LINE RIDER
herbicides are now available in six-pound concentrates. Contain fifty per cent more acid equivalent than four-pound concentrates. Can save you money in many applications.

FOR MORE DETAILS ABOUT THESE AND OTHER DIAMOND PRODUCTS, WRITE DIAMOND ALKALI COMPANY, 300 UNION COMMERCE BUILDING, CLEVELAND 14, OHIO

DORMANT CANE BROADCAST
method of application is unique, absolutely effective for winter application brush control. Reduces application time. Lengthens effective spraying season. Eliminates hazard of crop damage. Increases kill effectiveness.

NEW DACAMINE
weed and brush killer is a DIAMOND exclusive. Unique in that it combines the safety of amines and the killing power of esters. All the advantages . . . yet with none of the disadvantages. Offers greatest safety for use adjacent to susceptible crops. Penetrates plant cuticles to kill efficiently, effectively, from foliage to roots.

Now Diamond brings you 3 major developments in weed and brush control
PCOs in increasing numbers are showing up at weed control seminars across the land. Here a group of pest controllers compares notes about the NEWCC program (l to r): L. Y. Goldman, New England Pest Control, Providence, R.I.; T. H. Cooper, Cooper Pest Control, Trenton, N.J.; Walter Blank, Abalene Pest Control, Poughkeepsie, N.Y.; Richard Sameth, Reidex Corporation, Clark, N.J.; and Jim MacLachlan, also of Abalene in Utica, N.Y.

because even though the applicant takes responsibility for such occurrences (and is usually insured for them), the utility company nevertheless suffers from a public relations standpoint.

Hanson warned that failure of applicators to perform expert, successful jobs can only lead to development of new or different methods.

That applicators are already aware of this need for perfecting methods was upheld by the number of applying firms which send technical men and managers, and by the number of firms who contribute money through NEWCC sustaining memberships.

Following Hanson in the fast-paced opening session was Dr. Richard Ilnicki, New Jersey Agricultural Experiment Station, New Brunswick, who reported on research being conducted with promising new herbicides.

New chemicals of interest to readers of Weeds and Turf included Disan, a new pre-emergent herbicide for weed control in turf, which Ilnicki describes as "relatively effective." Disan is a product of Stauffer Chemical Co. The New Jersey scientist also said Banvel-D, from the Velsicol line, has appeared quite specific for chickweed in lawns.

Chemicals still in the development stage, but which appear promising, include Hercules 9573, which looks good for pre-emergence weed control in turf.

A Whole Stable of New Chemicals

Another slant on the flock of new chemicals for weedmen was offered following the annual banquet Wednesday night, "New Chemicals from Industry," as this section was called, is now a regular feature of the Northeastern Conference.

More details were offered on Hercules 9573. Company spokesmen maintain the experimental chemical is useful as a pre-emergent crabgrass killer, and indicate the product is currently offered as a technical material or as an 80% wettable powder for experimental use by qualified persons.

From the West Coast, U. S. Borax representatives discussed Monobor-Chlorate, a granular weed killer described as "a new and unique formulation of sodium borate and sodium chlorate." According to company officials, Monobor-Chlorate has high bulk density and high water solubility, and is effective on a wide range of annual and perennial weeds and grasses. "It is particularly useful and effective for control of Johnsongrass and certain other weedy grasses on noncrop land," Weeds and Turf was told.

Borax is also introducing Tritae, a new weedkiller for water spray application to control deep-rooted perennial herbaceous weeds on noncrop lands.

Tritae is chemically known as 2,3,6-trichlorobenzoxypropanol.

Tritae is also manufactured and sold by Hooker Chemical Co.

Velsicol has, in addition to its Banvel-D, a new experimental herbicide called 59-CS-52, which will be available for limited field testing in 1963.

"Preliminary trials have shown that 59-CS-52 has considerable pre-emergence herbicidal activity against many broadleaf weeds and some annual grassy weeds," Velsicol said.

This new herbicide is available formulated as the potassium salt of 2-methoxy-3,6-dichlorophenylacetic acid in water at the acid equivalent of 4 lb/gal.

Amchem 61-207 was used to control yellow rocket and several other broadleaf weeds in the Northeast during two years' testing.

This product is an emulsifiable concentrate containing 1.5 lb/gal. of the active ingredient. It is designated H-8043 by the Hercules Powder Co., with which Amchem is carrying on cooperative research.

Sessions Industry-Oriented

Whole sections of the 1963 conference were devoted to industrial weed and brush control, to aquatic, and to turf.

Utility, highway, and railway rights-of-way weed control practices were closely screened, with talks from several utility officials who've supervised such treatment programs.

Clarence E. Staples, Brush Control Engineer from the Central Maine Power Co., explained work his company has done on summer basal spraying of rights-of-way.

Basal spraying, of course, attacks the roots instead of the foliage of the infesting plant.

"Selective summer basal spraying on Central Maine Power Co. transmission rights-of-way has proved to be at least 40% cheaper than cutting," Staples said.

In a paper prepared by a trio of duPont researchers, analysis of a new formulation of Hyvar (W&T, July, p. W-4), was presented to the NEWCC section on railway work. Research was accomplished by C. W. Bingeman, R. W. Varner, and J. E. Prendergast, all of duPont's Wilmington, Del., research installation.

While Hyvar is now commercially available and successfully proven as an effective weed killer for industrial sites, the duPont spokesmen claimed, it was felt that...
Conditions here encourage the development of "melting out," "fading out," "dollar spot" and related fungus conditions which are more apt to become active with plenty of humidity, heavy dew, cool evenings and hot summers. Dyrene has contributed a great deal to successful control of these diseases on this course," continues Mr. Manka.

Inwood Country Club's position between Jamaica Bay and the ocean is conducive to the heavy dew and humidity that provide good development conditions for Helminthosporium-Curvularia complex, causes of fading out and melting out. Unsightly brown patches speckle the course when these conditions are allowed to take hold, and as Mr. Manka says, that makes every golfer on the course unhappy.

Mr. Manka sprays the Dyrene every two weeks from early May through mid-September over all fairways of the 18-hole Inwood course, which totals about 130 acres in extent. He uses Dyrene at a proportion of 2 oz. per 1,000 sq. ft. of turf and mixes 22 lbs. in 200 gals. of water to spray 4 acres of turf.

“If there were to be any indication of "dollar spot" or any of the Helminthosporium-Curvularia complex, I would increase the dosage over the 2 oz. per 1,000 sq. ft. rate I’m using now, but there never has been any need to do that,” Mr. Manka says. Mr. Manka is an agronomist with a degree from Purdue University.

Results like this are not unusual because Dyrene is the new broad spectrum fungicide that controls more turf diseases than any other single turf chemical. Dyrene may be used on a schedule, all season long, as a preventative because of its long residual characteristics. Or it can be used as an eradicant for spot treatment. It is safe and easy to use with all common spray equipment. The formulation is dyed green to blend with the turf . . . actually improves the appearance of greens immediately.

This year, for the healthy vigorous turf you must have, use Dyrene turf fungicide.

"After three seasons of a regular Dyrene program, we observe a remarkable improvement in our turf"

Mr. James Manka
Grounds Superintendent
Inwood Country Club
Inwood, Long Island, New York
Congratulations two ways. Outgoing presi-
dent Dr. D. A. Schallock (left) wel-
comes new prexy A. J. Tafuro, who smiles
his approval of the job well done in 1963.

Tafuro, from American Cyanamid, heads the
1964 weed con-
ference.

Hyvar is 5-bromo-3-isopropyl-
6-methyluracil. The new formul-
tion, called Hyvar X Weed Killer, is
5-bromo-3-sec butyl-6-methly-
uracil.

Dupont says its new product
has been extensively tested on rail-
road rights-of-way and on other
industrial sites in the Northeast,
and in other climatic areas of the
country.

Tests indicate Hyvar X acts
against grasses equally or better
than the parent product, Hyvar,
duPont maintains.

The chemical is expected to be
commercially available in 1963.
Experimental quantities are now
being offered to qualified operators.

Reports from Amchem Products
of Ambler, Pa., drawn up and
presented by that company's John
E. Gallagher (with Harold M.
Collins), show that the terrestrial
and now-established herbicide, Fenac, has possibilities as an effec-
tive aquatic herbicide.

These claims were presented in
the NEWCC Aquatic Section, in
which delegates homed in on new
developments of this increasingly
important phase of weed control.

Gallagher maintains that Fenac,
which Amchem manufactures, has
successfully controlled both alli-
gator weed and the water hyacinth.

Small plot treatments with Fenac in large bodies of water, however, have not been effective,
Gallagher warns, apparently be-
cause of dilution of the herbicide.

Turf Data Plentiful

Applicators who are active in
lawn spraying were treated to a
series of papers on new lawn chem-
icals, and new results with old
ones, in the NEWCC Turf Section.

Inclusion this year of an open
discussion was considered a real
benefit by contract sprayers pres-
ent, because it enabled them to
quiz the experts on their individual
problems.

One paper presented this year
was the work of Dr. Ralph E.
Engel of Rutgers University, New
Brunswick.

Called "Crabgrass Control Ob-
tained on Turf Treated with
Several New and Developmental
Pre-Emergence Herbicides," Dr.
Engel's work outlined several test
results: (1) Bandane shows prom-
ise of a high degree of crabgrass
control at 80 lbs/ac; (2) Diphen-
atrile appears capable of a more
consistent performance when
used at the higher rate of 60 lbs
per acre; (3) Triflurin gives ex-
cellent control with 3 to 4 1/2 lbs/
acre but less control at 1 1/2 lbs/
acre; and (4) Hercules H-9573 and
Stauffer R-4461, experimental
compounds, both show promise
as pre-emergence crabgrass her-
bicides.

Windup of the industrial weed
and brush section, which came
Friday morning before the noon
adjournment, was of considerable
interest to contract applicators.

Scan Dormant Cane Broadcast

In a talk called "New Tools for
Highway Weed and Brush Con-
trol" by R. J. Marrese of Diamond
Alkali, several significant tech-
niques were examined.

Dr. Marrese's paper was pre-
sented by his Diamond colleague,
Dr. R. A. Sprayberry.

Increasingly in the contract
applicator's eye these days is the
concept of dormant cane broad-
cast. This process involves
application of herbicides after late
fall and before spring thaw.
Chemicals are applied to dormant
brush.

One big advantage of dormant
cane broadcast, Sprayberry ob-
served, is the increased safety
which is a result of the timing
which takes place when no valu-
able crops are growing.

Less obvious to researchers, but
equally crucial to contract applica-
tors, is the opportunity to use
spraying equipment and personnel
all year long. Besides the obvious
economic advantage, this could
mean spraymen might retain per-
sonnel for longer consecutive
periods, hence providing industry
with more highly trained, qualified

New

POWER KNAPSACK MISTBLOWER DUSTER
Spray, dust, wet-dust, and apply granules with
the same machine; no extra attachments needed.

NO DISMANTLING OR REBUILDING — Two separate back tanks and the
exclusive KWH 'non-clog' nozzle permit single or simultaneous application
of wet and dry chemicals. Cover up to 40 ft. swaths. Simple fingertip
controls give precise regulation of output and allow instant switching from
liquid to dust or granules and vice-versa. Sturdy all-metal construction
yet only 27 lbs.
— Choose from 1 and 4 HP DIRECT DRIVE models —

Contact your dealer or write to:
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378 Mountain Ave.
North Caldwell, N. J.
YOU'RE right on target! If you make chemicals or equipment for contract applicators, you couldn't hit a bigger bull's-eye than the one your Weeds and Turf advertisements reach.

$4 billion market.
10,000 monthly readers.
Unsurpassed editorial acceptance.
And you don't waste any effort. Weeds and Turf is a truly vertical book. It's read by lawn and ornamental spraymen, custom weed controllers, state and civic officials, and highway, railway, and utility men. (But only those who supervise weed or turf and ornamental work. They also happen to be the ones who usually take care of the buying.)

Nobody else reads it.
You don't waste anybody's time or money, including your own.

Do you sell any of these?
If so, maybe you'd like to sell more. We suggest you hit the bull's-eye with your sales promotion campaign. Advertise to the men who buy, and buy in quantity.

We go to all the 50 states, and have readers in 52 foreign countries.
Interested? Write for details.
You'll be right on target.
spray operators to cope with the increased demand for industrial weed and brush control by contract firms.

Dr. Sprayberry, utilizing a series of slides, also showed results obtained with Diamond's new herbicidal formulation, Dacamine, a product described as "safe as amines, effective as esters." Dacamine can be used during the growing season.

Sprayberry referred his audience to an article which appeared in the January 1963 issue of *Weeds and Turf* (p. W-19).

It's important for spraymen to realize, Sprayberry continued, that fast browning is not a characteristic of Dacamine activity. This permits translocation of the chemical into the rootzone, the Cleveland scientist revealed.

More on MH-30

Another product very much in the news is Naugatuck's MH-30, a growth-regulating chemical which is in wide use on some of the nation's highway rights-of-way.

Naugatuck researcher Paul Bohne presented delegates with latest data on his company's product, which has its essential design the curbing of America's staggering roadside mowing bill, estimated now in excess of $50,000,000.

It is very possible that MH-30 will soon be in use on cemeteries, industrial parks, and other large turf areas, however, Bohne predicted.

Bohne said his company is working with the John Bean Division, FMC, an equipment manufacturing company, to develop machines which can effectively and economically apply maleic hydrazide (the common name for Naugatuck's trademarked MH-30) to these smaller areas. It is even possible MH-30 will find its way to the golf course, Bohne elaborated.

One thing applicators and highway officials must remember, Bohne warned, is that grass which has been treated with MH-30 remains dormant later in the spring than does untreated grass. When the grass greens up, however, it is every bit as attractive as untreated grass, and frequently has a more lush color.

E. W. Muller, landscape architect with the New York Department of Public Works, Cornell, outlined the successful testing he has supervised to discover the practicality of MH-30 on secondary highways.

"Treated secondary highways were considered satisfactory at the end of the growing season even though no mowing had been done," the landscape expert revealed.

A dramatic and enlightening presentation of the overall effectiveness of a statewide highway weed and brush control program was offered by K. R. Mattern, Assistant Landscape Engineer, Connecticut State Highway Department, Middletown.

After outlining the Connecticut program, which is described as highly effective, economical, safe, and practical, while retaining or enhancing the beauty of the countryside, Mattern flung a gauntlet in front of the harbingers of terror who, through misunderstanding and utter disregard for the facts, have leveled abusive criticism against the use of chemicals for weed control purposes on our highways.

"We will continue to have an herbicide program in the state of Connecticut based on safety and concern for the health of the people and for the maintenance of beautifully and efficiently land.
scaped highways," the road authority declared.

In a related speech, J. L. Beasley, Highway Landscape Supervisor, Massachusetts Department of Public Works, Boston, described the current turf management program underway in his commonwealth.

Beasley praised some of the current chemicals, such as MH-30, and mentioned products which he uses, such as Urox and Urab, but he spoke cautiously when addressing himself to the chemical industry.

This Massachusetts official feels firms are not engaging in enough research to develop products specifically for the highway market. "The chemical industry today is bypassing our potentially lucrative market," he challenged.

Beasley says Massachusetts uses contract applicators, and has about 140 contracts for roadside work.

Other sources have pegged the Massachusetts budget for this program at $1,500,000.00 yearly.

This year’s varied program was too diverse and too detailed to be adequately summed up in a news report, but the entire proceedings have been published by the Northeastern Weed Control Conference and are available for $4.50 a copy. Those wishing to add this volume to their reference material may write to Dr. John Meade, Secretary, Northeastern Weed Control Conference, Department of Agronomy, University of Maryland, College Park.

In charge of the 1963 conference was outgoing president Dr. Donald A. Schallock, Rutgers University, New Brunswick, N. J. Dr. Schallock now becomes chairman of the 1964 awards committee.

New president, and the helmsman who’ll guide the Northeast weedmen towards their next conference, is A. J. Tafuro, American Cyanamid Co., Princeton, N.J. Second in command is new vice president, Dr. R. A. Peters, University of Connecticut, Storrs. Dr. John Meade is secretary-treasurer again in 1963.

Program chairman will be Dr. G. D. Hill, Jr., E. I. duPont de Nemours, Wilmington, Del. Next year’s coordinating committee is headed by Dr. C. J. Noll of Pennsylvania State University, and Geigy Agricultural Chemical’s J. Flanagan will head up the important public relations committee.

Sustaining memberships will be guided by A. Lohr of Hercules Powder Co., Wilmington, Del., and Dr. Don Schallock will head the awards committee, a tradition for the outgoing president of the Northeastern Weed Control Conference.

Dr. Meade told Weeds and Turf that the 1964 conference will be January 8-10 at the Hotel New Yorker in Manhattan. Those who want advance information may communicate directly with Dr. Meade.

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... the exclusive, “Fire-Cured” protective coating that makes the tank and all cast iron parts on Myers Power Sprayers last longer — give more efficient, more dependable, more economical service.

Myers offers a complete line of Epoxy-protected power sprayers to meet all your contract spraying needs — from 12½ gallon wheelbarrow units to big 1,000 gallon sprayers. Available with a range of rugged, high efficiency pumps designed specifically for spray applications. Capacities to 100 GPM, pressures to 800 PSI.

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A. Fire-Cured Epoxy Coating
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C. Quality cold-rolled Steel Tank

When Writing to Advertisers Please Mention WEEDS AND TURF W-27

Soil Fumigation
(from page W-9)

producing thick, strong turf in a very short time. Because fumigation produces more vigorous turf, most of the problems with foliage diseases, such as dollar spot and brown patch, are eliminated. The same is true of the summer “browning out” in blue grass so common in certain areas of the country, notably the East.

As one participant in a soil fumigant job observed concerning a stand of new, healthy turf: “The beautiful thing about it was, all that came up was just what we planted.”
Turf Tips Highlight 34th Turf-Grass Conference Feb. 11-15 in San Diego

Recommendations for contract applicators on all aspects of turf maintenance, by a panel of college specialists from all parts of the country, is featured at the 34th International Turf-Grass Conference, Feb. 11-15 in San Diego, Calif.

More than 2500 delegates are in San Diego for the convention, largest turfgrass management and exhibition show in the world. Golf Course Superintendents Association sponsors the event, in which turfmen from many foreign countries, as well as the entire United States, will participate.

"Advances in soil sterilization and fertilization will also receive detailed examination," Roy W. Nelson, chairman of the conference, and vice president of the Golf Course Superintendents Association, told Weeds and Turf.

Staff members of W&T are in San Diego for the program, to provide a detailed review of proceedings that will appear in the March issue, due out March 5.

Evaluation of the factors which determine success of various fertilizers begins the session on turf stimulants. Review of tests on plant response to fertilizers and recommendations for overcoming specific problems are also included. Special feature is a preview of advanced technology, and what CAs can expect in future fertilizers, Nelson reveals.

On Wednesday, third day of the conference, delegates meet in two groups, one composed of turfmen from northern and eastern areas, and the other of delegates from the West and the South.

Regional problems are being highlighted, but several problems of interest to CAs from either parts of the country are included.

Both groups are hearing leading greens superintendents review more important turf problems, and are giving individual recommendations for best results in treatment.

Meeting Dates


Western Weed Control Conference, Sheraton Hotel, Portland, Ore., March 20-22.

2nd Annual Florida Turfgrass Association Trade Show, Hotel Seville, Miami Beach, Fla., May 2-4.

Turfmen in the southern and western meeting are devoting a special session to particular problems in the northwestern United States, where CAs report the market for turf maintenance is especially vigorous.

Concluding the conference is a session on contract greens sterilization techniques, where CAs are gaining much useful information, applicable to lawn maintenance as well as golf course greens.
Borax Releases New Herbicide

Monobor-chlorate, a sodium borate-sodium chlorate herbicide, new from U.S. Borax, is characterized by quick-killing action and safety, the firm announces.

"Because of these two factors, the product is universally useful in knocking out a wide range of weeds and grasses around suburban homes, and in and around industrial sites, with utmost safety," J. F. Corkill, vice president of U.S. Borax's Marketing Development, claims.

The granulated weed killer can be applied dry by conventional hand spreaders, or as a spray when dissolved in water, the company reports. When used according to directions, the product is harmless to persons or pets either during or following application, and does not create a fire hazard when being used, Borax claims.

For more information on Monobor-chlorate, write to U.S. Borax, 630 Shatto Place, Los Angeles 5, Calif.

USDA Has Guide for Flowers

New bulletin from the U.S. Department of Agriculture lists pests that attack most common flowers, and the control measures for each. Also contained in the 80-page guide is a section on general feeders, and a large list of specific feeders.


Harder Opens Arborist Firm

Harder Arborist Supply Co., Hempstead, N.Y., has been formed as a division of the Harder Tree Service, Inc., Frank K. Harder, president of the new venture, announces.

"We hope to satisfy the needs of tree specialists with the finest products and best service available anywhere," Harder stated.

A complete arborist catalog is available by writing to Harder Arborist Supply Co., P.O. Box 111, Hempstead, N.Y.

Know Your Species

YELLOW WOODSORREL
(Oxalis stricta)

Yellow wood sorrel is a perennial, reproducing by seeds. It is plentiful in gardens, lawn edges, roadsides, and gravelly or stony uncultivated places. Oxalis is native to and widespread throughout North America. Two other species closely related to Oxalis stricta and commonly called woodsorrel are O. europea and O. florid. These differ only in minor detail and are easily recognized as woodsorrel from the description of O. stricta.

Stems are weak and branched near the base of the plant; they are hairy and sometimes root at the joints (1). Oxalis may stand 4 to 18 inches high. Pale green leaves (4) have very long petioles (stalks), and are sour tasting due to the oxalic acid in their tissues. The slightly hairy leaves are divided into three heart-shaped, partially folded leaflets, looking somewhat like a clover leaf.

Flowers (2, 3) are 5-petaled, yellow, and occur in groups of two and four. Seed capsules (5) are 1/2 to 1 inch long, slender, with five longitudinal ridges, and a pointed beak. The capsules burst and shed numerous seeds which are flattened, elliptic, and conspicuously cross-ridged.

Rootstock in yellow woodsorrel is absent as contrasted with the other species of Oxalis which are able to give off new plants by sprouting of the rootstock.

Control of yellow woodsorrel is restricted to post-emergent treatment of turf. Silvex applied as a foliage spray has shown very good control without Injury to turf grasses.

Prepared in cooperation with Crops Research Division, Agricultural Research Service, United States Department of Agriculture, Beltsville, Maryland.

(DRAWING FROM NORTH CENTRAL REGIONAL PUBLICATION NO. 36, USDA EXTENSION SERVICE)
Mr. Contract Applicator: What do you expect from Weed Killing Chemicals?

Not miracles. You won't get them. But you should expect effective killing action, ease of application and a guarantee of quality.

You can expect all of this—and get it—from Amchem, the original developers of chemical weed and brush controls. P'CO's are learning, as contract applicators, it pays to deal with and sell quality to their customers.

Amchem pioneered 2,4-D and 2,4,5-T, the forerunners of all modern chemical herbicides. And hard on the heels of these prime industry discoveries, Amchem has kept the lead in development with Amtrol, today's most effective and versatile herbicide for weed and brush control.

Amchem offers you both the products and programs to cover your successful entry into this profitable field. Regardless of the areas you wish to specialize in, Make your choice with confidence in—

Broadleaf weed control in turf. Amchem covers this field with a variety of world-renowned, brand-name chemicals.

General vegetation control. Amchem's general weed killer products are widely used by applicators and known by industry as efficient and economical.

Rank weed and brush control. Amchem's selective chemicals have been developed specifically to control high weeds and brush for large estate and industrial use.

Weed and brush control is our business... our only business. Ask about Amchem—in lawn and garden, in farm and in industrial herbicide control products. We've been satisfying home owners, farmers and industry for years. Your customers can buy the same kind of satisfaction. Let us help you plan your contract application future.

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