COVER STORY

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.

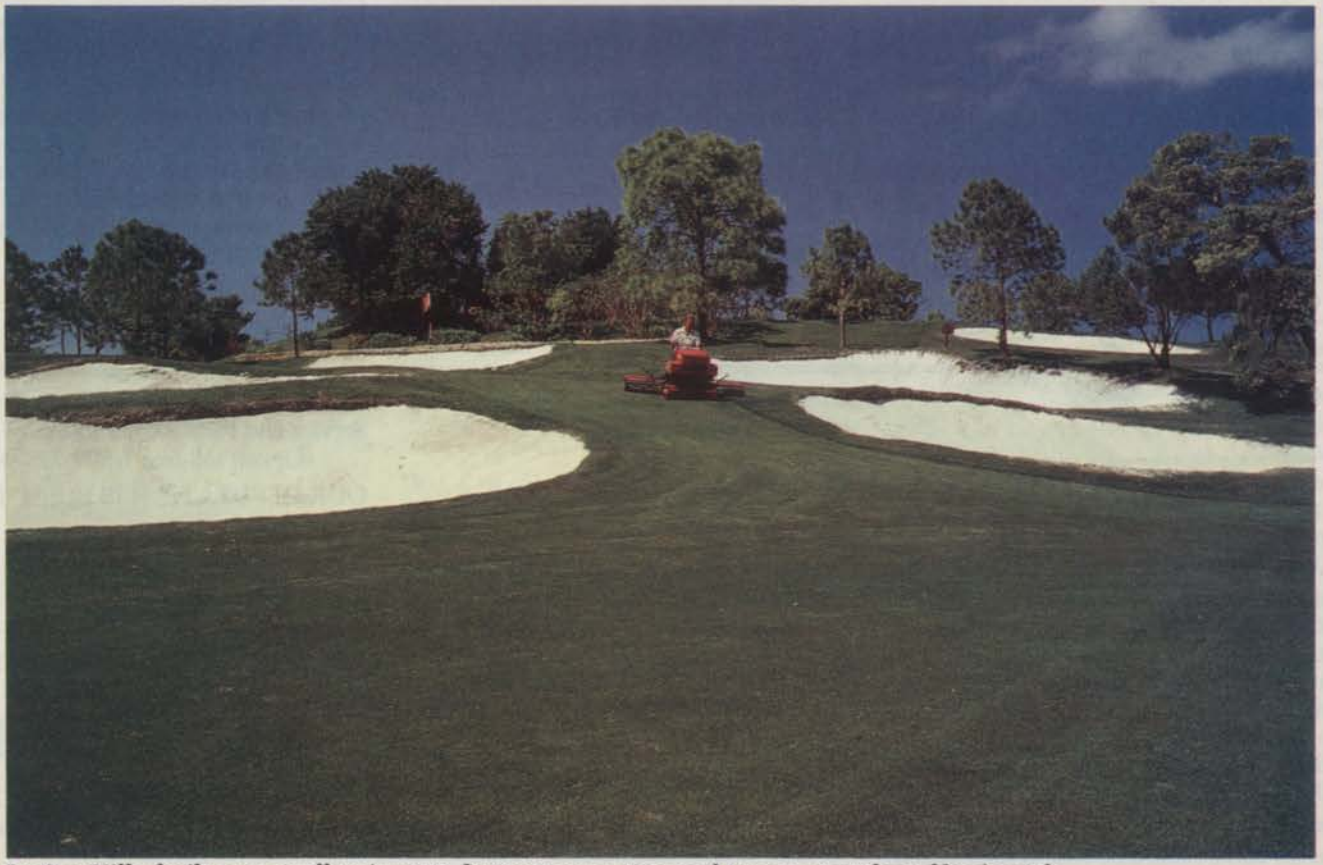
He has shaped the course to where it's one of the best in the country, No. 51, according to GOLF DIGEST. The U.S. Amateur will be played there during Labor Day weekend 1987, a first for the club.

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

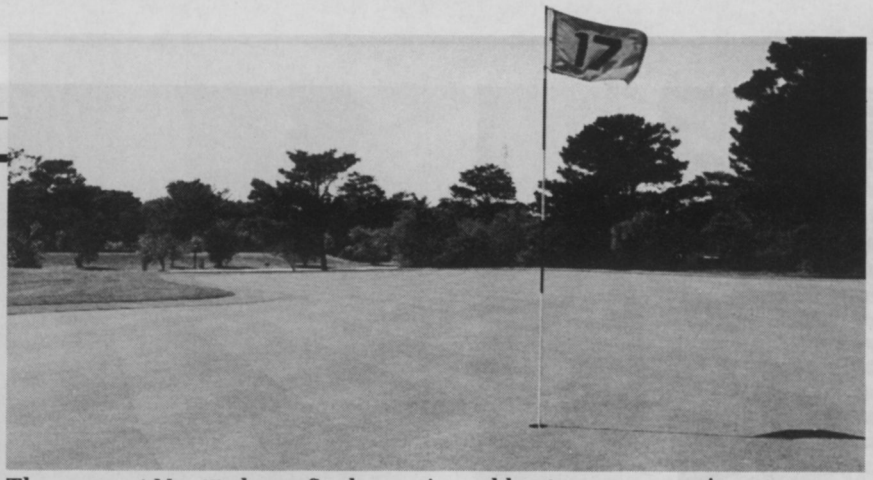
The two courses were built on a sand bar (can you believe 200 sandtraps?) just off the ocean in 1970. Combined, the courses stretch 400 acres, 250 of which is irrigated. Herr is in the process of changing to year-round bentgrass greens.

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.



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

Penncross bentgrass to overseed 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 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

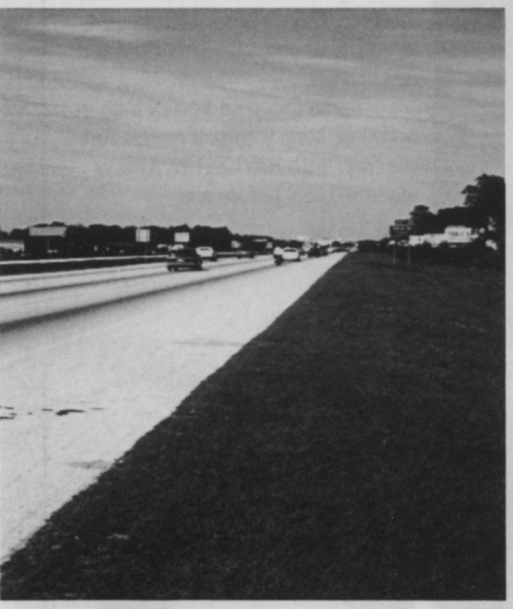
The course has matured quite a bit since Herr arrived. It used to be six inches of rain would go right through the "sugar" sand soil. Today, the turf has developed root systems which help to hold the water.

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**

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.



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 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%

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.

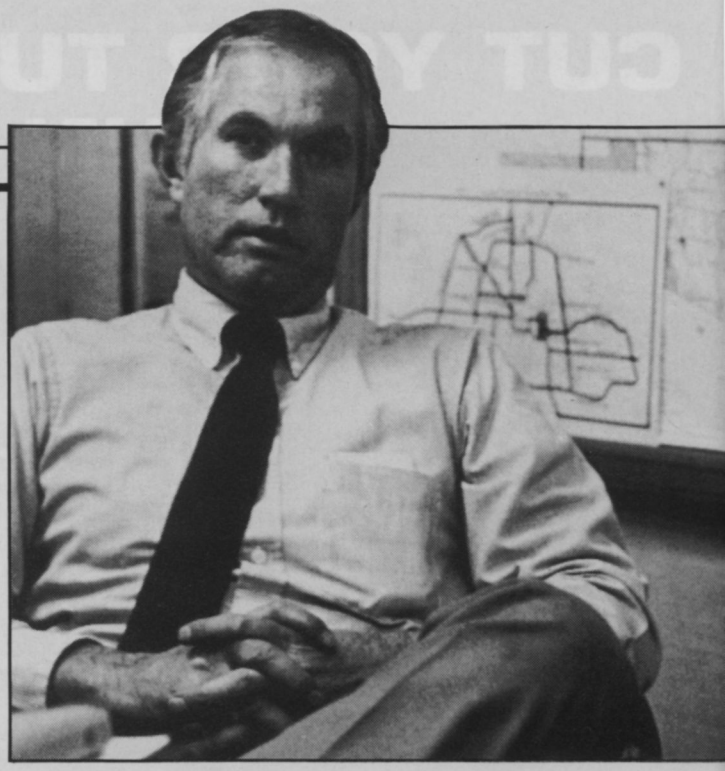
Finally, one respondent sums up: "We need more efficient herbicides that will have a wider spectrum of control and more advanced and efficient spray rigs having a wider range of tanks where more than two or three types of spraying can be done all at once."

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

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 contruction.

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. 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, myroporum, 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 availablity—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

—Carl Kovac is a freelance writer based in Cleveland.

Arizona highway landscapers use a variety of low-water requirement desert plants and decomposed granite to beautify roadway and suppress erosion.

labor pool and the proximity of Arizona State University's college of engineering hasn't exactly hurt the industrial influx.

And new industry, high-tech or whatever, brings new people, younger people—some 10,000 a month, according to the Greater Phoenix Chamber of Commerce. Many of them buy homes and a community's environs can be a heavy deciding factor in where they buy.

A highway's look does matter

"A point hardly ever made with highway landscaping," Brady notes, "is that the appearance of a freeway has a major impact on the people who drive them and who live in the communities along them.

"It creates a positive image if it's an attractive freeway. Things like texture control and color accents just create an overall comfortable feeling. Conversely, if you don't have landscaping, you can have a very real negative impact. Is a developer going to put money into improvements in land adjacent to an undeveloped freeway?

"Here's another point that should be considered," he continues. "If you construct a freeway and delay landscaping three, five, eight years, that's the image of what the freeway is. Even after you begin planting, it takes another three years before the freeway looks good.

"In our desert environment, we have to pay attention to growing sequences fairly soon after construction so that the highway is a contributor to the urban/suburban environment. Fortunately, you can incorporate all kinds of water methods in an aesthetic approach."

Low-level chemical use

Because roadside plantings are a hardy desert breed, maintenance is not a big concern.

"Insects are not one of our major problems," Brady reports. "We don't do an awful lot of spraying. When we do, we use a variety of herbicides, depending on the area. Short-term, pre-emergent herbicides are used to control weeds in urban landscape plantings; in rural areas, around road signs, guards rails and delineators, we go to longer-term chemicals. We have to be careful what we spray and where. This is a big agricultural area—citrus, cotton, and vegetables."

There are weeds to contend with; pig weed, sunflowers, telegraph weed, Russian thistle, and camel thorn, among others.

"You see some real weird things growing along the roads here," says a landscape worker.

"What happens is that we don't have a lot of rainfall, so that when it does rain, water collects along the side of the road. Along comes a truck from back East with seeds stuck in its tires, or a cattle truck dropping excrement loaded with seeds. The seeds germinate in the roadside water and you get a new weed, like Texas mesquite."

When the new highways are built, there will certainly be more transient trucks and, undoubtedly, more "weird" weeds. **WT&T**

County worker Dave Brackin uses a 200-gallon rig to control Johnsongrass.

WEED ERADICATION

In sunny San Bernadino, bare ground next to the roadside is the aim of county agriculture workers.

by Ken Kuhajda, managing editor

There's plenty of room for weed growth in the nation's largest county. But, fortunately, most of the 20,000 or so square miles of San Bernadino County in Southern California is desert where weed growth isn't a problem.

In the sprawling county's non-desert areas, though, weeds and other climatic conditions like the annual Santa Ana winds throw a challenge to county deputy agriculture commissioners John Gardner and Tom Baird, and their staffs.

Weed control is but a small, yet important, part of their jobs.

Gardner's responsibility is pesticide management (application) of roadside weed control. Paradoxically, Gardner also heads pesticide enforcement.

"We have kind of a schizophrenic role of enforcement and service combined," says Gardner, holder of a master's degree in pesticide management from the University of California at Riverside.

Baird, a 20-year agriculture department worker, supervises fire hazard weed abatement. Both say their main function is enforcement of county codes.

Baird also oversees soil erosion control, issuing permits to farmers who've devised a plan to control the effects of the annual Santa Ana winds. From September through April, the sometimes 100 mph northeast winds can roar down the Cajon Pass, stirring up dust and creating major problems. Says Baird: "We've had trucks blow over."

The seasonal Santa Anas cause concern, but Baird's main responsibility is fire hazard weed abatement. That's a year-round project, although the threat of fire is less during California's rainy winter season.

That rainy season means more work for the roadside weed control workers.

Roadside control

Deputy commissioner Gardner is a relative newcomer to roadside control, having assumed the duty after a reorganization earlier this year. He's been with the San Bernadino agriculture department eight years—as a field aide, biologist, supervisory biologist (in pesticide use enforcement), and finally deputy commissioner. He earned the position in 1984.

Along the way he garnered experience in pesticide use enforcement but received little training in pesticide application.

He's taken a crash course in the last six months, at the same time trying to avoid the problems his department looks for. "We probably look into anywhere from one to 10 problems per week," says Gardner. That helps his workers while they are applying pesticides. They recognize a problem situation.

Among the herbicides used by department workers: amitrole, bromacil, diuron, diquat, glyphosate, simazine, and sulfometuron. Department workers are not using PGRs, but Gardner says they may in the future.

"Our workers know what they should be doing and the answers to most questions. Their education is continuous. They attend seminars and training sessions," he says.

All are college graduates (the county agriculture department hires only college grads for field and management positions), two are trained in pesticide use, and three are generalists. All are licensed pest control operators.

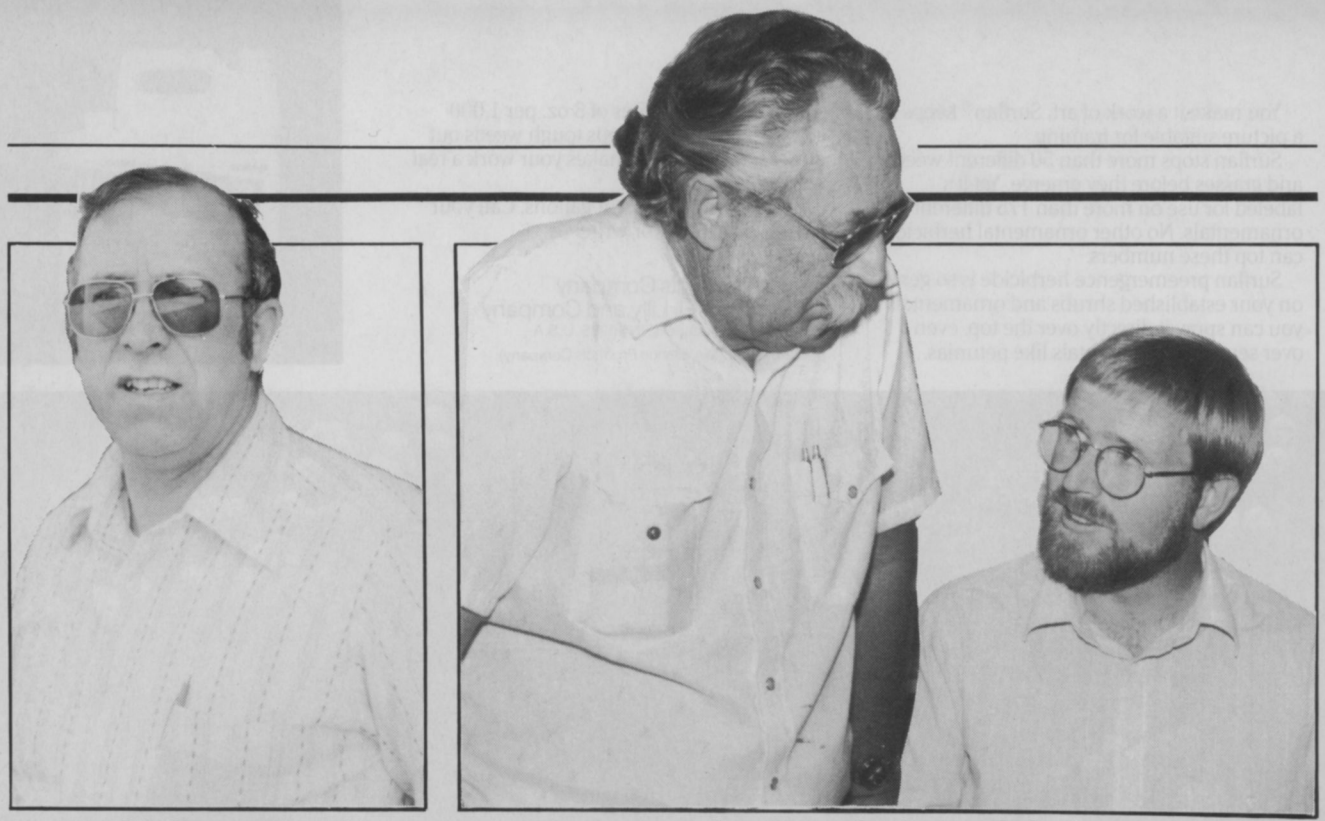
Contract workers

The weed control division of the county agriculture department operates mainly by performing work for the county's towns and cities, which in turn, repay the department for the services.

The payback system, common in California, works well, says Gardner. "We offer weed control as a service to the public and we do it at cost," he says.

The county owns four 1,000-gallon spray rigs, one 200-gallon rig, and one 50-gallon rig. "It's rare when we have all four large rigs running at one time," says Gardner.

San Bernadino County is not in the chemical storage business. Trucks returning at day's end with



Tom Baird (left), agriculture deputy commissioner, San Bernadino County, has been with the department since 1966. Fellow deputy commissioner John Gardner (right) fields a point of concern from "Holly" Hollingworth, operator of Hydrex Pest Control Co.

Bare ground next to a roadside is cause for joy in San Bernadino County. This road runs through Rancho Cucamonga.

chemicals still in the tanks are sent back out to spray until empty. "We have no intention of getting into the mass liquid storing business," Gardner promises.

Activity peaks during the winter season with pre-emergent work. The goal, says Gardner, is bare ground along the roadside. Application of pre-emergence herbicides continues into March and then post-emergent control begins.

The San Bernadino roadside weed control division is not involved with roadside landscape, says Gardner. Consequently, you won't see the complicated landscapes you see in neighboring Los Angeles or Orange counties.

The intersection of I-10 and I-215 in San Bernadino is being landscaped, says Gardner, but by a private company.

And after the weeds...

Weed control, an important function within the large county, is but a small part of the overall duties of the county agriculture department. Workers must be schooled in other areas.

Biologists must take an eight-part exam, including sections on pesticide use enforcement and weed control, to become state certified.

The other sections are plant quarantine and pest detection; nursery and seed regulations; insect and disease pest management; fruit, vegetable, and egg quality control; vertebrate pest management; and apiary regulations.

After passing all eight parts, an employee must then pass a management test if he or she wishes to become a deputy commissioner.

In San Bernadino County, four deputy commissioners (Gardner and Baird, plus Rich Campana and Don Schreiber) answer to agriculture commissioner Roger Birdsall.

Ed Layaye serves an office management function as chief deputy commissioner. Some 40 employees staff the agriculture department.

Deputy commissioner Baird supervises 15 workers, including nine hazardous weed abatement officers.

After inspection, a weed abatement officer decides whether an area presents a hazard (90 percent of the of the time, the hazard is in the form of grass or weeds, says Baird). If so, the owner is informed and asked to remedy the situation.

If he doesn't, a private contractor is called in to clean the mess and a bill is sent to the owner. Some 24 contractors work for the county agriculture department.

If the owner doesn't comply, then he's subject to a fine. Most cases don't get that far, says Baird, a native of Meadville, Pa.

He still gets out to do some field work but lately the managing of the weed abatement division budget has cut his field time to 50 percent. That's enough for him.

"There's a lot of freedom in this job. I'm pretty much my own person and I enjoy that. The commissioner and assistant don't hover over you, they let you do your own thing," says Baird. **WT&T**