Bill Byers completely reno-
vated all 36 fairways at Des
Moines Golf and CC over a
period of three years... nine
in 1985, nine in 1986 and the
remainder in 1987.

Three days after spraying
the existing bluegrass/Poa
annua fairways with a non-
selective herbicide, Penneagle

was slit-seeded into the sur-
face. When play resumed in
seven days, members had the
option of playing from the
germinating fairways or tak-
ing a drop in the rough.

Bill finds that lightweight
mowing keeps the Poa popu-
lation in control. “I used the
clippings for garden mulch
one year, that resulted in a
terrific stand of Poa. This
illustrates the effectiveness
of removing clippings and
seed heads.”

Overall, the new Penneagle
fairways require less water
than trying to maintain the
old bluegrass/Poa fairways,
and Penneagle proved to be
drought tolerant during the
dry summers.

“Bentgrass fairways are in
demand in our area. Other
courses in Des Moines have

made the switch,” says Bill,
“And we find that our player
satisfaction is up 500%.”

Oregon Certified PVP 7900009
Penneagle is one of the “Penn Pals”
On the cover: The new generation of golf course fairways at Oakmont C.C.

by Larry Kassell

COVER STORY: 
FAIRWAYS OF THE FUTURE
by Will Perry. There are issues and societal forces at work today that are changing the look and management of tomorrow's golf courses. Equipment manufacturers say they'll be ready for the 21st century.

CONTAINERS AND WINTER INJURY
by Jim Borland. Planting boxes can create more problems than they were intended to solve: Choosing the right size and location is essential to keeping plant material healthy.

SAFE AT ANY SPEED
by John N. Rogers III, Ph.D. The primary objective of experiments conducted at Penn State University was to advise high school athletic field managers of ways to improve playing field conditions. The conclusions were not surprising.

THE DEMAND FOR DIESEL
by Dennis Bourgoin and Tom Kane. As the landscape management industry continues to grow in sophistication, so does its equipment—like diesel engines.

ADVENTURES IN WATER STRESS
by Don Taylor, Ph.D. Drought conditions and failure of the irrigation system produce interesting findings on an experimental green in the Midwest.

TALL FESCUE IN URBAN LANDSCAPES
by Bob Morris, Ph.D. and John Van Dam, Ph.D Cultural practices for this grass should be followed with an eye on its limitations and weaknesses.

BOOST PRODUCTIVITY, BOOST PROFITS
by Ed Wandtke, CPA. Efficiency, morale and pride are three keys you can use to turn the lock of productivity. Once that lock is turned, you can open the door of profitability.
Introducing the fine art of broadleaf weed control. New Gallery.

Look closely. This may be the last time you'll see these broadleaves on display.

Elanco introduces the unique preemergence broadleaf weed control for golf courses. New Gallery 75DF. An original work of art. And science. With a new chemistry so advanced, it outdates postemergents, saving you time and labor costs.

The Gallery collection includes 44 of your toughest broadleaves such
as spurge, chickweed and white clover. With no reproductions allowed.
All you'll see is masterpiece turf. Free from broadleaves. And free from injury. New Gallery is actually more tolerant to all major species of cool and warm season turf, including bentgrass, than other herbicides. And there's no risk of off-site damage to nearby ornamentals.

Discover the fine art of broadleaf weed control with new Gallery. See your Elanco distributor. Or for a free brochure, call toll-free: 1-800-352-6776.

Elanco Products Company
A Division of Eli Lilly and Company
Lilly Corporate Center
Dept. EM-455, Indianapolis, IN 46285, U.S.A.
Gallery™—(isoxaben, Elanco)

NOW EPA REGISTERED.
Food for thought

As your stomach cells absorb the day’s lunch, here are some interesting observations that should get your brain cells going, too.

- **Dr. Gerald Kidder** of the University of Florida believes that lawn and tree care companies should consider purchasing shredders. Why? “Instead of throwing away tree debris (leaves, pine needles, prunings, etc.), people can run that stuff through the chipper/shredder and produce decorative mulch,” Kidder kids not. “I hope lawn care services will start using this technology and beautify the yards they serve with material they now throw away.”

(which makes up nearly 20 percent of the state’s municipal solid waste) will no longer be allowed in Florida landfills beginning in January, 1992. This is a trend which may touch landscapers in other parts of the country, especially highly-populated areas in states like New York, New Jersey and Pennsylvania.

Something to think about.

- The total herbicide market in the U.S. has leveled off, according to Kline & Company, an independent research company based in Fairfield, N.J. In a press release titled “Intense Competition and Mounting Environmental Concerns Ahead for U.S. Herbicide Suppliers,” Kline noted that the U.S. herbicide market will increase 1 to 2 percent annually until the year 2000.

Non-crop herbicides, such as those in the turf/ornamental market, will experience the most rapid growth, the report said.

“Kline expects groundwater contamination will be the most critical environmental issue facing the industry in the 1990s,” the press release noted. (That’s the ag industry, not the landscape industry, I might note. Although groundwater concerns rank high in the agricultural community, they have not yet fully reached the landscape “community.”)

So growth of herbicide use in the U.S. appears to be on “hold.” Something to think about.

- Our congratulations to Dr. **Roy L. Goss** on his retirement from Washington State University. And another round of applause to him for establishing the Roy L. Goss Turfgrass Endowment Fund at his former school. Dr. Goss says that he will match each $15 donated with $1 of his own (with a ceiling of $10,000) for the next 12 months.

This is a noble and welcome gesture on Dr. Goss’s part. He is to be commended.

Contributions may be mailed to 223 Hulbert Hall, W.S.U., Pullman, WA 99164. Monies collected will be used to support turfgrass research education and scholarships, according to development officer **Rich Swantz**.

Something to think about...until next month.

Jerry Roche, editor
CITATION II Turf-Type Perennial Ryegrass is well known for its rapid establishment, fine texture, dark green color, improved mowability and drought tolerance, both in a monostand or as part of CBS II blend. But, the REAL plus is Citation II’s high endophyte level (over 80%) that make it naturally resistant to leaf eating insects.

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PESTICIDES

EPA gives its blessing to 'Confront' and 'Gallery'

'Campaign' and 'Avid' labels are expanded

WASHINGTON — Confront and Gallery herbicides have received registrations from the U.S. Environmental Protection Agency.

Confront is used for the control of annual and perennial broadleaf weeds in ornamental turf and cool-season grasses, according to the Dow Chemical Company. Gallery 75 dry flowable is approved for use on certain broadleaf weeds and annual grass in established turf.

The active ingredient in Gallery, a selective pre-emergence compound, is isoxaben. Among the 44 broadleaf weeds it is labeled for are chickweed, henbit, plantain, purslane, oxalis, spurge and white clover.

Gallery is stable on the soil surface, but must be activated by ½-inch of rainfall or irrigation within 21 days. Established turf can be reseeded in the fall after spring application.

Gallery is also labeled for use on trees, ornamental shrubs and ground covers.

Confront, a non-phenoxyl, will be introduced in November, 1989.

Confront is composed of an amine salt formation containing one part clopyralid to three parts triclopyr per gallon. Both active ingredients act as a plant hormone mimic, disrupting plant cell growth, Dow says.

Initial control results are noticed four to six days after treatment, according to Rob Peterson, Dow's turf marketing manager.

Triclopyr controls ground ivy, oxalis, spurge, violets, chickweed and speedwell (among others), while clopyralid controls weeds such as musk thistle, clover, dandelion and plantain.

As action picked up at the EPA recently, the federal organization also expanded the labels of Campaign herbicide from Monsanto and Avid miticide/insecticide from MSD Agvet.

Campaign's new label allows it to be tank-mixed with Oust or atrazine, widening the window of application. The label also permits application in bahiagrass or tall fescue.

Campaign was used last year in the South for summer release of actively-growing bermudagrass. The new label allows the product to be used for:

- bermudagrass release in the spring prior to greening;
- release of bahiagrass; and
- spring and summer applications in tall fescue.

Campaign is said to be especially valuable to roadside vegetation managers.

Avid is now approved for control of spider mites and leafminers on woody ornamental plants. Previously, the product had been registered for use on flower crops, foliage plants and other non-woody ornamentals.

Avid can also be used on such important nursery plant types as deciduous shrubs, groundcovers and vines, perennials, annuals and bedding plants. It has not been cleared for use on conifers, however.

For more information on these products contact:

- Elanco Products Company at Lilly Corporate Center, Indianapolis, IN 46285; (800) 352-6776 for Gallery.
- Dow Chemical Company at 9001 Bldg., Midland, MI 48640; (517) 636-1000 for Confront.
- Monsanto Industrial Products Group, Box M2L, 800 N. Lindbergh Blvd., St. Louis, MO 63167; (314) 694-6640 for Campaign.
- MSD Agvet at P.O. Box 2000, Rahway, NJ 07065-0912; (201) 574-4000 for Avid.

Lofts expands

ALBANY, OR. — Lofts Seed Inc. recently expanded its facilities. Its West Coast division, Lofts/Great Western, has added more than 5,000 acres for turfgrass seed production. Storage and loading facilities have been increased by adding a new 33,000 sq.ft. warehouse (above) that holds 4 to 5 million lbs. of seed.
For fastest response, use the peel-off label from the front cover.

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**TELEPHONE ( )**

**HAVE A SALES REP CALL ME □ (A)**

**C. SUPPLIERS:**

| 0205 | Sod growers □Other supplier (please specify) |
| 0210 | Dealers, Distributors |

What is your title? (please specify) ______________

I would like to receive (continue receiving) LANDSCAPE MANAGEMENT each month: YES □ NO □

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(please check one only in either A, B OR C)

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| 0010 | Sport complexes |
| 0015 | Parks |
| 0020 | Rights-of-way maintenance for highways, railroads & utilities |
| 0025 | Schools, colleges & universities |
| 0030 | Industrial & office parks/plants |
| 0045 | Condominiums/apartments/housing developments/hotels/resorts |
| 0050 | Cemeteries/memorial gardens |
| 0060 | Military installations & prisons |
| 0065 | Airports |
| 0070 | Multiple government/municipal facilities |

□ Other type of facility (please specify) ______________

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| 0105 | Landscape contractors (installation & maintenance) |
| 0110 | Lawn care service companies |
| 0112 | Custom Chemical Applicators |
| 0125 | Landscape architects |
| 0135 | Extension agents/consultants for horticulture |

□ Other contractor or service (please specify) ______________

What is your title? (please specify) ______________

I would like to receive (continue receiving) LANDSCAPE MANAGEMENT each month: YES □ NO □

Your Signature: ______________ Date: ______________

AUGUST 1989
This card void after OCT. 15, 1989