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- Penetration up to 2 3/4".
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LAWNNAIRE IV SPECIFICATIONS

Model 544863

DIMENSIONS

Width 28"
Swath 19"
Weight Dry-215 lbs.
Water in drum-265 lbs. (6.6 gallon capacity).

POWER

Engine 4-cycle, 3 hp industrial with 6:1 gear reduction, dual air cleaner, with rotary on-off switch, low tone muffler.
Clutch Belt tightener.
Driver Primary: V-belt 4L-section to clutch idler. Secondary: #40 roller chain to tine assembly. Transport: #40 roller chain to barrel.

Lubrication Two grease fittings in each axle hub.

UNIT

Penetration Up to 2 3/4"
Aeration Pattern 3 3/4" x 7" center to center.
Speed Operation: 225 f.p.m.
Transport: 190 f.p.m.
Productivity Up to 21,000 sq. ft. per hour.
Tines 3/4" Coring-type, formed from .08" thick heat-treated alloy steel, 30 tines per aerator.
Tires Two 8 x 1.75 semi-pneumatic with ball bearings.

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LANDSCAPE PROFILE

ONE OF A KIND

Unlike its south Florida neighbors, Jupiter Hills Golf Club features characteristics you might find on a northern course—from the trees to the bentgrass greens.

by Heide Aungst, associate editor

Standing in the middle of Jupiter Hills Golf Course, you'd never guess you were in Florida—unless the balmy breeze off the nearby intercoastal waterway gave it away.

Certainly the softly rolling hills and absence of palm trees would yield no clues.

The course, located just north of West Palm Beach, has been designed to resemble one of its northern cousins, right down to the trees—oaks, mahogany, and pine—scattered throughout the property.

"There's no course like it in the state of Florida," says superintendent Dick Herr.

It's the second-toughest course to get a chance to play on in the state, behind the very exclusive Seminole Country Club in North Palm Beach. But Seminole's superintendent even visited Jupiter Hills recently to get some hints on improving his course.

A Midwesterner himself, Herr likes Jupiter Hills' "northern" look with a tropical climate. That's just what the superintendent from Logansport, Ind., a small farming community north of Indianapolis, was looking for when he packed his bags and headed south.

Herr had visited the club briefly before deciding to move to Florida.

He was hired at Jupiter Hills as an assistant to the superintendent. Two months later, his boss left and Herr took over.

Jupiter Hills was known as a graveyard for superintendents under the reigns of owners Tom and George Fazio; rumors say that some 40 came and went before Herr. But Herr's easy-going manner has allowed him to survive—more than survive—for six years.

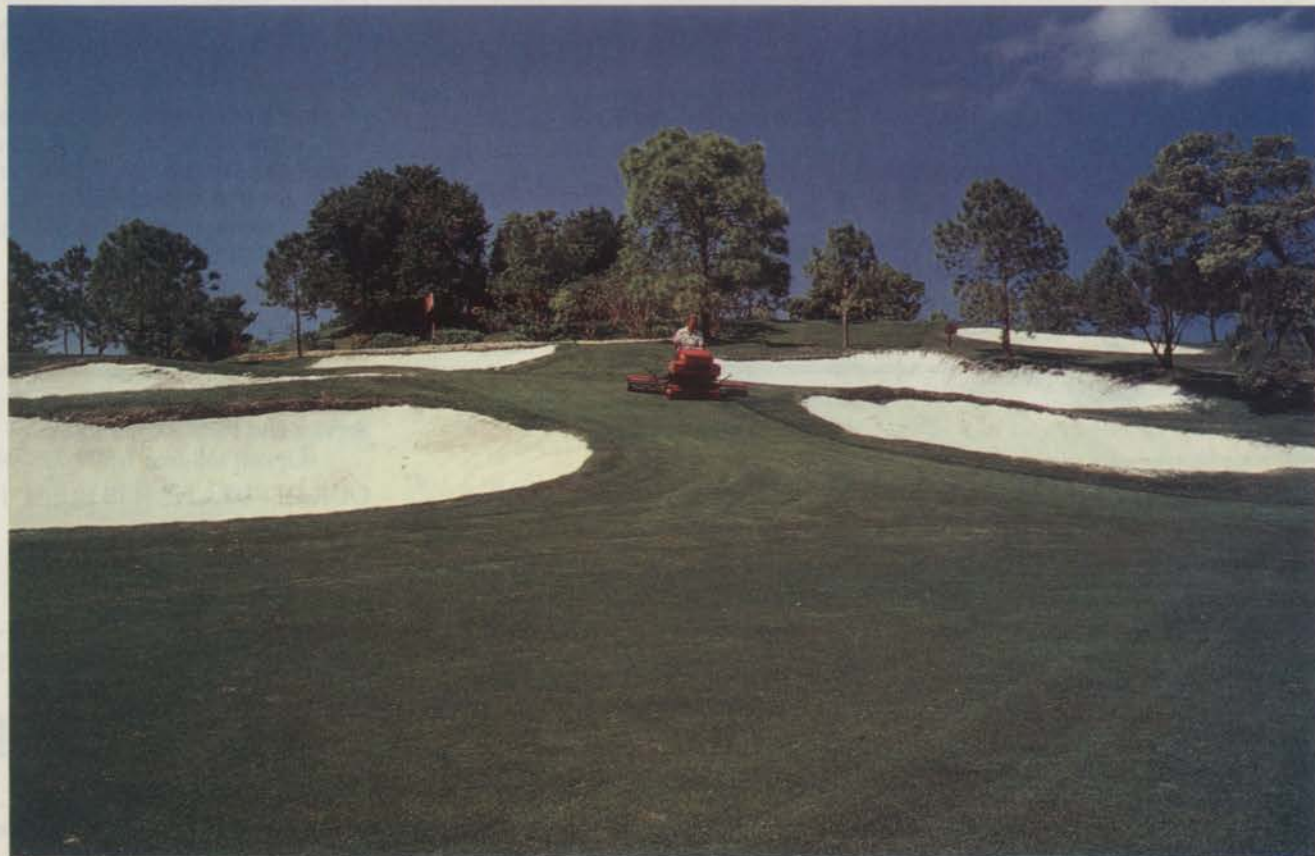
He has shaped the course to where it's one of the best in the country, No. 51, according to *GOLF DIGEST*. The U.S. Amateur will be played there during Labor Day weekend 1987, a first for the club.

A second course, Village Course, is built around a residential area.

The two courses were built on a sand bar (can you believe 200 sandtraps?) just off the ocean in 1970. Combined, the courses stretch 400 acres, 250 of which is irrigated. Herr is in the process of changing to year-round bentgrass greens.

A bentgrass overseeder

The usual process at area courses is to overseed each October with ryegrass or bentgrass. Herr uses



Jupiter Hills, built on a sandbar in 1970, features some 200 sand traps to test the golfers' mettle.

Penncross bentgrass to oversee the base of Tifdwarf bermudagrass. He says rye bounces and is too slow. "My members wouldn't stand still for it."

Then in April, the bent is removed, and the bermudagrass grows in.

The theory behind the switch is that bermudagrass will turn brown in the winter, so overseeding is needed to keep the green color. The bermudagrass supposedly overtakes the bent in the summer, thus the switch back to bermuda. Courses just a bit further south, in the Miami area, don't need to overseed since bermudagrass grows throughout the year.

But Herr figures if he can keep bentgrass green in a sweltering Indiana August, he can keep it green in Florida during any season. So far, his philosophy has worked.

He first pondered the idea three years ago and decided to watch the greens to see if the bent would grow stronger naturally without overseeding. Last year he started experimenting on the Village Course, and hopes this spring that he won't have to remove the bentgrass from the Hills Course. Not overseeding could save the course more than \$15,000 a year in seed and labor costs.

Jupiter's members are much happier with bent greens; it is softer, with a smooth and accurate putt. Herr's members can be fierce critics. One of his members is on the greens committee at the renowned Winged Foot Golf Club in Mamaronek, N.Y.

Herr says the main reason other Florida supers don't use bentgrass is simply because they've been told it can't work. Many fear an invasion of pythium blight. But Herr says he hasn't had any problems with it.

"I don't syringe or use any special watering system," Herr explains. Though others insist that syringing is necessary on bentgrass to prevent pythium blight, Herr says someone would have to do a lot of talking to convince him of that.

No regulated watering system

In fact, he doesn't use a regulated watering system at all. Call it luck, but Herr insists that when he needs rain, it rains. When a green needs to be watered, he gives it just the right amount.

"You've just gotta know how much to use and when to use it," Herr says. "It only comes from experience. They're (greens) all



The green at No. 17 shows finely manicured bentgrass prospering under the hot Florida sun.

different; none are the same. It's like having 18 different babies on a golf course."

And he treats his course as any proud father would.

His crew hand-mows the greens to avoid leaving a pattern from riding mowers. They aerify once a year, around the first of July.

The fertilizer program is as individualized for each green as the watering program. Herr's independent thinking has even led him to break the norm on what type of fertilizer he uses.

When the course was built, a consultant recommended a fertilizer program. But when Herr arrived, he decided the course didn't look good and he'd have to mix his own.

Although he hesitates at revealing too many secrets, he will give out his fertilizer recipe: two bags of sulfate mixed with one bag of Milorganite.

When it rains, regular fertilizers will wash off and the lush green color can fade. But the organic sludge mixed in helps transfer the fertilizer to the roots.

Herr is a rare breed among superintendents. Also a golf pro, his extensive playing and teaching experience gives him a deeper insight into what his members want from a course.

A pro at 17

As a boy in Indiana, Herr bought his first golf club for \$10. He went out on a private course to play. The owner caught him and made a bargain: he could play for free if he caddied and worked on the course. Herr spent about four hours a day mowing greens and fairways, and the rest of his time playing the game. At 17, he turned pro.

But a twist of fate: that superintendent was killed in an automobile accident. Herr was offered the job, putting him face-to-face with the biggest decision of his life. To go on tour as a pro golfer, or

to become a superintendent?

The thought of living out of a suitcase turned Herr off, so he took over as superintendent.

He never went to college, but learned all his tricks through experience and a sixth sense. Whatever Dick Herr thinks will work usually does, despite what so-called experts tell him.

George Fazio was his best teacher, the same man other superintendents ran from. "He's a perfectionist. He'd find fault with every superintendent," Herr says. "I think a lot of him. He's one of the smartest men in golf I've ever known. I learned more off him in two years than I probably will the rest of my life on the golf course."

Herr won't hire college grads, either, unless they have a wealth of experience backing them up. He prefers to train his staff which fluctuates from 20 to 25. The crew works seven days a week.

"I built my crew," Herr says proudly. "We all learn together like a family."

The course has gone through very few design changes. About eight years ago, hole Nos. 7, 8 and 9 were moved to the Village Course, and three new holes were built on the Hills Course. No more major changes are anticipated. "I think now we're set. We'll let it age on its own," Herr says.

Strong turf

The course has matured quite a bit since Herr arrived. It used to be six inches of rain would go right through the "sugar" sand soil. Today, the turf has developed root systems which help to hold the water.

Strong turf throughout the course, along with new bentgrass greens, will keep Jupiter Hills in prime condition for the Amateur and in tip-top shape to meet Herr's own high standards.

"I love my course," he says...just like a gloating dad. **WT&T**



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MILES TO GO...

Rights-of-way landscape managers, who do things on a big-big scale, favor spraying non-selective herbicides and tree maintenance. An exclusive WT&T survey examines this important segment of the green industry.



85.3% of the departments responding and chain saws by 80.1%.

Rights-of-way maintenance departments come in two sizes: large and small. The average department has 317 employees, but 87.6% of the companies in the survey have fewer than the average.

With an average of 317 employees and an average 8,537 miles of maintenance per company, that means that the average employee is charged with maintaining 27 miles of right-of-way.

What is in the future of right-of-way maintenance? A wider range of plant growth regulator (PGR) use, for one. One industry expert told WT&T that he expects use of PGRs among rights-of-way managers to increase 10-fold each year for the next 10 years. And many of the survey respondents agree.

"Growth regulators may be promising," says one respondent simply.

The current scenario whereby anti-chemical groups are complaining about pesticide use also has R-O-W managers worried.

"We need to educate the public to the benefits of chemical weed control," says one respondent.

Because so many rights-of-way landscape managers are involved in spraying herbicides, it is no secret—judging by survey results—that they would like more efficient chemicals and equipment.

"We need the use of a good bermuda release herbicide like Oust," says one respondent. "Even better ones will improve efficiency and safety."

"And spray tips capable of spraying in the 40- to -50-foot range with a good pattern, using no boom, are also needed."

Another manager foresees this in the future: "more sophisticated computerized spraying equipment

Popular chemicals

CHEMICAL	USED BY
Non-selective herbicides	79.4%
Post-emergence herbicides	64.7%
Pre-emergence herbicides	45.6%
Plant growth regulators	39.7%
Mulches	39.7%
Drift retardants	38.2%

Popular equipment

PIECE	USED BY
Sprayers	85.3%
Chain saws	80.1%
Rotary mowers	75.0%
Brush cutters	63.2%
Post-hole diggers	39.7%
Tree pruners	39.7%
Aerial lifts	38.2%
Spreaders	38.2%
String trimmers	38.2%
Seeders	35.3%
Flail mowers	32.4%

Readers of WEEDS TREES & TURF care for more than 16 million miles of right-of-way annually, according to a recent survey completed by the magazine.

Sixty-eight respondents to a questionnaire say they average 8,537 miles of right-of-way maintenance. Projected to the entire readership involved in this specialized type of landscape maintenance, that's a total of 16,675,000 miles of turf.

Nearly nine out of 10 (88.2%) rights-of-way managers practice weed control, and non-selective herbicides are their favorite choice of control. The survey notes that 79.4% of the respondents use non-selective herbicides on a regular basis and 64.7% use post-emergence herbicides.

Because 69.1% of the respondents are also involved in tree maintenance, it comes as no surprise that chain saws rank second only to sprayers as the most popular piece of equipment. Sprayers are used by



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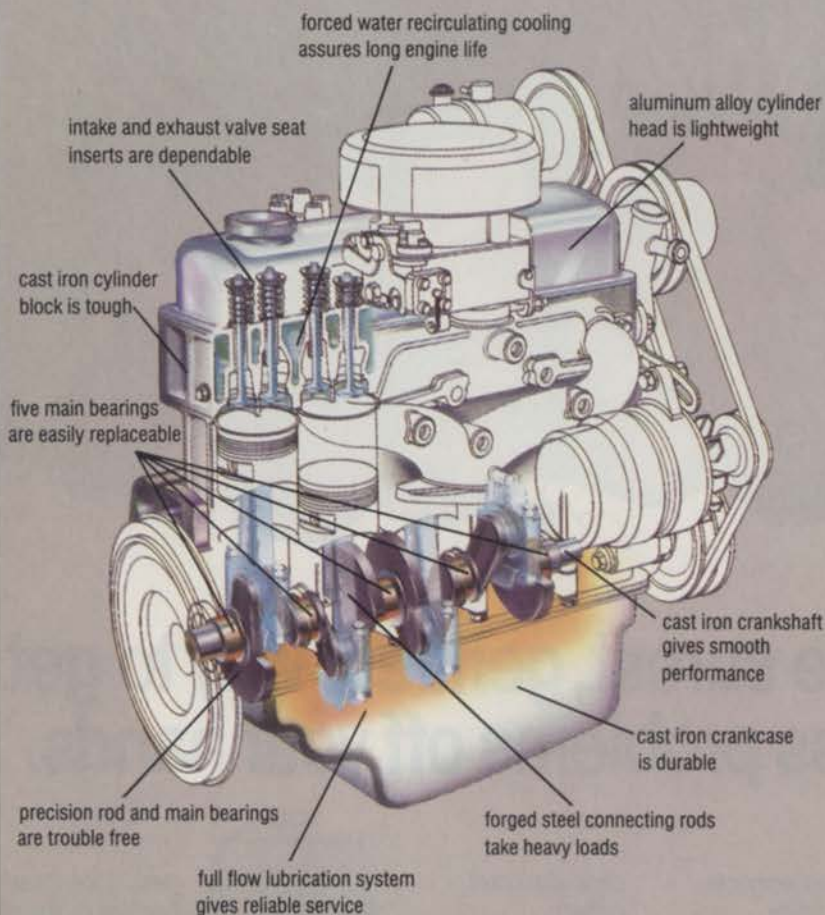
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PROFILE *continued*

using tank combinations at minimum rates for broad spectrum control, and new herbicides where rates are ounces or less."

New technology, then, is of utmost importance. Witness this response from California Transportation Superintendent Robert Fowler: "Long range, there has to be a better method. In spite of the equipment, volume and material advances, we are still putting out herbicides similar to the way it was done in 1948."

Fowler says the R-O-W segment of the green industry needs low quantity materials, formulations to reduce dust, and development of low volume techniques to control drift.

Finally, one respondent sums up: "We need more efficient herbicides that will have a wider spectrum of control and more advanced and efficient spray rigs having a wider range of tanks where more than two or three types of spraying can be done all at once."

This is the future of rights-of-way landscape management. **WT&T**

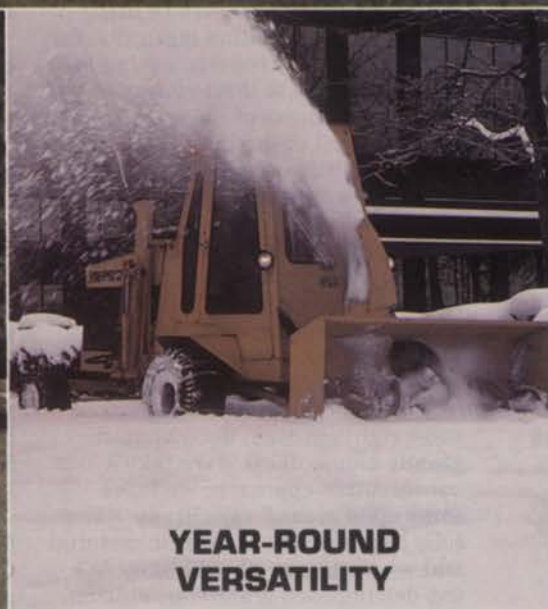
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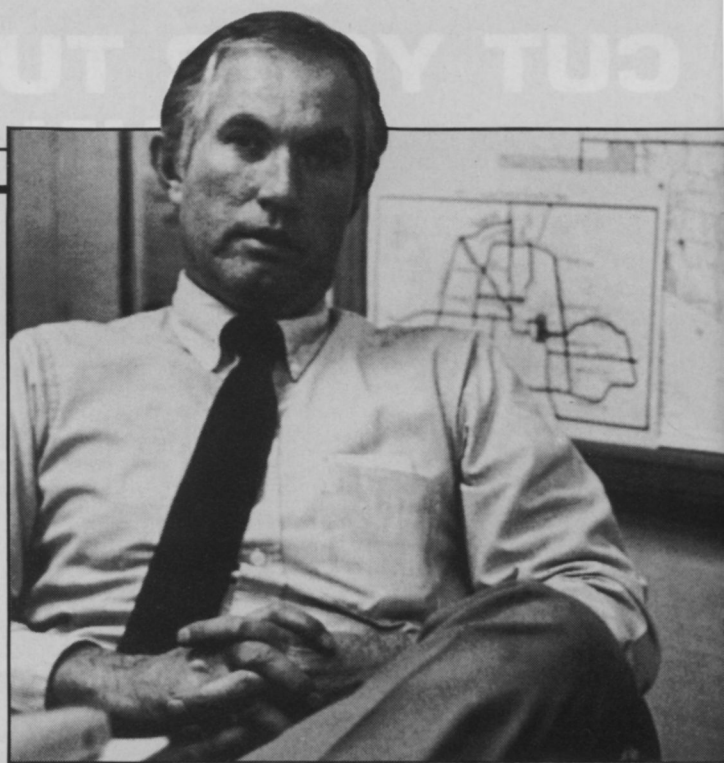


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UNDER CONSTRUCTION

Growth in the booming Valley of the Sun and surrounding areas presents a challenge to the Arizona Dept. of Transportation's Highway Division. Another challenge: landscaping in a furnace-like environment.

by Carl Kovac



LeRoy Brady, manager of roadside development for the Arizona Dept. of Transportation, says water conservation and aesthetics are factors to consider when developing a roadside landscape.

In Maricopa County, Ariz., the shortest distance between any number of points is—or will be over the next couple of decades—under construction.

By 2005—if all goes well—Phoenix, the state capital and county seat, will be ringed and bisected by freeways which, among other things, will make it easier to get to surrounding cities such as Mesa, Tempe, Chandler, Glendale, Scottsdale, and Sun City, not to mention the West Coast and points east.

These highways will be more than just six-lane concrete ribbons snaking across the sprawling Valley of the Sun; they'll be bordered by landscaping in tune with the Grand Canyon State's unique ecology.

There are good, pragmatic reasons for this, not the least of which are water conservation and aesthetics.

Average annual rainfall in Maricopa County is a mere 7.03 inches. The Tucson area to the southeast gets about 11 inches a year and Prescott, to the northwest, 17 to 18 inches. Of the county's 9,127 sq. miles, only 98.2 sq. miles are water—lakes, rivers and canals.

Low water, low maintenance

These figures become quite significant in light of the fact that Maricopa County is the largest producer of crops and livestock in the state.

"By and large, we'll be using desert, low-water requirement plants along rights-of-way," says LeRoy Brady, manager of roadside development for the Arizona Dept.

—Carl Kovac is a freelance writer based in Cleveland.

of Transportation's Highway Division. "Desert-type landscaping minimizes use of closely planted growth and maximizes use of large trees and shrubs, giving a green landscaping appearance and reducing water use."

A variety of natural and hybrid plants—some of foreign ancestry—have been selected to grace Arizona's highways. "We're using Chilean and Argentine mesquite, for example," Brady reports, noting that "they're native to their countries, but in the process of nursery development in the U.S., they became hybrids. We're also planting eucalyptus, which is native to Australia."

Other trees, shrubs and ground cover finding homes along roadways throughout Arizona include blue and Sonoran palo verde, desert willow, acacia, cassia, myoporum, oleander, and verbena.

Turf is being used along parts of some rights-of-way, decomposed granite along others. "We take a conservative approach; we leave some open areas," says Brady. "The soils here are low in organic material and when it's dry, they'll blow. We use decomposed granite for erosion control and ground cover to alleviate the dust you get from native soil."

The AMA list

What gets planted where throughout the state depends largely on the availability—or lack thereof—of water. With this in mind, Active Management Areas (AMAs) have been designated and will go into effect in Phoenix, Prescott, Casa Grande, and Tucson Jan. 1, 1987.

As of that date, says Brady, any plants not on the AMA's low-water requirement list will not be planted along rights-of-way. "In the Phoenix AMA, for example, no turf will be planted after the first of next year," he says. "Each of the AMAs will be working to reduce per capita water consumption. In Phoenix, it's 170 gallons a day."

Beautification also is a major factor in the scheme of things, Brady notes, pointing out that "neighborhoods are most certainly concerned about how highways going through their communities will look."

In some cases, development has started before road construction has begun, with the tacit understanding that these highways will be landscaped.

Chandler, Mesa, and Tempe to the southeast of Phoenix and Glendale to the northwest in particular are experiencing major growth; the first three because large tracts of land are available for residential and industrial development and Glendale, because a growing number of high-tech firms are finding their way there.

Interestingly, it is the very climate that dictates highway landscaping in Maricopa County—average annual highs of 85.1 and lows of 55.4 and low humidity—that is bringing high-tech companies to the valley. An abundant