

CIL Sulphur Coated Urea

The Number One Controlled Release Nitrogen Fertilizer



**Efficient
Effective
Economical**

CIL Sulphur Coated Urea is being tested against other controlled release nitrogen fertilizers at 14 different universities in the U.S. and Canada. Photo above shows one of the test sites with CIL Sulphur Coated Urea treated grass in foreground.

Efficient

- Release of nitrogen is controlled by moisture. Temperature and bacterial activity are not important factors. Excess moisture however, **does not** markedly speed up the release of the nitrogen.
- Soil pH does not alter pattern of release.

Background photo:
CIL Sulphur Coated Urea prills
actual size.



Effective

- Tested on grass plots under scientifically controlled conditions, CIL Sulphur Coated Urea outperformed all conventional slow release nitrogen fertilizers tested, in both the appearance and growth of grass obtained.
- CIL Sulphur Coated Urea releases nutrients as soon as it is applied and continues to do so evenly over 4 to 5 months. Result is more complete utilization of nitrogen applied, and no build up of nitrates in the soil.

Economical

- Low cost per unit of controlled release nitrogen.
- Available in bulk or in 55 lb plastic bags.

Please send me more information about **CIL Sulphur Coated Urea.** ☐
Please advise who can supply me with blended products made with **CIL Sulphur Coated Urea.** ☐

Name..... Company.....
Street.....
City.....
State.....
Zip.....

Mail to:
Peter Buckley
Professional Turf Products
Canadian Industries Limited
P.O. Box 5201, London, Ontario, Canada
N6A 4L6 Telephone: (519) 672-9220

**A dependable source of supply
of quality products, in commercial
quantities, from Canada's largest
chemical company**



Canadian Industries Limited



Broadleaf weeds are sprayed (above) and the outfield is fertilized (below) using City of Ontario equipment.



Weed control

"Weed control is one area that I feel a lot of managers are missing, particularly in the hybrid bermudas. We get a lot of annual grasses, crabgrass, annual bluegrass, and some of the perennial grasses like dallisgrass.

"I think the thing that they are missing is not timing application of preemergence material properly, at least as far as *Poa annua* and crabgrass. In this area, we put on a preemergence herbicide about now, early to mid-January. The farther up the coast you go, the later it is. In San Francisco, we're talking about March.

"We can use Kerb to clean up annual bluegrass and crabgrass on a postemergence basis. Of course, you can't use it on any other type of grass, but it really cleans up the bermuda.

For broadleaf weeds, a good broad spectrum product like Trimec or Tresan, with 2,4-D, dicamba and MCPP works good. Once or twice a year, you can go in and really clean up the broadleaves. There's no fiddling around with first one chemical, then the other.

"I think most people don't realize though, that if a weed is not actively growing, then the thing isn't going to die."

Verticle mowing

"Verticutting, particularly on hybrid bermudas should be done at least once a year. Late fall, to early winter is the best time, prior to any application of preemergence materials. Once the pre-emergence herbicide barrier in the soil is broken, the field is vulnerable to crabgrass.

Lines

"I heard from one of my student former students who is now managing a college field, that the NCAA prohibits the use of lime as a lining material. He had to switch to another powdery

material.

"Using lime, especially on fields that are heavily used, seems to be a problem, because the material has to be reapplied all the time. They used to burn the lines with weed oil and then put the lime in the pocket that resulted. Weed oil is kind of greasy if someone slides into it and could be caustic, if someone had an open wound. Lime is also caustic.

"Some fields are actually painting on their white lines, either with a white latex paint, or they're taking hydrated lime mixed with water and spraying it on.

"Another former student of mine is using a sprayer that takes aerosol cans. He likes it. Says it costs more but is a lot easier to control. There's no mixing and its quicker.

Problems

"Most school systems' grounds personnel are not really trained. The people have just been around a long time and sort of inherit the job.

"We have quite an educational program with our conferences and so forth. I chair the sports turf section every year and we try to keep the managers up to date.

"I would say the local high schools and parks leave the most to be desired. The city we live in, I don't think the park fields have received an application of fertilizer in the last eight or nine years.

"I took my students over to a little league field here and rennovated the entire field. The city said fine, we'll give you the equipment and you do the job, so we did. We brought brick dust in, and we brought in fertilizer and sod, and redid the whole thing.

"Normally though, with Proposition 13 passing, things are even going to be worse. There's not going to be much maintenance done. Or if it is, its going to be skimpy." **WTT**



The Bon View little league field in April, 1978, ready for play.



WE WROTE THE BOOK

When it comes to landscape irrigation, we wrote the book! Weather-matic systems are used around the world to provide a cost-effective way to water residential grounds, parks, green belts, athletic fields, golf courses, highway medians and other landscaped areas requiring irrigation.

Tough, dependable, field proven Weather-matic products are installed and serviced by a worldwide network of

local Weather-matic distributors and dealers.

For the name of your nearest Weather-matic distributor or dealer; to order our book (the Turf Irrigation Manual); or to get information on Weather-matic systems, call us in Dallas: (214) 278-6131. Weather-matic Division Telsco Industries; Box 18205 Dallas, Texas 75218



The finest lawn and turf irrigation system for any landscaped area

Weather  **matic.**

**"I could sure use a
rugged mid-sized rotary
that really maneuvers."**



A lot of our customers have been wanting a mid-sized mower that's built tough to take it, and that's highly maneuverable at the same time.

So our engineers came up with the amazing Turfcats.

It's amazing because it's absolutely packed with features that help you get your medium-sized mowing jobs done faster and better than ever.

First, you have a choice of a 50" or 60" deck. (They're interchangeable.) Fully articulated, they closely follow ground contours so you get a smooth, even cut with practically no scalping.

Deck design lets you trim close, and also gives super clipping dispersion. The deck raises and lowers hydraulically for curb climbing and transport. And you can adjust cutting height from 1" to 4".

Then, the three-wheel, wide track design gives the Turfcats great stability on slopes. And the foot-operated hydrostatic drive lets you steer and maneuver while changing speeds or going from forward to reverse.

How about hill climbing? It's a breeze with the power delivered by the husky 18-HP Kohler overhead valve engine. And you can expect a long engine life filled with good fuel economy.

Plus, the Turfcats are quiet. All controls are within easy reach. And it might very well be the most comfortable riding rotary in the world.

Ask your Jacobsen distributor for a Turfcats demonstration. And have him explain about the many fine features that customers want.

The more you listen to what he has to say, the more you'll know we've been listening.

We hear you.

JACOBSEN
TEXTRON

Jacobsen Division of Textron Inc.

NONSELECTIVE WEED CONTROL IS NOT JUST FOR SPECIALISTS



Just three of many uses of nonselective weed control in Green Industry occupations.

The task of eliminating all or most vegetation in a particular area is part of every Green Industry occupation. Whether the vegetation to be controlled is on a golf course, along a highway, underneath utility lines, a path through a park, drainage ditch banks, or beside cemetery markers, the job is similar.

Consequently, every Green Industry manager should have a basic knowledge of herbicides available for total control. This knowledge should include characteristics of the herbicides, precautions for guarding desirable vegetation and water supply, and plant factors which allow them to be controlled. Such knowledge helps assure efficient and safe control of unwanted vegetation.

Herbicides are designed to fill in where mechanical control is difficult or uneconomical. Although chemical weed control is not new, most advances have taken place since 1945 when the selective characteristics of 2,4-D attracted considerable attention from chemical manufacturers. As a result, the number of primary herbicides increased more than ten fold between 1950 and 1970.

Such growth in the herbicide and insecticide markets caused unease with environmental groups. The result was a vague law which has slowed product development for most of this decade. However, there are indications of growth in the total kill herbicide area recently. New combinations of existing products and new registrations for agricultural products are providing a larger selection. New products like Roundup (glyphosate) are restoring reliance on chemicals for vegetation clearance.



Nonselective weed control

Selectivity and plant susceptibility

Most total kill herbicides are selective at lower rates. The more susceptible a plant is to a herbicide, a lower rate of herbicide is needed to kill it. Certain factors cause some plants to be more susceptible than others. A few are:

- faster growing plants and plants in growing phases (young) are more susceptible to herbicides.
 - shallow-rooted plants are easier to control (no deeper than two inches).
 - how easily a plant adsorbs a herbicide.
 - exposure of growing points to herbicides.
- According to Klingman and Ashton in their book "Weed Science", the growing points of most broad-leaf plants are located at the tips of shoots and at leaf axils, whereas the growing points of grasses are located below ground and at the base of the plant.
- the sensitivity of a plant's chemistry to the particular herbicide.

Application precautions

Residual herbicides have half lives many months long. This quality is desirable in reducing the number of applications for weed control, however it also increases the persistence of these toxic substances in water sources. Application near wells, lakes and streams should be done with caution. The label will specifically list ditch banks if the herbicide can be used near water. Some brush and weed killers are also used for aquatic weed control, such as Diquat.

Drift can cause problems with herbicide sprays. Droplet size, wind conditions, and direction of spray must be watched carefully. Granular applications should also be made carefully to keep the herbicide away from desirable vegetation.

It is absolutely essential that the label be read thoroughly and its directions followed exactly. A herbicide must be respected, not feared.

Herbicides available

Many total kill herbicides are combinations of contact and soil products. The basic types of applications are:

- foliage spray
- soil treatment
- stump treatment
- bark treatment
- trunk injection

Foliage and soil application are the two primary types concerning Green Industry managers.

Herbicides have been designed to act quickly, slowly (over the winter), for long periods of time or for less than three days. Manufacturers also offer combinations of herbicides which provide quick kill and long term results.

All residual qualities are based upon persistence and continued toxicity of a herbicide in the soil. They may be affected by the amount of rainfall after application, the amount of clay and organic matter in the soil, and temperature. Most manufacturers have improved herbicide formulations to reduce leaching to a minimum.



Utility line clearance is the biggest use of industrial brush herbicides. Substations require bare ground treatment where mechanical control is impractical at current labor costs.



Addition of surfactants to contact sprays may improve their effectiveness. Oil (No. 2 diesel) can be used with some herbicides to improve sticking and penetration through tree bark.

Most herbicides are in the form of wettable powders, emulsifiable concentrates, solutions and granules. Granules are designed for soil application, although some granular products can be mixed with water. Water is by far the most common carrier of herbicides.

Application rates are based upon pounds per acre, or in some cases per 100 sq. ft. (an acre is 43,560 sq. ft.). Liquid applications are usually made with 40 to 100 gallons of water per acre. Aerial spray mixtures contain less water. Mixing instructions are on each label. Wettable powders and

Vegetation Problems?

Spike®

is the tough one!

Try
Spike
granular
also

Spike lasts longer than most other herbicides
with fewer pounds per acre!

When applied in accordance with label directions, commercial field use has demonstrated that Spike remains effective longer than other products tested, preventing regrowth and permitting lower application rates in succeeding years.

Spike resists lateral movement!

Spike is non-volatile, control stays where it is needed instead of "shifting" into unwanted areas, enabling specific placement.

Spike gets many vines, brambles and woody plants!

More than 5 years of development, testing and commercial use have proven Spike's effectiveness against a wide spectrum of vegetation, especially the tough perennials, tenacious vines and so-called hard-to-control species, like mullein, pigweed, curley dock and kochia.

Spike gets many of the brush species
the others leave behind!

The most persistent vegetation control problem is **brush**. Spike helps solve that problem almost any time of year.

Spike provides versatility and easy application!

Commercial use has demonstrated equal effectiveness for both of Spike's principal product forms... wettable powder for spray application, or granular for mechanical application.

Wherever weed and brush control is the problem... in storage yards, parking areas, tank yards, around buildings and warehouses, along road shoulders and railroad spurs... the ideal remedy is SPIKE. It **does** what it **promises**!

Order Spike from your Elanco Distributor today. Spike should be the **foundation** of your vegetation control program.

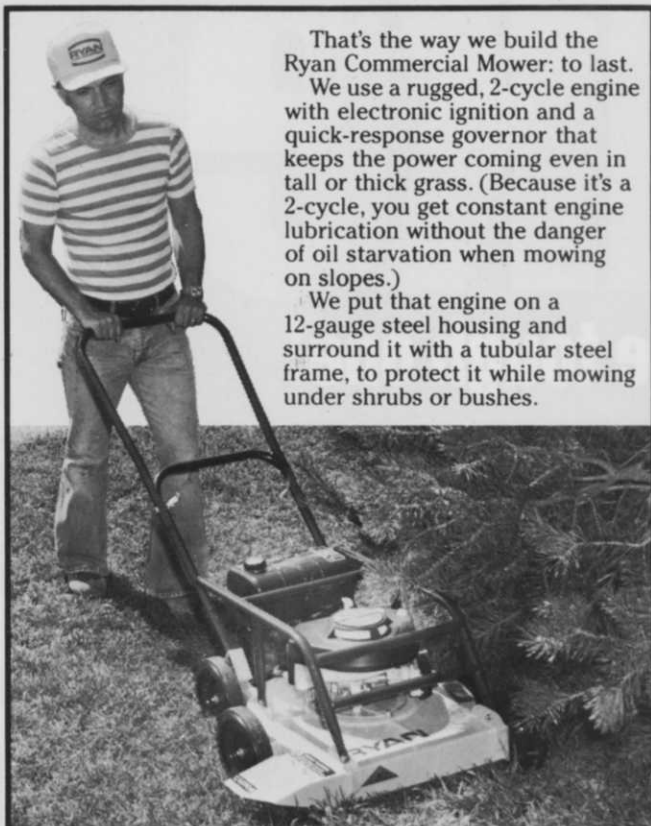


Circle 113 on free information card

SPIKE is a registered
trademark for
Elanco Products
Tebuthiuron

ELANCO

You may retire before our mower does.



That's the way we build the Ryan Commercial Mower: to last.

We use a rugged, 2-cycle engine with electronic ignition and a quick-response governor that keeps the power coming even in tall or thick grass. (Because it's a 2-cycle, you get constant engine lubrication without the danger of oil starvation when mowing on slopes.)

We put that engine on a 12-gauge steel housing and surround it with a tubular steel frame, to protect it while mowing under shrubs or bushes.

We give it Ryan's modular parts replacement system. So if a breakdown does occur, you can have the Commercial Mower back on your course quickly.

But we also make it easy to use. With a 1.25-gallon fuel tank for longer running, five adjustable cutting heights, a two-speed throttle and fold-down handle for storage or transportation.

Together, these features make the Commercial Mower the right tool for professional turf maintenance. Ask your Ryan dealer today about the Ryan Commercial Mower. The one machine that may outlast even the most dependable worker on your course: you.



Commercial Mower.



**Easy to use,
built to last.**

**RYAN®
TURF-CARE
EQUIPMENT**

OMC-Lincoln, a Division of
Outboard Marine Corporation
6691 Cushman
P.O. Box 82409
Lincoln, NE 68501

79-CUR-1

Circle 115 on free information card

Nonselective weed control

emulsifiable concentrates may require continuous agitation for even herbicide distribution.

Following is a list of products available for total control and brush control along with the suggested retail price, application rate, and residual period.

**Amchem Products Inc., Brookside Ave.,
Ambler, PA 19002**

Amitrole T

Liquid contact spray of 2 lb. of amitrole per gal. Apply at 1-10 gal. per acre (depending upon plant species) mixed in 50-100 gal. water. Recommended especially for deep-rooted plants such as poison ivy. Price \$16.20 per gal. for 1 gal. can or \$15.45 for 5 gal. can.

Amizine (wetable powder)

Combination of amitrole and simazine for season-long control. Mix 20 lbs. in 100 gal. water for one acre spray. Very little leaching. Can be used near larger shrubs and on ditch banks. Price \$4.77 per lb. in 5 lb. can and \$4.55 per lb. in 50 lb. drum.

Amizine (liquid)

Same as Amizine w.p. but liquid applied at 8 gal. per acre in 40 gal. water. Price \$11.61 per gal. in 1 gal. can and \$10.88 per gal. in 5 gal. can.

Fenamine

Liquid formulation of amitrole, fenac and atrazine with both contact and soil action. Single application per season. Rate is 4 gal. per acre in 100 gal. water. Major uses include ditch banks and under paving. Price \$18.00 per gal. in 1 gal. can and \$17.30 per gal. in 5 gal. can.

Fenavar (granular)

Soil residual herbicide containing fenac and bromacil. Apply at 75 to 150 lbs. per acre. Price is \$49.25 for 25 lb. drum.

Fenavar (liquid)

Contact and residual liquid containing fenac, bromacil and amitrole. Application rate is 5 to 10 gal. per acre in 50 to 100 gal. water. Price \$17.15 for 1 gal. can and \$16.30 per gal. for 5 gal. jug.

Weedone IBK

Liquid containing 2,4,5-T and 2,4-D for brush control. Apply 1 to 4 gal. per acre in 40 to 100 gal. water. Check state regulations for use of 2,4,5-T. Price ranges from \$18.98 per gal. for 1 gal. can to \$17.76 for 55 gal. drum.

Weedone 170

Replaces Weedone IBK where 2,4,5-T use illegal. Contains 2,4-D and 2,4-DP. Applied at same rates as Weedone IBK. Contact herbicide for use on ditch banks, utility rights-of-way and highways. Price ranges from \$17.83 for 1 gal. can to \$16.61 for 55 gal. drum.