

BY DAVE FEARIS, CGCS

SAFE HANDLING

Many of us that have been in the turf management industry for a number of years assume that we know how to safely handle pesticides. However, after putting this article together, I was surprised how many of the "Do Nots" that I actually was guilty of doing. So, I hope that this article will make you more aware of safely handling pesticides. You, as a supervisor or a pesticide applicator, should have one goal in mind when dealing with pesticides: The utmost concern for the safety of your employees and the environment.

Common sense

- Do not mix pesticides near a water source (well, stream, river, lake, etc.).
- Do not put the filler hose into the pesticide mixture. This could allow for the pesticide to siphon out of the tank into the hose.
- Do not leave a pesticide tank unattended when filling or leave any container (empty or not), unattended at the application site.
- Do not eat, drink, or smoke when handling pesticides.
- Do not use your hands to stir the pesticides. Also, keep your head high enough above the tank opening to prevent pesticides from splashing in your face.
- Do not store pesticides in old bottles or food containers where they could be mistaken for drink or food for people or animals.



MAINTAIN A COMPLETE, UP-TO-DATE INVENTORY LIST AND SHARE IT WITH YOUR FIRE DEPARTMENT

Can you relate to any of these? I would guess that many of us could.

BEFORE HANDLING OR USING ANY PESTICIDE READ THE LABEL!

The label will tell pertinent information concerning items like:

- Personal protective clothing to wear when mixing, loading or applying the product
- User safety recommendations
- First aid if swallowed, inhaled, eye and/or skin contact.

- Signal words like Danger, Warning, Caution
- Environmental hazards of the product
- Directions for use

These are just a few of the items on a label. Time should be taken by both the supervisor and the applicator to thoroughly read the label.

Storage

Here are some suggestions for properly storing pesticides:

- Check Federal, state and city regulations and consult with your facility's insurance company.
- If possible, the storage facility should be separate from the main facility. In many cases, if the pesticide storage facility is part of the main facility and catches fire, the fire department will let the whole structure burn because of potential contamination problems to any drains leading to water sources or actual water sources like streams, lakes, rivers, etc.).
- The storage facility should contain an impervious floor such as concrete (easier to contain spills and leaks and is easier to keep clean). It should be dry, well lighted, and ventilated, maintained at a temperature range between 50-75 degrees, equipped with fire protection, marked with signs (DANGER, PESTICIDE STORAGE) and secured by a fence and/or locked doors. Pesticide containers should be stored on metal shelves in rows with labels plainly visible. If possible, store pesticides according to use (fungicides, insecticides, herbicides, etc.) Regularly check all containers for corrosion or leaks.
- Maintain a complete, up-to-date inventory. Give this inventory list to your fire department along with home and/or cell phone numbers of responsible persons at your facility.
- Never store spill and/or first aid kits, MSDS, and personal protective clothing in the actual storage facility.

Protective clothing

Pesticides can enter the body through the skin, the mouth, the nose, and the eyes. Remember to read the label to find out what personal protective clothing should be worn.

- Some of the clothing that may be required include goggles or face shield, rubber boots and gloves, a respirator, rubber apron, or water-retardant protective clothing.
- Personal protective clothing should always be worn when mixing pesticides but also before stopping or containing any spill.
- Launder protective personal clothing separate from other laundry.

Mixing

The greatest chance for a pesticide poisoning exposure can come from the mixing operation.

- Remember that small quantities of pesticide spilled over a period of time in one area may accumulate and cause a potential contamination problem.
- In many states it is mandatory that you provide an available water source at the mixing site for emergency decontamination. Soap, paper towels, and an additional change of clothing must be available to the applicator as well. An eye wash station is also recommended.
- In close proximity to your mixing or storage area, have a pesticide first aid kit readily available. Check the product label for instructions; in the event a pesticide is swallowed or serious dermal or inhalation exposure occurs, call the nearest poison control center. This number should be posted at various, prominent locations throughout your facility.

OF PESTICIDES

- A spill kit should also be located near the mixing or storage area. This kit should include absorptive material such as activated charcoal, vermiculite, or cat litter, drum/drums with a lid for storing the contaminated material and personal protective clothing.

- Rinse pesticide residues from application equipment before storage and/or repair.

- Clean pesticide containers as soon as they are emptied. Triple-rinse and slit them. Spray the rinsate water to varying turf areas versus repeatedly spraying the same area.

- Have several empty drums available in case a sprayer tank needs to be drained.

- Some states require rinsate pads. It is best to check with the appropriate state officials to see what these requirements are.

Training

Time should be taken with your staff to review proper pesticide handling methods and also planning ahead to handle pesticide spills. Training in these areas will

provide invaluable, especially when an emergency arises.

Many states now require all certified pesticide applicators to have a written plan outlining proper pesticide handling and spill response procedures for their individual operation. This plan could include: methods and procedures for properly handling pesticides, pesticide containers and application equipment; methods and procedures for inspection and repair of pesticide application, storage and application equipment; methods and procedures for rinsing/washing pesticide containers and application, storage and transportation equipment; methods and procedures to be used to contain, recover, handle and dispose of pesticide spills either inside or outside of the pesticide storage facility.

Emphasis must be put on regularly training employees and providing them with proper equipment to safely apply pesticides. OSHA regulations stipulate that you must document your training efforts. **ST**

Dave Fearis is a turf & ornamental product specialist for PBI/Gordon Corporation, www.pbigordon.com.

MODULAR SOCCER GOALMOUTH

by
GreenTech

GreenTech's patented modular system is an innovative technology that provides solutions to problems associated with the design, construction, and maintenance of horticultural and turfgrass projects. This picture is an example of the GreenTech Modular System used as a soccer goalmouth. Modular construction allows new, mature, and well-rooted turf to be installed in worn, high traffic areas, such as soccer goalmouths. It eliminates the need to constantly re-grass the area with sod that does not have time to become fully established.



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CENTRAL CONTROL SOFTWARE

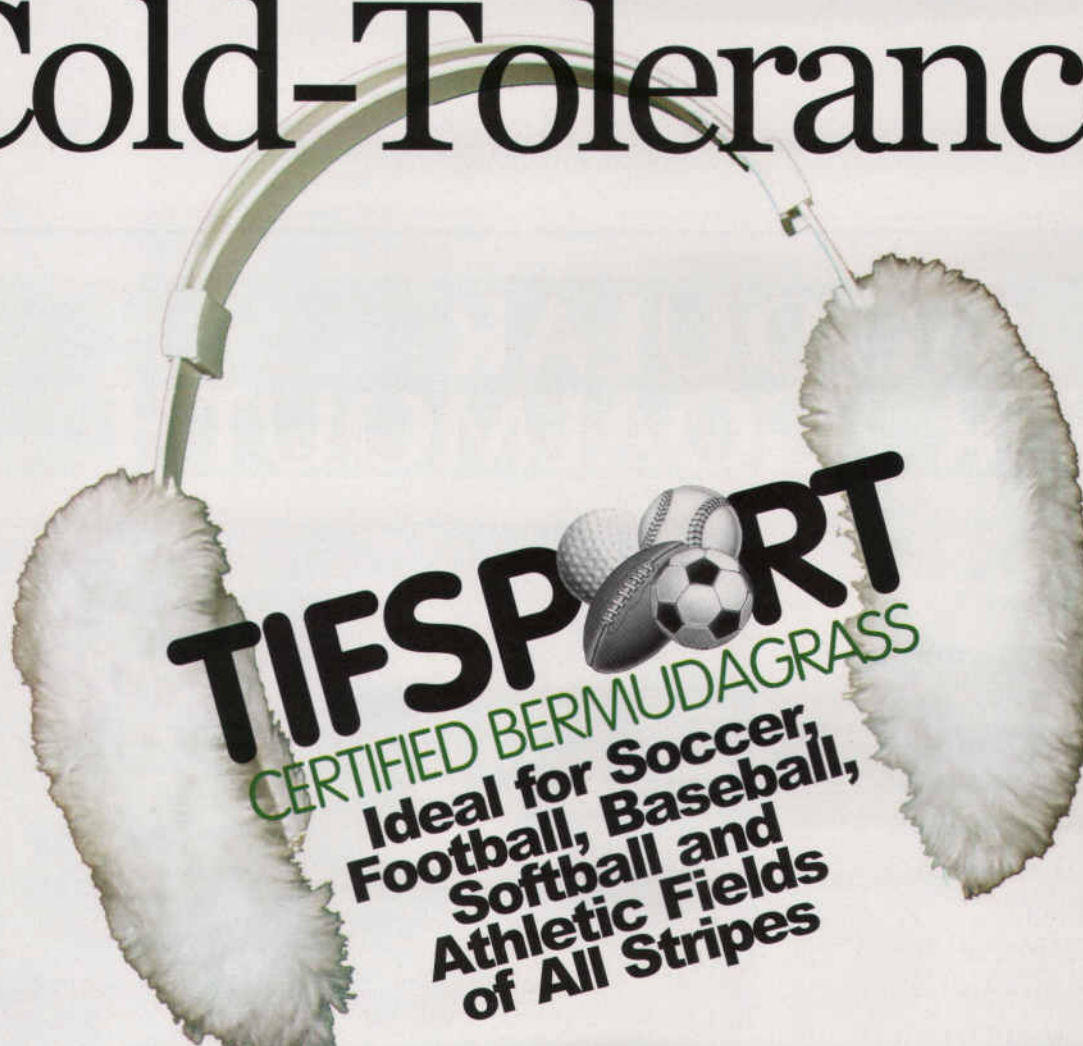
Rain Bird introduces Version 4.0 central control software, which offers Rain Watch and Minimum ET; the former can make irrigation decisions based on the type of rain event happening, while the latter precisely determines the watering cycle, as opposed to scheduling run times in advance for alternating days.

Rain Bird/800-984-2255

For information, circle 098 or

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BASF Professional Turf/800-545-9525

For information, circle 096 or

see <http://www.oners.ims.ca/2910-096>



NEW HERBICIDE

Lifeguard herbicide from LESCO uses the active ingredient dithiopyr to control crabgrass and other annual grasses and broadleaf weeds in established turf. It comes in 5-oz., water-soluble packets and is labeled for use in most states.

LESCO/800-321-5325

For information, circle 120 or

see <http://www.oners.ims.ca/2910-120>



NEW KENTUCKY BLUEGRASS

With a compact, aggressive growth habit, North Star is a truly unique bluegrass for "high use" turf. It is outstanding for wear tolerance and excellent for mixes requiring aggressive growth and quick recuperation. Featuring very good salt tolerance, excellent rust tolerance, and 'Top 10' performance in the most recent 1996-2000 NTEP trials.

Turf-Seed, Inc./503-651-2130

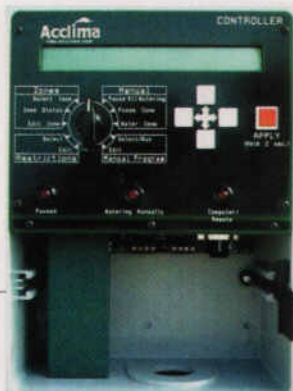
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HOSE/TUBING CLAMPS

OETIKER manufactures various clamp styles in both zinc-plated steel and stainless steel. The design provides speed of installation, tamper resistance, low profile posture while maintaining a constant seal that will hold against pressure, vacuum, and vibration. OETIKER/989-635-3621
For information, circle 107 or see <http://www.oners.ims.ca/2910-107>



KNOW SOIL MOISTURE LEVELS

Acclima is the first commercial provider of sensor-based irrigation control technology that relies solely on soil moisture levels. Other sensor-based systems are based on "relative" sensors that respond to a number of soil variables, including temperature and chemistry. Acclima's product has "absolute" sensors, the only variable being measured is the actual moisture content of the soil. Acclima/208-887-1470
For information, circle 104 or see <http://www.oners.ims.ca/2910-104>

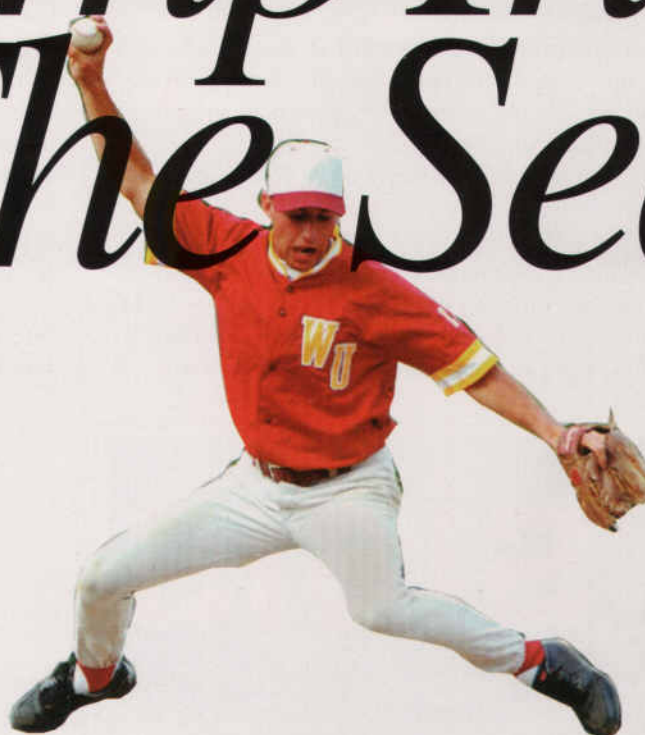
ARC ADJUSTMENT

The new TR70XT Series combines simplicity and ruggedness in one commercial-grade rotor by offering Toro's exclusive arc-adjustment band technology plus a high-pressure rating. The rotor's gray arc adjustment band allows precise settings from 30 to 360 degrees, minimizing the need for fine-tuning.

Toro Irrigation/800-664-4740
For information, circle 103 or see <http://www.oners.ims.ca/2910-103>



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FERTIGATION UPDATE

The sports turf market continues to grow as do sports complexes. Some larger complexes now encompass more than 50 acres. These major complexes are assets to their cities and turf quality is crucial to their success. Heavy, constant turf traffic can make maintenance a problem, of course.

To complicate this problem, maintenance budgets are heavily scrutinized and subject to cuts, meaning quality sometimes can be compromised.

Turf managers looking for solutions should consider fertigation, the practice of injecting liquid nutrients into the irrigation system.

Fertigation converts ordinary irrigation water into fertile water. Notice after a summer thunderstorm the dramatic growth and restored green of turf. This phenomenon is caused by the lightening in the storm, which converts nitrogen in the air into nutrients in the rain, therefore creating fertile rain. Fertigation can provide a thunderstorm for your sports field each time you irrigate.

This method of feeding the turf lightly with each irrigation cycle will control plant growth, build the health of the plant and soil, and produce a deeper and

denser root system. Fertigation gives the option of pushing the growth after heavy play, reduce labor, completely eliminate or reduce the use of pesticides, and conserve water.

How can fertigation save water? It is the most efficient way to apply fertilizer both through foliar and deep root application. The soil and the plant health are allowed to reach maximum health and stability. Healthy plants do not require as much water, nutrients, herbicides, or pesticides. A horticulturist for a casino in Las Vegas reported that he had not used a single drop of pesticide in the past 5 years since he began injecting special organic fertilizers, and has significantly reduced water use.

There are fertigation systems to accommodate 1-acre baseball fields as well as large sports complexes, including sites as large as one with a pump station that runs at 3,000 gal/min @ 150 psi. **ST**

This article was supplied by Turf Feeding Systems, Houston, TX, a leading fertigation company, www.turffeeding.com or 800-728-4504.



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MICRONUTRIENTS

Becker Underwood's BioGain is a dry, water-soluble combination of chelated iron micronutrient, natural humic substances, cold water kelp, and a proprietary blend of natural sugars, vitamins, amino acids and beneficial bacteria. BioGain

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Becker Underwood/515-232-5907

For information, circle 110 or
see <http://www.oners.ims.ca/2910-110>



WIRELESS REMOTE IRRIGATION CONTROL

Nighthawk Systems introduces HYDRO IVTM, the newest in a line of "Plug" and "Play" wireless remote controls that uses paging signals for activation. Its primary function is to receive a command from a user-generated page and interrupt irrigation time clocks via the sense terminals.

Nighthawk Systems, Inc./303-337-4811

For information, circle 121 or

see <http://www.oners.ims.ca/2910-121>



SOIL FUMIGANT

Curfew soil fumigant, a nematocide manufactured by Dow AgroSciences LLC, has been granted a 24(c) label from the EPA making it available for use on turf throughout South Carolina and Georgia. This is in addition to the existing 24(c) label presently in place in Florida.

Dow AgroSciences/317-337-3000

For information, circle 099 or

see <http://www.oners.ims.ca/2910-099>

COMBAT FIRE ANTS

EPA has approved Wellmark International's Extinguish Plus for combating imported red fire ants. The product combines the killing speed of an adulticide with the long lasting control of an insect growth regulator (IGR) and provides a tool to minimize imported red fire ant infestations.

Wellmark International/800-877-6374

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• <i>Bacillus licheniformis</i> DA-33	Phytohormone producer, effective at higher soil temperatures
• <i>Paenibacillus azotofixans</i> SB3154	Converts atmospheric nitrogen into a form useable by plants



Novozymes Biologicals, Inc. www.novozymes.com

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"NUTRIBOOSTERS"

Trees looking yellow or suffering from poor leaf growth? One application of ArborSystems Nutriboosters can relieve symptoms from iron chlorosis and certain deficiencies of iron, manganese, phosphorus, and potash. Developed for use with Direct-Inject Tree Treatment system.

ArborSystems/800-698-4641

For information, circle 111 or

see <http://www.oners.ims.ca/2910-111>



USER-FRIENDLY PACKAGING

Syngenta Professional Products' redesigned 10-gal. LinkPak packaging system is now available. Products available are Banner MAXX, Subdue MAXX, and Primo MAXX. Features include: color-coded by brand; top indentation with a flush mounted nozzle; and complete and clean drainage when in the horizontal position.

Syngenta/800-395-8873

For information, circle 101 or

see <http://www.oners.ims.ca/2910-101>



ALTERNATIVE GROUNDCOVER

PPW has begun distributing GroundScape, a recycled alternative, and multi-purpose groundcover with a mulch-like appearance that can be used for landscaping, playgrounds, pool surrounds, and walkways. Available in two styles and two colors and has a 10-year warranty. The product is safe for children, does not harbor insects, and does not encourage mold and mildew growth.

PPW/800-845-6160

For information, circle 095 or

see <http://www.oners.ims.ca/2910-095>

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Profile Products has introduced Flexterra, a hydraulically applied blanket that serves as a flexible erosion control medium that can accelerate seed germination and plant growth as well as provide reliable erosion control. Product is composed of long strand, thermally processed wood fibers, crimped, interlocking fibers and performance enhancing additives. Profile Products/800-207-6457
For information, circle 097 or see <http://www.oners.ims.ca/2910-097>



WIRELESS CONTROLLER

Hunter Industries has available the SVC-400, a four-station battery-operated controller for use on sites with restricted access to electrical power. The product works with standard battery latching solenoids and installs directly into the valve box. Also can be used to add zones to an existing system without trenching additional wires. Hunter Industries/760-744-5240
For information, circle 117 or see <http://www.oners.ims.ca/2910-117>

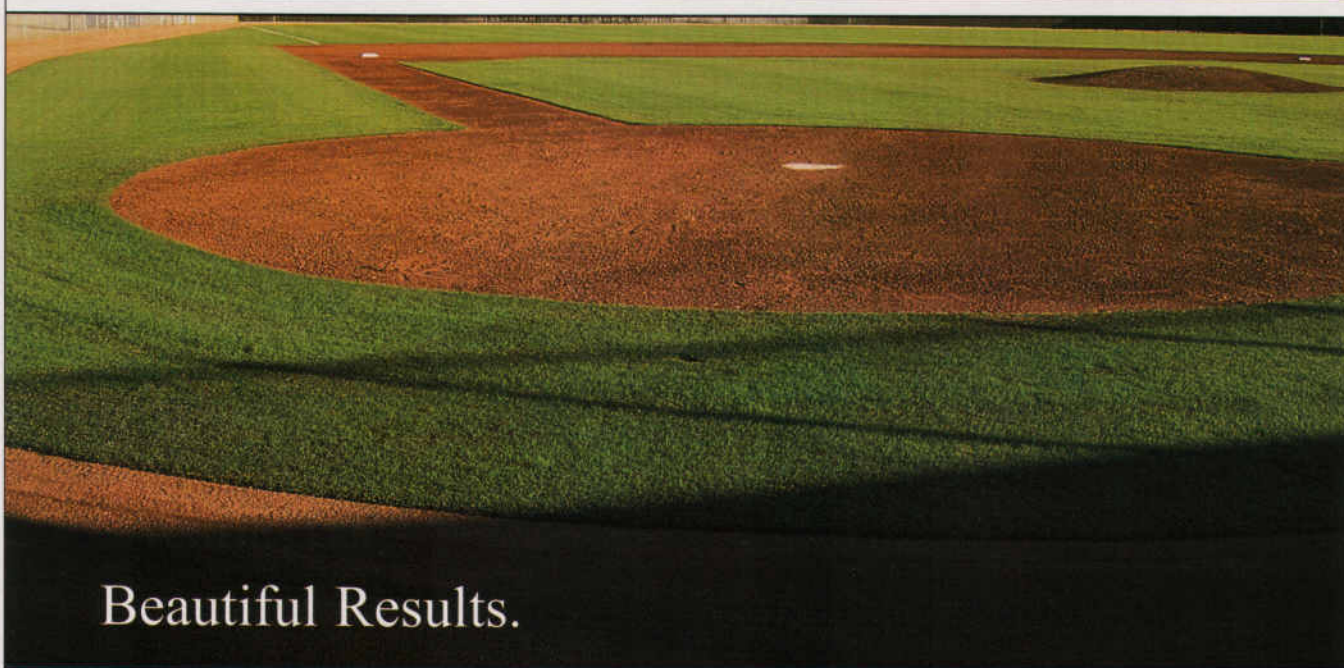
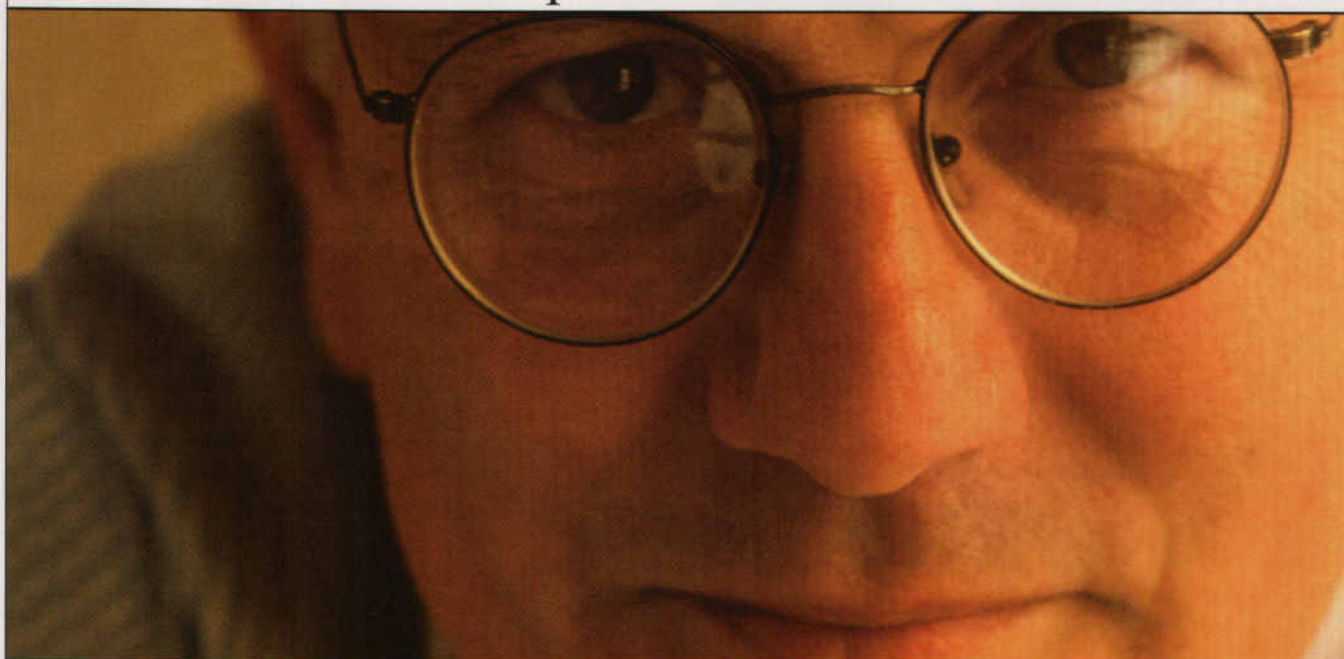
DECODER, NOT SATELLITES

The IDS is a new 2-wire decoder that's housed in a stainless steel or plastic pedestal for vandal-resistant commercial applications. Only one high-capacity IDS controller and a system of decoders are needed to control more than 100 stations, instead of a series of standard field satellites.

Hunter Industries/800-733-2823
For information, circle 115 or see <http://www.oners.ims.ca/2910-115>



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