CAD *from page 12*

"One hands you a little drawing he's just done along with a business card. The other comes back the next day. He's got a cover letter kicked out on his laser printer, a drawing done on his computer. He's got a plant list, a reference list, a whole portfolio of information, including a professional estimate.

"Who's going to look more professional?"

CAD is finally seeping into the landscape industry, although some landscape pros still approach it like it's a snake in a shoe box. That's changing as design software gets easier to operate. Programs are also becoming more affordable. This is catching the attention of landscapers, most of whom run small companies.

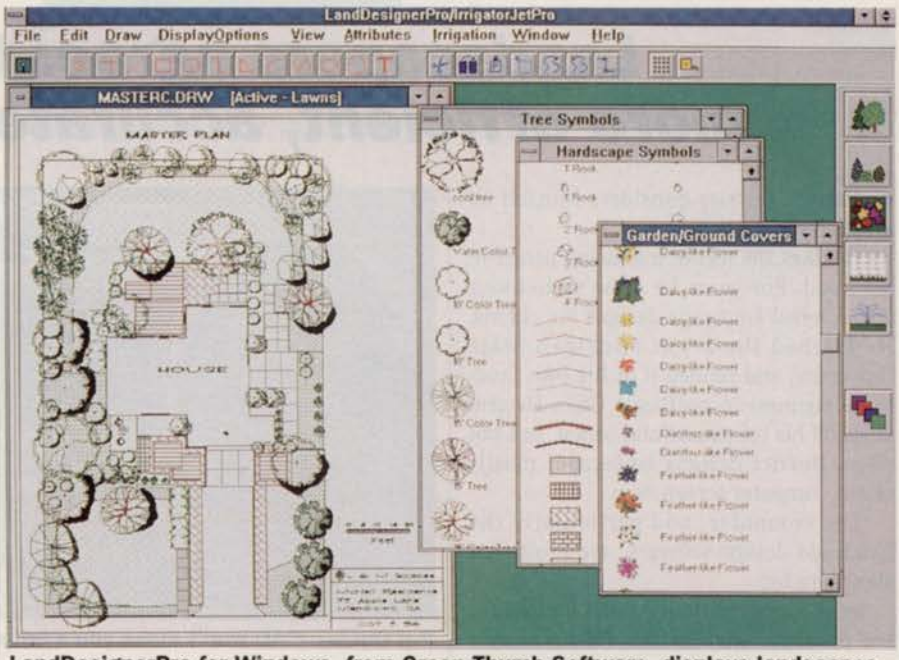
Most CAD-type programs for the professional market come, thankfully, from people who know the landscape business, *then* developed programs for it.

Their advice to landscape pros: forget the "rinky dink" stuff costing $59.95 at the local builder supply store, software targeted primarily for do-it-yourselfers. Most of it was written by computer people who *think* they know landscaping.

The good landscape design software starts at about $400. In fact, landscape pros—including but not limited to landscape architects—who do a lot of designing can easily spend $20,000 and more for both their hardware and software. That's a lot of computer-related power, enough, in some cases, to moonlight as a rocket designer. No kidding.

Many landscape contractors don't need all of these accessories. Many can incorporate CAD—in 2-D plan views—for under $2,000 if they're already computerized.

To run CAD programs easily, your IBM-compatible computer system should be at least as large as a 486-DX, claims one knowledgeable user. Smaller systems like 286, 386 and 4786-SX lack the math co-processor chip and speed needed to do calculations required by CAD software.



LandDesignerPro for Windows, from Green Thumb Software, displays landscapes as they will mature over time.

Whatever the software, your computer designs should not end up looking like they're done by a 13-year-old with too much free time. In fact, most landscapers customize their programs, particularly plant symbols and title blocks. They want their designs to be distinctive.

"We want to see drawings that look hand-drawn, except we do them on the computer where we have this spectacular editorial capability," says the owner of a small landscape firm. "Our designs serve as the calling card for our work."

But CAD, apart from its value for designs and presentations, can be a powerful business management tool, inasmuch as it has to work in tandem with all the other information related to running your business—costs, estimates, schedules, work orders.

"It's nice to have a drawing, and that adds to your professionalism, but the fact of the matter is you still have to count up how many plants there are. And you still have to put a price on those plants. And you still have to calculate how many hours are going into the job," says a Michigan contractor and CAD user.

With today's constantly evolving landscape CAD software it's just getting easier to do.

—Ron Hall

Salt-tolerant grasses to the rescue

Georgia researcher rediscovers long-neglected seashore paspalum; seed firms screen traditional turfs.

■ Salt kills or weakens most turfgrasses.

It wilts and desiccates them because salt in the soil solution creates a high osmotic pressure that restricts absorption of water and nutrients by turfgrass roots. But managers cursed with maintaining high-quality turf in saline environments can smile. Help is on the way in the form of a growing selection of salt-tolerant turfgrasses.

These grasses possess many of the characteristics of fine turf. In fact, they *are* fine turf, but they remain healthy in locations where turfgrass traditionally struggles:

✔ areas irrigated with recycled water (some effluents have high salt content),

✔ along highways "salted" during winter storms, and

✔ ocean-side golf courses.

While traditional species are being rescreened for salt tolerance, some scientists like Dr. Virginia Lehman at Lofts have been developing a newer alkaligrass, Salty. And others are readying grasses you may not be too familiar with yet.

Ronny R. Duncan, Ph.D., has collected—and is evaluating—270 ecotypes of seashore paspalum in turf plots at the University of Georgia, Griffin, Ga. He seeks varieties that thrive on golf courses with high salt levels.

"I'm confident I already have the grass-

es," says Duncan. "It's a matter of getting them evaluated for the fairways, the greens and the tees, then finding the best ones and going from there."

Actually, seashore paspalum has been found on U.S. courses since the mid-1960s when Pacific Sod introduced a cultivar, Adalayd from Australia, says Duncan. Initially used on golf courses in southern California, superintendents in the Southeast worked with it, too. It probably didn't find greater favor, he believes, because few superintendents knew how to manage it. Most treated it like a hybrid bermudagrass and encountered scalping and thatch problems.

"If you manage it like centipedegrass with very low fertility and cut back on the water, then it does extremely well," says Duncan. "We're developing management protocols for this grass for specific sites like a green, a tee, for fairway use and for roughs too."

Duncan calls seashore paspalum "the year 2000 grass," although he acknowledges it generally takes eight to nine years to get specific varieties into production.

"I told the USGA I wasn't going to sit back and wait for things to happen," says the University of Georgia professor. "In another two to three years we're going to know what's going to work. We will then evaluate them on many, many sites prior to release."

Beyond its ability to tolerate high salt levels (some cultivars will withstand up to 14,000 ppm salt), seashore paspalum requires much less fertilizer than either bentgrass or bermudagrass. So far, Duncan says he's encountered no major insect or disease problems. His major investigations have focused on winter hardiness. He says that shouldn't be a problem either and predicts the grass will be used on golf courses as far north as the coastal Carolinas.

Trials at International Seeds shows what salt does to some varieties, in this case Eureka hard fescue and Sabre *Poa trivalis*.

"From an environmental standpoint, this grass is looking very good," says Duncan.

Although seashore paspalum has seed production capabilities, initially it will have to be vegetatively propagated. Duncan says the species has a complex called self-incompatibility—it must have pollen from plants with a different genetic background. "It's a problem that will have to be worked out," he admits.

Other turfgrass breeding programs have identified other turfgrasses with increased salt tolerance. Some are already being marketed. Expect more to become commercially available.

This past season Turf-Seed Inc. harvested one field of Seabreeze slender creeping fescue that, according to plant breeder Crystal Rose Fricker, was both salt tolerant and performed admirably in shade trials. "We're trying to put out more acres of Seabreeze this fall," she says.

"We have a group of tall fescues that we're cycling (for salt tolerance)," she adds. "In fact, I did all the cool-season species. We have the survivors planted out now." Particularly promising: salt tolerant bentgrasses collected by Dr. Joe Duich on golf courses located along the Eastern seaboard.

"We have a slender creeping red fescue, Marker, that does very well at 5000 ppm," says Craig Edminster, director of research, International Seeds. He's been examining turfgrasses growing in solutions with 1500, 2500 and 5000 ppm of salt.

"We plan on screening virtually all the species that we have in our program. Our next group will be our new, improved perennial ryegrasses," adds Edminster.

Having identified salt-tolerant varieties, the company can then offer mixtures that establish rapidly and maintain good persistence along roadsides that get winter road salt. "Of course, some of these will be used on golf courses or in areas that irrigate with effluent water too," says Edminster.

Lofts Seed says its new alkaligrass developed by Virginia Lehman performs extremely well under high salt and/or alkaline soil conditions. Aptly named Salty, it's described as a slow-growing, cool-season turfgrass with fine-leafed texture. It can be cut to as low as ¾" or allowed to grow about 16," creating a natural-looking low-maintenance turf.

Lofts is targeting it for full sun at sea shores and along roadways and sidewalks with salt problems. In fact, says Lehman, it performed admirably on an oceanside hole at famed Pebble Beach, providing healthy turf when the overseeded ryegrass failed because of salt.

It can also be used for winter overseeding of dormant bermudagrass where soil conditions dictate use of alkaligrass, says Lehman. Quantities are available.

—Ron Hall

Relative salinity tolerance

Good	Medium	Poor
Bermudagrass	Tall fescue	Meadow fescue
Zoysiagrass	Perennial ryegrass	Red fescue
Creeping bentgrass		Kentucky bluegrass
St. Augustinegrass	Colonial bentgrass	Centipedegrass

Source: "Turfgrass Science & Culture" by Dr. James B. Beard