was promoted to manager of product planning and development. And two sales managers were promoted to field sales managers: **Dale S. Chaney** and **J. Michael Stokely** will direct sales activities and act as liaisons between the golf car firm and its independent distributors in the United States and Canada.



Gaddis Chaney Stokely

October 15-18 are the dates of the 26th annual **Florida Turf-Grass Association Conference and Show**. The place: Sheraton Towers Hotel & Conference Center, Orlando. As of mid-July, 70 exhibitors had signed up for booths in the exhibit hall and a "research review" session highlighting the year's research projects has been scheduled for the 18th. Other sessions will cover turfgrass selection and adaptation, RPAR's and turf pesticides, water regulations, and worker motivation. Contact FTGA, 1520 Edgewater Dr., Suite E, Orlando, FL 32804 (phone 305/425-1581).

The Southern California Turfgrass Council holds its 18th annual **Turfgrass Equipment & Materials Educational Exposition** at the Orange County Fairgrounds in Costa Mesa, October 18-19.

The 23rd annual **Southwest Turfgrass Conference** will be held October 19-20 in the auditorium and classrooms of the Texas A & M Agricultural Research Center in El Paso. It will conclude with a golf tournament the afternoon of Friday, October 20.

The 13th annual **Wisconsin Golf Turf Symposium** will be held October 25-26 at the Pfister Hotel in Milwaukee. This year's speakers will include superintendents Bobby McGee, Ted Woerhle, Garold M. Murphy, and Old Bill Lyons—plus Dr. Alfred Turgeon, golf pro Harold Sargent, and USGA Green Section Regional Director Carl Schwartzkopf.

golf business

Nationwide survey of golf course workers' wages

by David J. Slaybaugh, editor

Of all the factors which make up a golf course maintenance budget, by far the single largest item is labor. In fact, in most instances, a course will spend more for labor than for all other maintenance costs combined.

The golf course superintendents who participated in the 1978 "Profile of the Industry" survey conducted by this magazine reported that they spent an average of about \$38,000 for course maintenance last year, excluding labor — compared to an average of about \$46,000 for labor alone.

Furthermore, it appears as if golf course maintenance will continue to become more labor-intensive in the future, as workers demand pay increases to keep up with the climb in the cost of living. The federally mandated minimum wage increases from \$2.65 to \$2.90 per hour as of January 1, 1979 — which will undoubtedly trigger another round of pay raises for most workers.

A fresh appraisal

To gain further insight into the current situation of golf course maintenance workers, GOLF BUSINESS sent questionnaires to a thousand superintendents across the country, asking them to supply some basic information on their labor costs. We received 178 responses from superintendents in 44 states, so the results should paint a quite accurate picture.

Our survey respondents represent a good cross-section of golf courses and superintendents. Thirty percent of them remain open for golf year-round, but the average response for length of season was 9 months. The courses represent a good mix of municipal, daily fee, resort, and private operations, though there is large percentage of private clubs. (We give you this background data so you can keep it in mind when comparing the survey results with figures for your own course.)

How do you compare?

Superintendents surveyed employ an

average of six full-time and four part-time maintenance people in season, and average of four full-time and one part-time in the off-season. These responses correspond quite closely with those from the 1978 Profile of the Industry survey, though that survey showed that the usual private club and resort course has more than the average, and the normal daily fee course has less. Municipal golf operations stick pretty close to the average number of workers.

Total maintenance labor costs for the 178 courses in this survey came out slightly higher than in the earlier survey, but remember that this group of respondents includes 56 percent private clubs.

Median response (that is, the figure below which are half the answers and above which are half the answers) for total labor costs was \$61,947. The mean (arithmetic average) was \$75,525 — but GOLF BUSINESS Research Manager Clarence Arnold said this was affected by eight courses which reported abnormally high figures (such as a resort course with 25 full-time employees). When he omitted those atypical courses, the modified mean was \$65,739.

The mean for municipal courses was \$79,435.

Unions increase costs

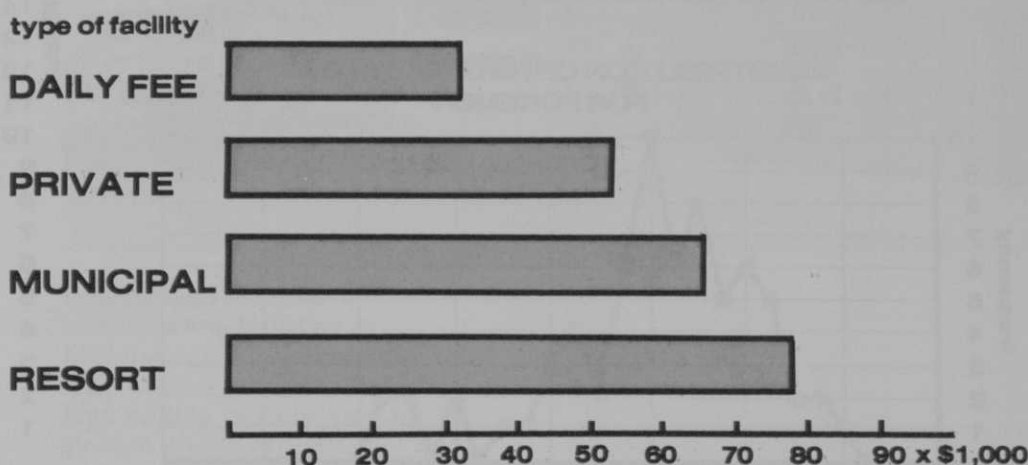
Course superintendents were asked to indicate whether their golf course workers were unionized: 8.6 percent said "yes," 91.4 percent said "no." But on those 12 courses where the workers are union members, the mean response for total labor costs was \$88,953. That is \$13,428 higher than even the greatest overall mean — a difference in costs of almost 18 percent.

When queried about the percentage of their labor costs represented by fringe benefits, the superintendents gave an average figure of 9.3 percent. At the municipal courses surveyed, fringe benefits amount to 14.8 percent of total labor costs — and at the dozen unionized courses, fringe benefits eat up a whopping 20 percent of the labor dollars.

Fringe benefits most often mentioned by superintendents at all types of courses were paid holidays and paid vacations — although it is rather hard to believe that 30 percent or more of the courses still don't give their employees paid days off. The

MAINTENANCE LABOR COSTS

per course, 1977



Source: 1978 GOLF BUSINESS survey

amount of paid vacation averaged out to 7 days.

Health insurance is provided by 61 percent of the courses surveyed, and sick leave by only 52 percent. These were followed by life insurance (39 percent), disability insurance (37 percent), and a pension plan (30 percent). Other benefits provided by one or a few courses for their workers include uniforms, bonus, playing privileges or membership, meals and/or housing, credit union, profit sharing, education benefits, and dental insurance.

Pay scales

GOLF BUSINESS asked the superintendents for the rates they paid their assistant superintendents, foremen, mechanics, and course workers. You can see from the graphs accompanying this article that the distributions of answers to these questions was fairly symmetrical except for a handful of courses which pay relatively high wages.

The median response for assistant superintendents' annual salaries (the

way this figure was most often quoted) was \$10,816. The mean response was \$10,975. Among municipal courses, the mean was \$11,830. Among unionized courses, the mean rose substantially to \$14,224.

Other pay scales were most often expressed as an hourly rate, so are reported here that way. For foremen, the median response was \$4.81 per hour; the mean, \$4.91 per hour. Again, the pay was reported to be higher at municipal and union courses: \$6.04 and \$6.37 respectively.

Mechanics are paid more highly than foremen: the median response was \$4.87 for them, and the mean was \$4.99 per hour. At municipal courses this figure went up to \$6.43 per hour, and unionized golf course mechanics get an average of \$6.55 per hour.

Course workers, of course, are paid the least. The median hourly rate for them was reported to be \$3.26, and the mean rate to be \$3.43 per hour. The pay scale for course workers is substantially higher at municipal courses (\$4.81 per hour) and at unionized facilities (\$4.71).

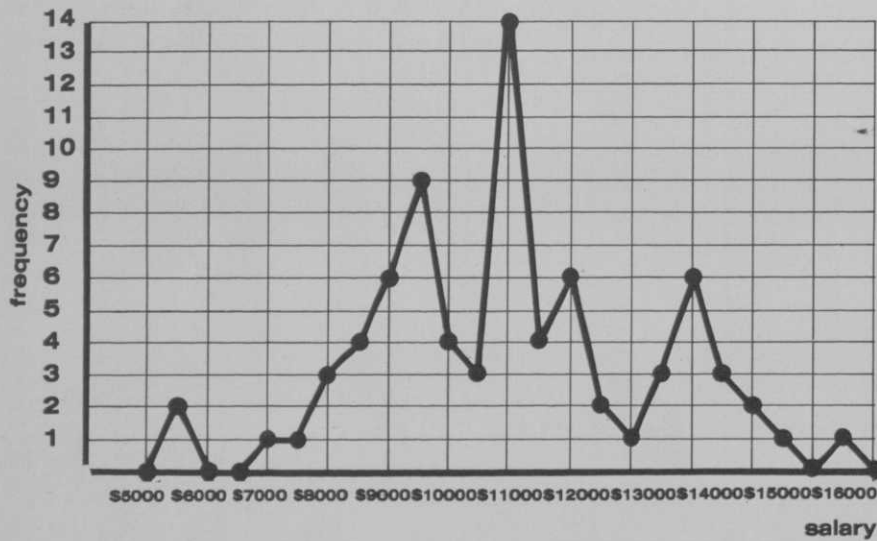
Women workers

Finally, the survey questionnaires included space for the superintendent to write in the number of workers employed in each job function — and how many of those are women.

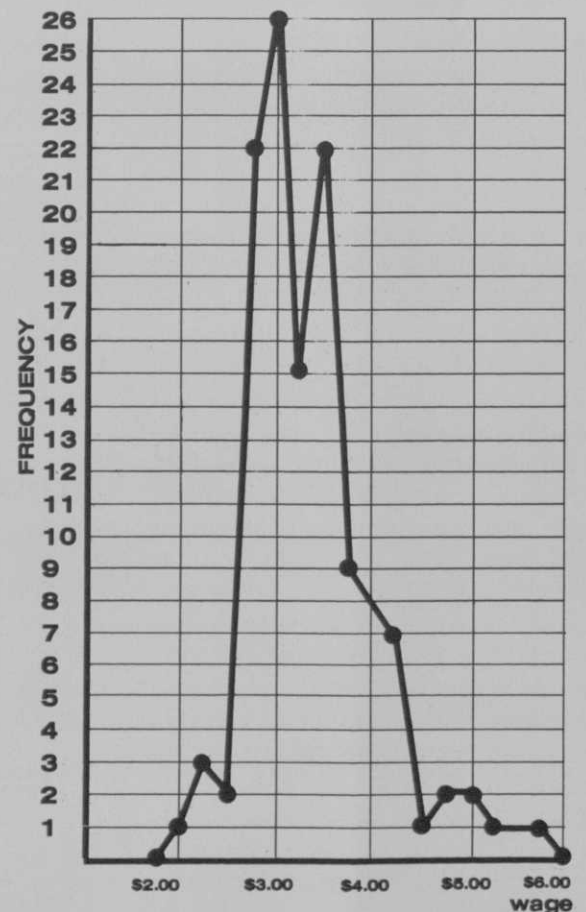
Of 101 assistant superintendents, none are women. One foreman (foreperson?) out of 83 is female, as are two of 104 mechanics. The largest number of women appears in the course worker category, where 57 out of 732 employees listed are female. That represents 7.8 percent of the total. We've been unable to locate comparable data from earlier years, but we'd be willing to bet dollars to doughnuts that the percentage of women course workers was nowhere near that high even 5 years ago.

Needless to say, we'll be watching these figures in the months and years to come and will measure their growth regularly. □

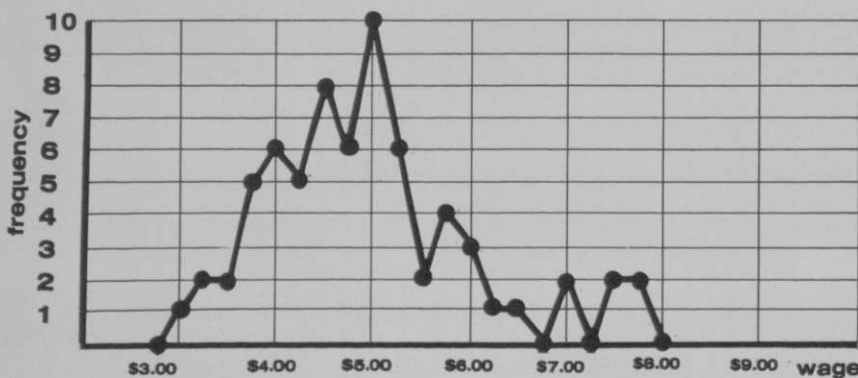
DISTRIBUTION OF ANNUAL SALARIES FOR ASSISTANT SUPERINTENDENTS



DISTRIBUTION OF HOURLY WAGE RATES FOR COURSE WORKERS



DISTRIBUTION OF HOURLY WAGES FOR FOREMEN



The inside story on metal buildings for golf courses

by Robert E. Stevens

How can savings in construction of your new maintenance building be realized when today's building and construction costs are at all-time highs? Metal building systems offer certain economies, from getting the building up and ready to use sooner to reduced maintenance for years after the building is complete.

One big way "systems buildings" can cut costs is by speeding design, bill of materials ordering and acquisition, and field construction. Generally speaking, a systems approach cuts total project time approximately one-third compared to conventional construction.

Structural systems

Golf course superintendents or others involved with the overall management of golf facilities can choose from a wide variety of functional framing systems. Many courses have several canopies conveniently located to provide protection against sudden changes in the weather; canopies consist only of roof panels and structural supports.

Some small buildings, such as Armco's Tec-Line buildings, need no structural framing members through 24 feet in length. Beyond 24 feet, light frames are introduced to extend the building to any desired length. These buildings can house pump stations on courses with elaborate irrigation systems. They can also be used for remote restrooms, separate caddy houses, concession stands, golf car storage, or pro shops.

The most popular of all metal building structural systems are the clear-span designs because of their



Interior and exterior of maintenance building at Middletown's Weatherwax Golf Course in Ohio. Note how high ceiling permits step-up storage above office and stockroom.

Product manager of Tec-Line buildings for Armco Building Systems, Robert E. Stevens has 12 years of experience in the design and construction of metal buildings. He has a degree in civil engineering from the University of Cincinnati.



LEFT: Golf car storage at Brown's Run Country Club, Middletown, Ohio. ABOVE: Clubhouse at Palmetto-Pine Country Club, Cape Coral, Fla., was completed in 6 months.

spacious, unobstructed interiors. These are most likely the type a golf course superintendent would select for storage of maintenance equipment and vehicles. They are ideal for repair work because there are no obstructions caused by interior columns.

Larger buildings, of course, require interior columns for additional support. Beam-and-column structural systems are used by many golf courses for their clubhouses. Armco offers a new single-slope design that allows the aesthetic advantage of a near-flat roof.

Wall and roof panels

An economical and functional framing system is just the beginning of any metal building system. Covering systems — consisting of wall and roof panels — are even more important. After all, a pleasing exterior appearance plays an important part in employee morale and public opinion.

Wall panels, like golf balls, come in varying degrees of quality. The best wall panels are well designed aesthetically and offer low-maintenance service. Armco Steelox wall panels, for example, have a pebble-grained exterior finish to enrich the appearance of the wall and resist accumulation of dirt on the surface. Moreover, Steelox is available in ten Duranar 200 colors. These durable colors are achieved with a factory-enameled fluoropolymer coating to resist blistering, checking, chipping, cracking, flaking, peeling, or excessive color change.

Steelox panels have interlocking ribs to eliminate the need for unsightly through-the-wall bolts or fasteners. These ribs also provide a

convenient stud system for application of insulation or interior finishing materials such as wood paneling, dry wall, or steel interior wall systems.

Roof systems, too, have been designed for improved maintenance performance. Aluminized Steel offers superior weathering characteristics with its high reflectivity to keep summer heat out and winter heat inside the buildings. Because steel has greater strength than aluminum, steel roof panels are better able to resist excessive deflection, a frequent cause of rib separation and consequent leaks. The extra strength of 24-gauge steel provides the ability to absorb impact, thereby providing long-term resistance to foot traffic and movement due to vibration or thermal expansion and contraction. In 1976, Armco introduced its Steelox CF roof which has a concealed fastening method and a nonconducting thermal spacer to provide a dependable covering system with economical thermal characteristics for energy conservation.

Roof and wall panels are assembled with removable nuts, bolts, and sheet metal fasteners. Therefore, when it comes time for expansion, a pre-engineered wall system can be reused. It's a simple matter of removing the original material, adding new structural members and extending the sidewalls. Then, original components are reassembled. Unlike a block or brick wall, there is no loss of materials. And because the pre-engineered panels are standardized, there is compatibility in appearance.

Design/build contracts

Most metal building manufacturers distribute through independent dealers who are usually equipped to co-

ordinate the entire construction project and thereby provide a single-source service.

By negotiating a "turn-key" contract, the building owner can assign the full range of building responsibilities to a single source. These responsibilities can include foundations, mechanical and electrical equipment, interior finishing, fencing, landscaping, and everything else required to make your new facility attractive and efficient. The Armco dealer is organized to design the facility with qualified professionals or assist the golf course's own independent architects or consulting engineers. In the construction phase, the Armco dealer is the general contractor.

With single-source responsibility, a building owner can avoid the frustration, time, and expense normally associated with conventional construction methods. The design and construction phases can be placed on a "fast track" basis for earlier occupancy and lower initial costs for the owner.

Costs

Predictability of cost is another advantage. Major cost factors for facilities are labor, materials, design, and financing. On-site labor represents the largest factor for most construction projects. Hourly labor rates are high and spiraling higher. In addition to high hourly pay for construction workers, many union contracts have nonwage clauses, which call for contractors to include hourly contributions for pension, vacation, health and welfare, and apprenticeship training. Bricklayers, carpenters, electricians, ironworkers, laborers, operating engineers, and plumbers all have different rates. Then there is the question of which building trade members perform that work. Even within the same craft, the rates can vary widely from local to local. The labor factor is the most expensive and most complicated element in estimating the cost of a new building.

Metal building materials account for about 20 percent of the cost of a typical completed facility. But because pre-engineered steel components — structural members, wall panels, and roof panels — are drilled, welded, and cut to size at a factory, field labor costs and jurisdictional problems are reduced to a minimum. Thus, the installed cost of a brick or block wall will often significantly surpass that of a steel wall. The reason, obviously, is that steel panels are bolted together to form a wall in a matter of minutes; the bricks must be laid one by one, a process consuming many more man-hours.

Because machine-made steel components are standardized, the design and specification phase lends itself to analysis by computer. Thus, a computer can order the minimum materials needed and, thereby, reduce the specification workload on the designer.

The speed with which a metal building is completed relates directly to both the labor and financing factors. Quick assembly means that the project is under roof much faster and, therefore, far less susceptible to delays caused by foul weather.

These delays can contribute to a higher labor factor in the cost of construction. Without such delays, inside work — such as installation of electrical wiring, lighting, heating, air conditioning, ceilings, and interior walls and partitions — can begin and end sooner.

The earlier your building is ready for occupancy, the sooner you realize a return on your investment. After all, your original decision to build newer, more efficient facilities was made in anticipation of either making more money or reducing expenses. Another point to be considered with the speed of construction is the financing factor and today's high interest rates.

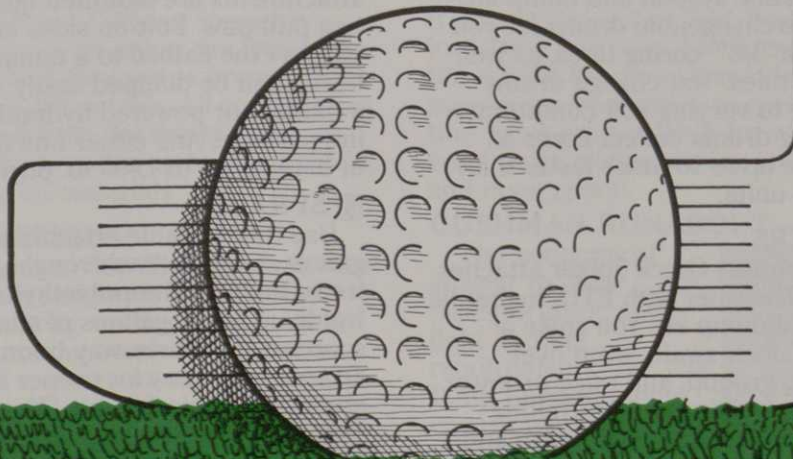
Conclusions

Metal building systems have the design flexibility to meet specific appearance needs and preferences. Initial cost is usually less than conventional construction because computerized design, standardized components, factory production, and ease of construction all combine to minimize original investment. Procedures required for design and construction of metal buildings allow owners to occupy their new facilities several months sooner than with other types of buildings.

Low maintenance and operating costs are possible with weathertight construction, durable color finishes, and easy-to-apply insulation materials. Flexibility of interior layout and attractiveness of exterior design make metal buildings ideal for golf facilities.

Dealers are listed under "Buildings — Metal" in the Yellow Pages. □

IN BENTGRASS, IT'S THE ERA OF EMERALD!



In days past Golf Superintendents selected Seaside...Astoria...or Highland because — when it came to bentgrass — that's all that was available.

Then came Penncross. This truly modern variety is a great turf grass. Its only serious challenger is proving to be Emerald (Smaragd variety), the entry developed by Sweden's W. Weibull from a single, superior progeny of Congressional (C-19).

Emerald deserves a second look. Some say it equals, or is better than Penncross in actual use. They have their reasons. Here are just a few:

- Exceptional uniformity — no objectionable grain or patchiness
- Excellent vigor — more vigorous than Seaside and slightly less vigorous than Penncross, thus thatch build-up is minimized.
- Disease resistant — no marked susceptibility to common turf diseases or customarily used chemicals.
- Highly competitive pricing — superior in quality and yet it won't destroy a budget.

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CUSHMAN. MORE THAN TRANSPORTATION,

With the Cushman 3- or 4-wheel Turf-Truckster® vehicle, you get a lot more than proven, economical turf transportation. You get the heart of a system that lets you do eight important turf jobs with one versatile power unit.

1 PIN-DISCONNECT

The secret of this versatility is the Cushman Pin-Disconnect system. Just put the attachment you need on the Turf-Truckster chassis, secure it with the large pull pins and you're ready to go. No special tools, no trailer to tow, no equipment to load and unload at the site.

2 GREENSAVER® AERATOR

The efficient, low-cost way to quickly aerate greens, tees or other turf areas. The Greensaver drum aerator attaches easily to either Turf-Truckster equipped

with hydraulic system and dump kit. Three interchangeable drums let you use 1/2" or 3/8" coring tines, as well as slicing tines. You change drums according to varying soil conditions. The coring drums collect cores as you aerate up to 10 times faster than walk-type units.

3 SPIKERS

The Cushman Quick Spiker attaches to a Turf-Truckster with PTO, hydraulic system and dump kit. You spike a precise 57-inch swath, even over undulating ground, and raise or lower the unit hydraulically. The Trailing Spiker gives you the same width and precise results, but its built-in lifting mechanism is controlled by a pull rope.

4 SHORT BOX & FLATBED/BOX

These hauling and dumping

attachments are mounted quickly with two pull pins. Bolt-on sides and tailgate convert the flatbed to a dump box. Both boxes can be dumped easily with either a manual or powered hydraulic dumping package. And either box is capable of hauling up to 1,000 lb. payloads.*

5 SPRAYER

Use this versatile attachment to spray greens, hard-to-reach roughs, fairways, trees, bushes. The polyethylene tank holds up to 100 gallons of chemical solution. The three-way boom provides an accurate spray for proper application and less chemical waste. The Turf-Truckster transmission and variable speed governor assure uniform ground speed. And the optional handgun lets you "fog" an area or spray up to 40' in the air.

*Rating for vehicle equipped with 9.50-8 rear tires.



WE GIVE YOU A TOTAL TURF-CARE SYSTEM.

6 SPREADER/SEEDER

The Cushman Cyclone Spreader/Seeder mounts on either the Short Box or the Flatbed/Box with a hopper that holds up to 300 pounds. All controls can be operated from the driver's seat, to broadcast over areas up to 40 feet wide, depending on materials.

7 TOP DRESSER

The Cushman Top Dresser eliminates the need for self-powered units and time-consuming walking. The moving bed and rotating brush operate at a controlled speed to maintain an even spreading pattern over a 31-1/2 inch swath. The big hopper can hold up to 1,000 pounds of material, from rock salt to fine, powdered materials.

8 QUICK AERATOR

The Cushman Quick Aerator is

designed to slice greens and aerate fast. It attaches to either Turf-Truckster with just three pull pins. And is hydraulically lifted from the driver's seat for easy movement from green to green. Three tine types are available for varying soil conditions: slicing, coring (two sizes) and open spoon.

CUSHMAN RUNABOUT

The economical answer to basic transportation and light hauling requirements. The new 18-hp Runabout now carries two men, plus equipment and supplies, while the 12-hp model carries one man. Both feature a big



pick-up box, exceptional maneuverability, and 3-speed transmission. The Cushman Runabout is the way to help your men do more work, and less walking.

Ask your Cushman Turf Dealer to show you all the time- and money-saving advantages of his turf-care equipment. Unlike other companies, Cushman gives you more than transportation. We give you a total turf-care system.

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79-CUT-1

Turfgrass management in shaded areas

by John R. Hall, III

One of the constant problems facing the superintendent today is maintaining quality turfgrass in shaded areas. Some of the reasons for difficulty in producing quality turf in shade are understood, while others remain unknown. The competition for light, water, and nutrients obviously creates plant stresses which can predispose the plant to disease attacks. The fact that people seek shade for its cooling effect and that people tend to compact soil certainly does not diminish the problem.

Here are 10 points to consider in

developing plans for the establishment or maintenance of turf in shaded areas.

1) Select shade-tolerant grasses. The fine-leaf fescues such as Pennlawn and Jamestown are considered the most shade-tolerant cool season grasses in the transition zone. Varying degrees of shade tolerance have been observed in the Kentucky bluegrasses. However, as a group of grasses, the fine fescues will generally persist better in shade than Kentucky bluegrasses. The most popular cool season grass mixture for shade in the transition zone is a mixture containing 50 to 80 percent of two or three Kentucky bluegrasses and 20 to 50 percent fine-leaf fescues. Tall fescue is capable of persisting in moderate shade where good drainage prevails.

There is a real need for shade-tolerant warm season grasses. St. Augustinegrass, Pensacola bahiagrass, and zoysiagrass are the most shade tolerant warm season grasses. However, St. Augustinegrass and bahiagrass cannot consistently survive the transition zone winters and zoysiagrass is slow to establish and exhibits only moderate shade tolerance.

2) Seed shaded areas in the fall. Fall seedings of shaded areas are generally more successful than spring seedings, because by the time the fall seeded grasses have completed germination, the leaves are off the trees and full sunlight is available. Obviously a strong leaf raking or sweeping program is essential to successful establishment.

3) Maintain adequate soil nutrition. Turfgrass plants in shade generally require less total nitrogen than plants in full sunlight simply because of the reduced rates of photosynthetic activity. Nitrogen overstimulation of shaded grasses contributes significantly to depletion of stored food reserves and thin cell walls which



Tall, old, stately trees provide a beautiful backdrop for holes such as the 16th at Kingsmill on the James outside Williamsburg, Va., but tough turf problems can come with the dense shade they create.

Dr. John Hall is an extension specialist in turf at Virginia Polytechnic Institute and State University in Blacksburg. He has written and published many articles and papers on turfgrass management.