



# *Weeds*

VOLUME 6  
APRIL 1958  
NUMBER 2

*Journal of the Weed Society of America*

<https://doi.org/10.1017/S0096719X0004661> Published online by Cambridge University Press

# Weeds

*Issued Quarterly by the Weed Society of America*

K. P. BUCHHOLTZ, *Editor*, Dept. of Agronomy, Univ. of Wisconsin,  
Madison, Wisconsin.

W. C. JACOB, *Business Manager*, Dept. of Agronomy, Univ. of  
Illinois, Urbana, Illinois.

## EDITORIAL COMMITTEE

O. C. LEE, Dept. of Botany and Plant Pathology, Purdue University,  
Lafayette, Indiana.

R. A. PETERS, Dept. of Plant Science, University of Connecticut,  
Storrs, Connecticut.

W. C. ROBOCKER, Crops Research Division, USDA, State College of  
Washington, Pullman, Washington.

E. G. RODGERS, Dept. of Agronomy, University of Florida, Gaines-  
ville, Florida.

WEEDS is a quarterly journal published by the Weed Society of America. Editorial offices are located at the University of Wisconsin, Madison, Wisconsin. Printing is by the W. F. Humphrey Press Inc., Geneva, New York. Subscription price is \$6.00 yearly for four issues: single copies \$1.50. Address all communications regarding subscriptions, advertising and reprints to W. C. Jacob, Department of Agronomy, University of Illinois, Urbana, Illinois. Inquiries concerning information on manuscripts and other material for publication should be addressed to the Editorial Offices. All checks, money orders and other remittances should be made payable to the Weed Society of America.

Entered as second-class matter at the post office at Urbana,  
Illinois with additional entry at Geneva, New York.

## Table of Contents

	<i>Page</i>
Residual Pre-emergence Herbicides in Soybean Production in Iowa. David W. Staniforth and Charles R. Weber.....	115
The Effect of Soil Smoothing Devices on the Action of Pre-emergence Herbicides in Soybeans and Corn. R. E. Larson, D. L. Klingman, and O. H. Fletchall.....	126
The Effect of Day and Night Temperature on Growth, Foliar Wax Content, and Cuticle Development of Velvet Mesquite. Herbert M. Hull.....	133
An Evaluation of the Herbicidal Efficiency of Combinations of Dalapon, Monuron, and several other Chemicals. T. J. Sheets and O. A. Leonard..	143
Chemical Weed Control in Seedling Alfalfa. I. Control of Weedy Grasses. M. K. McCarty and Paul F. Sand.....	152
The Influence of Soil Factors on the Phytotoxicity and Plant Selectivity of Diuron. Robert P. Upchurch.....	161
The Role of Gibberellic Acid in Overcoming Bud Dormancy in Perennial Weeds. I. Leafy Spurge ( <i>Euphorbia esula L.</i> ) and ironweed ( <i>Veronia Baldwini Torr.</i> ). Neal E. Shafer and Warren G. Monson.....	172
Absorption, Translocation and Metabolism of 2,4-D-1-C <sup>14</sup> in Pea and Tomato Plants. S. C. Fang.....	179
The Response of Certain Crops to 2,4-Dichlorophenoxyacetic Acid in Irrigation Water. Part III. Concord Grapes. V. F. Bruns and W. J. Clore.....	187
Differences among Butyl, Ethyl, and Isopropyl Ester Formulations of 2,4-D, 2,4,5-T, and MCPA in the Control of Big Sagebrush. D. N. Hyder, W. R. Furtick, and F. A. Sneva.....	194
The Aerial Application of 2,4-D to Halogeton. W. C. Robocker, Richard Holland, R. H. Haas, and Kenneth Messenger.....	198
An Evaluation of Several Chemicals for Weed Control in Easter Lilies. W. A. Gentner, W. C. Shaw, and F. F. Smith.....	203
<b>Brief Papers</b>	
A Note on the Chromotropic Acid Reagent for 2,4-D Analysis. V. H. Freed and S. C. Traegde.....	211
News and Notes.....	213
Sustaining Members.....	214
Bibliography of Weed Investigations, July to October, 1957.....	215

## Advertisers Index

U. S. Borax & Chemical Co.....	ii
Chipman Chemical Co. ....	iii
Spraying Systems Co. ....	iv
Union Carbide Chemicals Co. ....	v
du Pont de Nemours & Co. ....	vi

**Four  
easy  
ways to  
Destroy  
Weeds**

*When*

*you*

*want*

*Nonselective Herbicides*

*for Dependable Action*

*look to*

*United*

*States Borax*

*& Chemical Corporation*

PACIFIC COAST BORAX COMPANY DIVISION

630 Shatto Place, Los Angeles 5, Calif.

## 1. UREABOR®

A nonselective, granular complex of sodium borate and substituted urea. Low application rates are a feature. Apply with the special new PCB Spreader for best results.

## 2. DB® Granular

A combination of 2,4-D and sodium borates. Kills deep-rooted, noxious weeds. Low application rates for maximum control with the utmost economy; use the PCB Spreader. *(Not intended for control of grass.)*

## 3. POLYBOR-CHLORATE®

Highly soluble; for spray or dry application. It gives a quick knock-down; destroys top growth and roots. A general nonselective herbicide.

## 4. Concentrated BORASCU®

A nonselective, granular material. Apply by hand or with a mechanical spreader. Long residual action.





**ATLACIDE:** Safer chlorate weed killer...widely used for non-selective eradication of bindweed, Canada thistle, quack grass, Johnson grass and other tough perennials. Kills roots...discourages regrowth. Applied dry or dissolved in water for use as a spray.

**ATLACIDE-2,4-D:** A combination of Atlacide and 2,4-D acid. Particularly recommended for Canada thistle control.

**CHLOREA:** A non-separating combination of sodium chlorate, borate and monuron in powder form. Kills weeds and grasses. Combines the proven effectiveness of chlorate on deep-rooted weeds with the soil-surface action of monuron on shallow-rooted grasses and annual seedling growth. Lasting residual effect inhibits new growth. Does not create a fire hazard when used as directed. Applied dry or as a water-mixed spray. For industrial, railroad and certain agricultural uses.

**CHLOREA GRANULAR** Similar to Chlorea, but a granular material. No mixing or diluting... "pellets" are easy to apply by hand or with mechanical spreader.

**CHLORAX "40":** A composition of sodium chlorate and borate... for

weed and grass control. Has lasting residual effect. Does not create a fire hazard. Applied dry or as a spray.

**CHLORAX LIQUID:** Similar to Chlorax "40"...in liquid form.

**ATLAS "A":** A 40% sodium arsenite solution (4 lbs. arsenic trioxide per gal.). Destroys submersed vegetation and algae in ponds and lakes. Controls crabgrass, chickweed and clover in turf. Used as general weed killer and to kill trees and stumps. Also used to kill potato vines prior to harvesting.

**SODIUM ARSENITE:** A powder containing 75% arsenic trioxide. Used for the same purposes as Atlas "A". Applied dry or as a spray.

**2,4-D & 2,4,5-T WEED KILLERS:** A complete line...available as 2,4-D Amine and 2,4-D Ester liquids; 2,4-D Ester dusts; Low Volatile 2,4,5-T and Brush Killer.

**METHOXONE:** Contains 2 pounds of MCP sodium salt per gallon. Used for weed control in small grains, flax, rice and grass. Controls same weeds as 2,4-D; considered safer for selective spraying.

Chloro IPC • IPC Liquid & Dust

*Write for Weed Control Booklets*

**CHIPMAN CHEMICAL COMPANY, INC.**

Chicago, Ill.

BOUND BROOK, N. J.

Portland, Ore.

Palo Alto, Calif.

Pasadena, Tex.

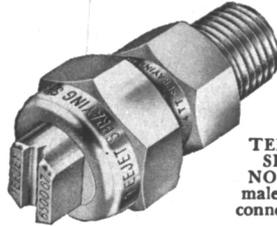
Bessemer, Ala.

*Manufacturers of Weed Killers Since 1912*

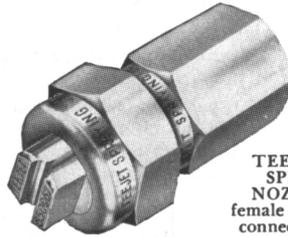
SPRAYING SYSTEMS  
**TeeJet**  
 SPRAY NOZZLES

the precision  
 nozzle for  
 effective  
 spraying

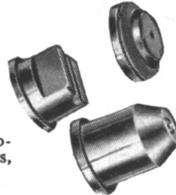
Supplied in a full range of interchangeable orifice tip and strainer sizes to meet every capacity requirement. TeeJet Spray Nozzles for Weed Control by spraying make it possible to take maximum advantage of the chemical and sprayer unit. TeeJet nozzles are precision built and provide a flat spray with uniform distribution. Atomization is properly controlled to give coverage with an absolute minimum of driftage. Patented tip design, with set-back orifice opening protects precision orifice from accidental damage. TeeJet spray nozzles are built for use on spray booms and portable sprayers.



TEEJET  
 SPRAY  
 NOZZLE  
 male pipe  
 connection



TEEJET  
 SPRAY  
 NOZZLE  
 female pipe  
 connection



INTER-  
 CHANGE-  
 ABLE  
 ORIFICE TIPS  
 flat and cone  
 spray types

**OFF-CENTER SPRAY NOZZLES**

Spraying Systems Spray Nozzles with TeeJet tips are supplied in a variety of special body types to meet any unusual spraying requirement. For example, one type of off-center spray nozzle with swivel body provides a flat spray up to 35 feet wide for spraying areas with a single nozzle, that are not accessible with a boom.

**SUPPLEMENTARY EQUIPMENT**

Complete accessories relating to nozzle use are supplied. These include strainers, special nozzle fittings, and hand valve equipment.

TeeJet Spray Nozzles are supplied for Weed Control... as well as all other types of agricultural spraying. For complete information and reference data write for Catalog 30.

**SPRAYING SYSTEMS CO.**  
*Engineers and Manufacturers*

3296 RANDOLPH STREET

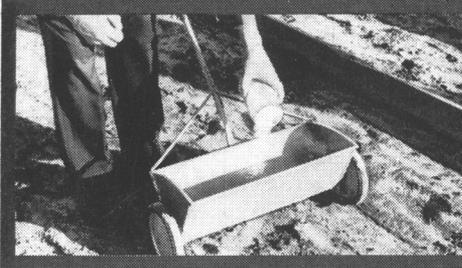
BELLWOOD, ILLINOIS



# Mylone

SOIL FUMIGANT

## NOW COMMERCIALY AVAILABLE for Tobacco Seed Beds



Mylone fumigant is easy to apply, requires no cover.

It helps produce healthy, weed-free plants.

A commercial label has been accepted by the USDA on CRAG Mylone for use as a pre-planting soil fumigant to control soil fungi, nematodes, and weeds in tobacco plant beds.

Mylone soil fumigant, an easy-to-handle powder, can be applied with a small fertilizer spreader. Application is made in the fall, well before tobacco seeds are planted. It requires no plastic cover after application, no soil mixing.

CRAG Mylone is also commercially available for use in ornamental propagating beds, and for weed and dry rot control in gladiolus. Experimental work is continuing for use on vegetable and forest-tree seed beds, and on turf.

For test quantities of CRAG Mylone, or for more information, write to the address below.

"Crag", "Mylone", and "Union Carbide" are trade-marks of Union Carbide Corporation.



CRAG Agricultural Chemicals

**Union Carbide Chemicals Company**

Division of Union Carbide Corporation

180 South Broadway, White Plains, New York



**For Agriculture and Industry . . .**

# **Du Pont UREA HERBICIDES**

***offer new economies  
and efficiency in killing  
weeds, grass and brush***

**"KARMEX"** for weed control in asparagus, sugar cane, pineapple, potatoes, grapes, alfalfa, citrus and other crops. Also for irrigation and drainage ditch weed control. Available in two formulations: "Karmex" W monuron and "Karmex" DW diuron.

**KARMEX® DL** for pre-emergence weed control in cotton.

**TELVAR®** for industrial weed and grass control. Also in certain areas, it is recommended for brush control. "Telvar" W monuron and "Telvar" DW diuron.

The urea herbicides, products of Du Pont research, kill vegetation through the roots. Their efficiency is demonstrated by the relatively low dosages required to do the job. They can be easily applied, are non-flammable, non-volatile, non-corrosive and extremely low in toxicity.



Better Things for Better Living . . . *Through Chemistry*

**E. I. DU PONT DE NEMOURS & CO. (INC.)**

**GRASSELLI CHEMICALS DEPT.**

**WILMINGTON 98, DELAWARE**