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Fred Garrett (bottom) directs one of Sandhill's students in the proper methods of pruning.

to the School of Horticulture sponsored by the Niagara Falls Parks Commission and to Wisley in England. He then developed his European-style curriculum, which is reworked every two to three years. In 1984, a course on garden center operations was added.

Unlike the ornamental horticulture programs in North Carolina, this unique curriculum has the official title of Landscape Gardening Program, approved by the state in 1984.

Humble beginnings

At Sandhills, Garrett began in a regular classroom with a handful of students. Two years later his depart-

ment moved into the present facilities which include classrooms, offices, greenhouses, library, and even a small apartment for a student/manager who supervises the greenhouses and other operations during off hours.

Heutte Hall, not formal or fancy, is functional. "I designed the building on a brown paper lunch bag," says Garrett.

Today the landscape gardening center is surrounded by students' projects. Attractive beds have been built and planted, paved walks designed and constructed, large trees moved into place, and irrigation systems planned and installed.

The staff can always come up with

another challenge for the students. One major project now under construction is the Sir Walter Raleigh Historical Garden. The idea for this garden evolved from the 400th anniversary celebrations North Carolina staged to commemorate the attempted colonization of Roanoke Island in 1584. One-and-a-half acres were leveled for the project, which is to be an historic replica of an Elizabethan garden. Like the golf course area, the vegetable garden or the large, informal Ebersole holly collection, this totally formal garden will offer valuable and different construction and maintenance experience to the students.

Dirty hands

Varied experience in all phases of landscape gardening is Garrett's goal for his students. They dig the necessary ditches, mix the soil for the greenhouse, work with turf, nursery culture, perennial beds, bedding plants and greenhouses, and prune trees while hanging high above the ground on safety ropes.

The staff can always come up with another challenge for the students.

"I think we're very good pruners," says Martha Simon, a 1985 graduate. "I like the hands-on labs. It's all right there, where we do all the work."

Simon, whose father owns Blue-mountain Nurseries in Monkton, Md.—a wholesale grass and perennial nursery—started college at the University of Maryland and then went to Sandhills. "I've never regretted the decision. As a woman, I would encourage any other woman to go to Sandhills. We learn how to operate greenhouses, drive tractors, and use soil mixers. Most horticultural courses don't teach those things. Since most employers are still a little sexist, a woman is a step ahead if she can handle all the equipment.

"I also like the intimacy, the close working relationship with the instructors, the teamwork, the valuable contacts."

Contacts are important to Garrett, too. His alumni network stretches around the country. "Every class has five or six students who get into interesting places and do well. This helps with student recruitment today," he says.

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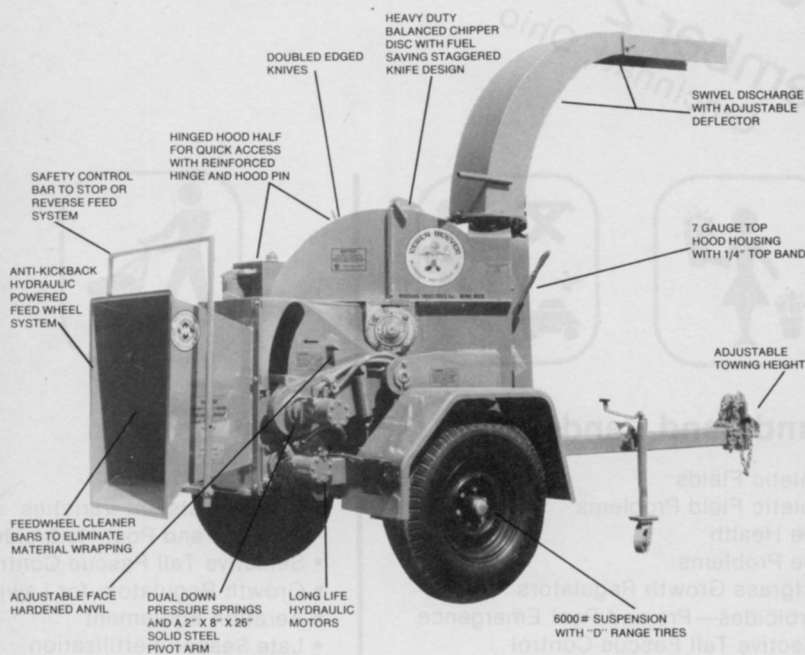
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Students Blain Ritter and Jeff Etheridge work on the back retaining wall for the Sir Walter Raleigh Garden.

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For example, Dale Haney, '72, is responsible for the house plants at the White House. A more recent graduate, Tom Geer, is working on the grounds there today. The horticulturist at Old Salem in Winston-Salem is graduate Phil Page. Peter Hatch first worked there, and then he was asked to move to Monticello. The list goes on and on.

Garrett is also proud of the entrepreneurs among his students. Graduate Ronnie Williams has a thriving business in irrigation installation. Another young man, Pete Gulley, began a local garden center with \$150 and now owns a whole block of land in Southern Pines.

"I think this is one of the last fields for young people to get into," Garrett says. "They can take a small amount of money, work hard, and build a clientele—in greenhouse operations, maintenance or garden centers."

He points out that, interestingly enough, starting salaries for his graduates are the same as for graduates of the four-year program at North Carolina State University. "If students want to teach or do research, they must have a four-year degree," Garrett said, "but for jobs in the field, their performance and production here are excellent credentials."

Realizing potential

The emphasis is on work experience. Each student has two areas to maintain—one in the greenhouse, the other outdoors. All this maintenance work is graded regularly.

In addition to classroom and work experience, the students take several trips during their two years at the college, visiting both nurseries and outstanding public and private gardens on the East Coast.

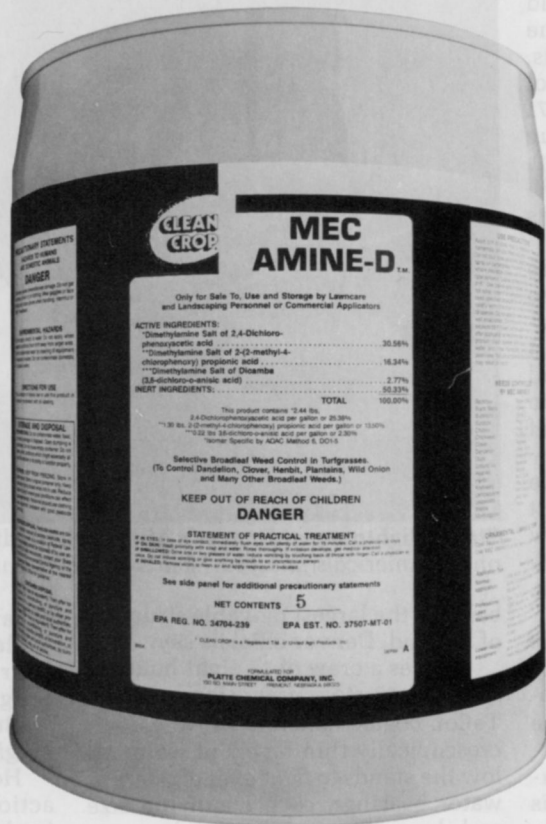
Both Simon and Hoehne want more Southern gardens included in these tours. "I think we're just beginning to realize the potential we have for gardening in the South," says Simon.

Garrett's many contacts at great gardens and nurseries around the country also help when the time comes for each student to spend the final quarter of the 24-month program working in his or her chosen field.

Some might go to the North Carolina Botanical Garden. Others are employed at places like the Mellon Estate in Virginia, Dunbarton Oaks in Washington, D.C., and the Biltmore Estate in Asheville, N.C.

"Any student could say to Fred Garrett, 'I want to work in Timbuktu,' and in half an hour, he would have someone on the phone and have a job lined up there," Hoehne says. **WT&T**

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by Ron Hall, associate editor

Wightman directs Mile High's changes

Steve Wightman's job as the chief groundsman at Denver's Mile High Stadium is always changing. That is, he's always changing his turfgrass playing field. One day to accommodate football, the next baseball. Throw in a few concerts.

Wightman, a slender 36-year-old with less hair than he'd want, is the unacknowledged king of conversions.

Consider. Mile High was the site of 121 events in 1985. This included 71 baseball games (the minor league Denver Zephyrs), 21 football games (11 by the NFL Broncos, 10 by the USFL Gold), and the remainder concerts and special events.

Mile High rarely sits vacant more than five days at a stretch. The demise of the USFL Gold franchise this season eases the pressure somewhat. But the facility, owned by the city and county of Denver, and operated by the parks department, will remain one of the busiest stadiums in the nation.

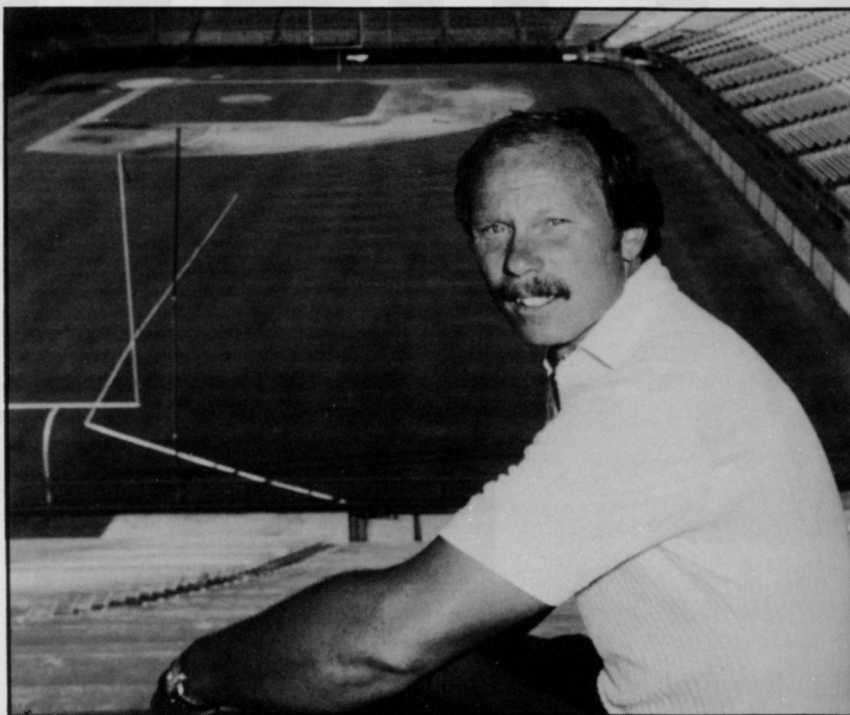
Wightman, who has been at Mile High 10 years, remembers the first conversion. It took two days. It's now down to 8½ hours. That's from football's final gun to baseball's first pitch.

"I think we outsmarted ourselves," says Wightman. "Now they schedule events one day apart and not two." This past season the Mile High Stadium crew whisked through five overnight conversions.

Two factors make these conversions remarkable. First, the field is resodded (Kentucky bluegrass) only twice annually, in March and October. Mile High boasts a Prescription Athletic Turf (P.A.T.) playing surface with excellent drainage and sub-surface irrigation. "P.A.T. saves the football field," says Wightman.

Also reducing the need for resodding is the use of Warren's Terracover, a needle-punched polyester blanket, over the grass to protect it from the feet, popcorn, and suntan lotion of concert-goers. For football, a 400-foot-long strip of Terracover protects grass in the pedestrian walkway in front of the east grandstand. This strip, a walkway for football games, is left field for baseball.

And that's the second amazing aspect of Wightman's conversions. The entire east grandstand behind the walkway—a nine-million-pound, 22,000-seat structure—can be moved 145 feet. In the forward position it provides sideline viewing for football; moved back, left field seating for base-



Steve Wightman, at Denver's Mile High Stadium, is in charge of preparing one of America's finest turf fields for 121 events annually.

ball. It's the largest movable structure of its kind, Denver officials say.

It takes a crew of 15 eight hours to slide the 13-story grandstand over 18 Teflon-coated concrete runways. Microscopically thin layers of water allow the stands to float over clusters of water bearings, each about the size and shape of a truck inner tube.

When the grandstand is back in the baseball position, its concrete tracks are covered with four-inch-deep steel pans of sod to complete the all-grass playing field. An experienced tow motor operator lifts these turf-covered pans into place in about three hours.

Meanwhile, Wightman's nine-man grounds crew babies the turfgrass and prepares the field for baseball, football, or a concert. Much of this work is "hand work," says Wightman, because of the presence of fragile heat cables six inches below the grass. These cables keep the turf playable and footing reliable for the Broncos through December.

Now that the USFL Denver Gold is history, will the pace at Mile High slow?

Probably not. Denver is one of a handful of cities lusting for a major League baseball franchise. Insiders feel it's a cinch. . .someday. The now-

renamed Denver Bears baseball team (Mile High was originally known as Bear Stadium) used to set the minor League attendance records on fire.

But, even without a team in the biggies, Denver vibrates.

How's this for a single weekend of action? Huey Lewis and the News (and thousands of teeny boopers) invade Red Rocks. On the other side of town, Cherry Hill swells with spectators for the PGA Championship. Downtown the international Coors bicycle race attracts thousands more.

And the Broncos are at Mile High.

Wightman likes this pace, and he still finds time to help direct the fledgling Sports Turf Managers Association. In 1984 that group honored him with its highest honor, the "Lone Ranger" award, for his work at Mile High. He's working to change the grounds manager's lot for the better.

What else would the ever-changing Wightman change if he could?

Says Wightman, "there is so much inconsistency with the construction and maintenance of natural grass fields, I think there should be some standards." These written guidelines would provide maintenance help for sports turf managers from the school yard to the professional level, the slender groundsman feels. **WT&T**



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PROBLEM SOLVERS

by Balakrishna Rao, Ph.D

Winterization via deep watering

Problem: *Because of the problem we had experienced last winter, we would like to consider winterizing valuable ornamental plants, particularly evergreens, by deep watering. Is there a real advantage from this practice? If so, when should we do it? I'd appreciate your comments. (Michigan)*

Solution: Watering the woody plants to reduce winter injury, particularly evergreens, prior to soil freeze-up to replace water loss by foliage during winter is a good practice and a valid recommendation. Reports from the University of Minnesota indicate that plants subjected to water stress during late August and early September had lower water content in the plant tissue. However, the water content decreased as the temperature dropped and was found to be equal in stressed plants as well as plants maintained at optimum soil moisture.

Watering the stressed plants during late August, early September or in November prior to soil freeze-up did not increase the water content in the plant tissue. These plants showed considerable winter injury of foliage than the plants maintained as optimum soil moisture.

Therefore, fall watering following stress from dry weather in late summer and early fall has little advantage. Based on these findings to prevent injury, the plants should be watered before water stress becomes severe.

The best time to prune

Problem: *In a number of our clients' properties, the hedges with deciduous plants, like forsythia, privet or Spirea, show extensive winter kill and thinning. It looks pretty bad. When would be the best time to prune? Is there some way we can maintain decent looking hedges without going through the re-planting process? Appreciate your comments. (Ohio)*

Solution: Over the past several years, winters have been very severe and we have seen winter injury on a number of sensitive plants. The deciduous hedge plants, like the ones you mention, are some of the more seriously affected plants. The best thing to do with winter injured plants is to wait and see how the plant will recover during the season. Then, lightly fertilize and water the plant to encourage new shoot development.

In general, most hedge plants should be pruned in such a way that the hedge is broader at the base than at the top. To have a desirably shaped hedge, it is important to start pruning and shaping when the plants are very small and continue throughout the life of the plants. Depending upon the rate of growth, it may be necessary to prune them two or three times from April through September.

Often, hedges may become too thin without much leaves, particularly from the bottom up. This could be due to several factors such as winter injury or simply that they are getting old. If this happens with

cane-type plants such as the three mentioned above, cut the hedge back to ground level. The new growth develops from the cut stubs, begin shaping the hedge. Remember to shape broader at the base than at the top. This type of pruning is called rejuvenation and should be done in late winter or early spring before new growth starts.

Plants liked winged euonymus or viburnum should not be cut back at once as discussed above. Instead, they respond better to a gradual cut-back method.

During the first year, remove one-third of the oldest branches near ground level to encourage new growth. The second year, use this thinning technique to cut back an additional one-third of the old growth. This will promote more branching. The third year, remove the remaining old stems. This method of gradual cut-back will renew hedge plants like euonymus or viburnum.

No general programs

Problem: *Is there a general herbicide and fungicide preventative maintenance program for landscape contractors to use on all clients' turf and plants? (Pennsylvania)*

Solution: No, there are none. These materials are designed to do certain specific functions in the plant health management practice. Each product has its own strengths and weaknesses.

For example, selective herbicides, such as pre-emergent materials, are designed and used primarily for controlling annual grasses as they emerge, while post-emergent materials, like Trimec containing 2, 4-D, MCPP and dicamba, are used for broadleaf weed control. Non-selective herbicides such as Roundup are designed to be used as a total vegetation management tool to get rid of many different kinds of plants.

Similarly, some diseases can only be controlled with contact fungicides, while others can be controlled by systemic fungicides.

It is important to properly identify the specific pest problem and then select the proper materials, method and timing for managing the problem. Always read and follow label specifications.



Balakrishna Rao is Director of Lawn Care Technical Resources for Davey Tree Expert Co., Kent, OH.

Questions should be mailed to Problem Solver, Weeds Trees & Turf, 7500 Old Oak Boulevard, Cleveland, Ohio 44130. Please allow 2-3 months for an answer to appear in the magazine.