

VOLUME III OCTOBER 1954 NUMBER 4

#### EDITORIAL BOARD

Western Weed	Control (	Gonference	W. A. H	LARVEY,	College of Agri-
			culture	e, Davis	, California.

North Central Weed Control Conference......R. S. DUNHAM, College of Agriculture, St. Paul, Minnesota.

Northeastern Weed Control Conference......R. D. Sweet, Department of Vegetable Crops, Cornell University, Ithaca, New York.

> C. E. MINARIK, Editor, Camp Detrick, Frederick, Maryland. R. D. Sweet, Business Manager, Cornell University, Ithaca, New York

#### STATE REPORTERS

V. S. Searcy	N. E. Shafer. Nebraska W. W. Smith. New Hampshire R. J. Aldrich. New Jersey W. C. Robocker. Nevada J. W. Whitworth. New Mexico S. N. Fertig. New York G. C. Klingman. North Carolina E. A. Helgeson. North Dakota E. K. Alban. Ohio J. Dreessen. Oklahoma V. H. Freed. Oregon S. M. Raleigh. Pennsylvania T. Muzik. Puerto Rico T. E. Odland. Rhode Island W. B. Albert. South Carolina L. A. Derscheid. South Dakota J. K. Leasure. Tennessee R. A. Darrow. Texas F. L. Timmons. Utah
W. H. LachmanMassachusetts	A. R. MidgleyVermont
B. H. GrigsbyMichigan	W. E. ChappellVirginia
H. L. HansenMinnesota	L. W. RasmussenWashington
W. B. EnnisMississippi	C. VeatchWest Virginia
D. L. KlingmanMissouri	K. P. BuchholtzWisconsin
R. L. WardenMontana	D. W. BohmontWyoming

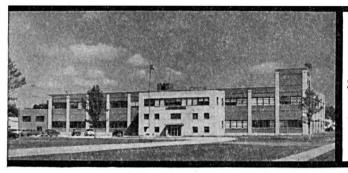
Weeds is a quarterly journal published by the Association of Regional Weed Control Conferences. Editorial offices are located at Camp Detrick, Frederick, Maryland. Printing is by the W. F. Humphrey Press, Inc., Geneva, New York. Subscription price is \$4.00 yearly for four issues; single copies \$1.25. Address all communications regarding subscriptions and advertising to R. D. Sweet, Department of Vegetable Crops, Cornell University, Ithaca, New York. Inquiries concerning information on manuscripts, other material for publication and reprints should be addressed to the Editorial offices. All checks, money orders and other remittances should be made payable to WEEDS, Journal of the Association of Regional Weed Control Conferences.

Entered as second-class matter at the post office at Ithaca, New York, and Geneva, New York

### **Table of Contents**

	Page
Weed Society of America	×
Preplanting Applications of IPC and CIPC for Selective Control of Wild Oats. (Avena fatua). A. F. Wiese and R. S. Dunham	321
Some Factors Affecting the Tolerance of Peas to MCP and Other Growth	321
Regulating Herbicides. K. P. Buchholtz	331
Teaching Aids in Weed Plant and Seed Identification. Lloyd R. Wilson	342
Promising Herbicidal Methods for the Control of Annual Weeds in Seed	
Crops of Onions. L. R. Hawthorn, F. L. Timmons and W. O. Lec	345
Some Effects of Post-emergence Applications of Dalapon to Wild Oats. Robert	545
N. Anderson and E. A. Helgeson	351
The Response of Certain Crops to 2,4-Dichlorophenoxyacetic Acid in Irriga-	
tion Water. Part 1. Red Mexican Beans. V. F. Bruns	359
Chlordane, Chlorobromopropene and Hexachlorocyclopentadiene for Pre-	1.
emergence Control of Crabgrass (Digitaria sanguinalis L.) and Other Annual	,
Grasses, C. Dean Dybing, Jess L. Fults and Roger M. Blouch	377
Dalapon (2,2-Dichloropropionic Acid) as a Protein Precipitant. Carl T. Rede-	5,,
mann and John Hamaker	387
Bibliography of Weed Investigations for April, May and June 1954	389
Advertisers Index	
A MAT VA LIGUA G AAMOON	xii

## **DIAMOND** insecticides and herbicides are known for dependable potency



We make sure of it → here

Diamond's research and development center in Painesville, Ohio





Write for literature on any of our products, and feel free to consult our technical staff when you have special problems. Your inquiries are welcome. DIAMOND ALKALI COMPANY, 300 Union Commerce Building, Cleveland 14, Ohio.



### Diamond Chemicals

#### DIAMOND AGRICULTURAL CHEMICALS

- DDT
- MITICIDE K-101 (Ovex)
- 2,4,5-T Brush Killers

- BHC
- Seed Disinfectant
- Grain Fumigants

- LINDANE
- 2,4-D Weed Killers
- Wettable powders, emulsifiable and oil solutions; and dust concentrates based on our technical grade chemicals

and many other chemicals that help farmers, gardeners, cattlemen and orchardists.

### For Industry and Agriculture

# Du Pont UREA HERBICIDES

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

Karmex® DL for pre-emergence weed control in cotton

"Karmex" W for weed control in asparagus, sugar cane, and pineapple. Also for irrigation and drainage ditch weed control

Telvar® for industrial weed and grass control. Also in certain areas, it is recommended for brush control. Available in two formulations: "Telvar" W and "Telvar" DW

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 DEPARTMENT
WILMINGTON, DELAWARE

# Products for Agriculture from



... BY THE MANUFACTURERS OF FAMOUS "20 MULE TEAM" PACKAGE PRODUCTS

### **Weed Killers**

Nonselective - Long-Lasting Effects

BORASCU®

CONCENTRATED BORASCU®

POLYBOR-CHLORATES®

GERSTLEY BORATE

### **Borate Fertilizers**

for Correction of Boron Deficiency

FERTILIZER BORATE—Regular Grade
FERTILIZER BORATE—High Grade
POYBOR-2®...for foliar spray applications

### **Cotton Defoliation**

CHEM-FROST DEFOLIANT

LIQUID DRY

### Wetting Agent

SPRAY-CHEM-A

### Parasite (Lorvoe) Control

POLYBOR-3

Destroys Larvae of:

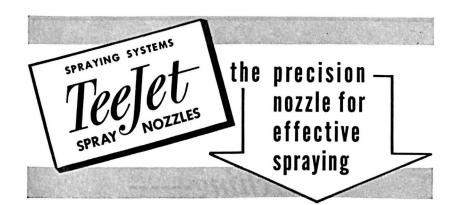
DOG HOOKWORM
SWINE KIDNEY WORMS

• FOR FURTHER INFORMATION, WRITE TO: 630 SHATTO PLACE, LOS ANGELES 5, CALIF.

PACIFIC COAST BORAX CO.

DIVISION OF BORAX CONSOLIDATED, LIMITED

LOS ANGELES. NEW YORK AND ALL PRINCIPAL CITIES



Supplied in a full range of interchangeable orifice tip and strainer sizes to mect 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.

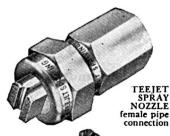
#### OFF-CENTER SPRAY NOZZLES

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 NOZZLE male pipe connection





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 Bulletin 58.

### PRAYING SYSTEMS CO.

Engineers and Manufacturers

3275 RANDOLPH STREET

BELLWOOD, ILLINOIS

### **WEEDONE**®

# Constantly Searching----

We maintain a permanent department whose field research is ever seeking new and improved chemicals and methods for weed and brush control.

### AMERICAN CHEMICAL PAINT COMPANY

**Agricultural Chemicals Division** 

AMBLER, PA.

Originators of 2,4-D and 2,4,5-T Weedkillers



# New Herbicides FOR WEED CONTROL

IN... Tomatoes
Sugar Beets
Cucurbits

Peanuts and Hybrid Seed Corn

#### TOMATOES and TRANSPLANTED CROPS

Experimental Herbicide Natrin\* (sodium 2,4,5-trichlorophenoxyethyl sulfate). Apply after clean cultivation to get a weed-free harvest without crop injury.

#### SUGAR BEETS and CUCURBITS

Experimental Herbicide DCU\* (dichloral urea) mixed with the top layer of soil before planting gives annual grass control for as long as three months.

### PEANUTS and SEED CORN BREEDING STOCK

Crace Herbicide-1 (SES) cuts peanut production costs. Bigger yields result from increased weed control and less Southern Blight. In corn it is safe on sensitive inbreds, single and double crosses.

For experimental use only by or under the supervision of Federal or State agencies authorized by law to conduct research in the field of economic poisons. Treated crops should not be used for food or feed.

	CRAG AGRICULTURAL CHEMICALS
	CARBIDE AND CARBON CHEMICALS COMPANY
	A Division of Union Carbide and Carbon Corporation
į	30 East 42nd Street, New York 17, New York
i	Gentlemen:
	Please send additional information and your application blank for free experimental material for Experimental Herbicide Natrin, Experimental Herbicide
į	DCU, and CRAG Herbicide-1
	Name
i	Address
į	CityState

<sup>&</sup>quot;Crag" is a registered trade-mark of Union Carbide and Carbon Corporation.



### for effective, economical weed control

### **POTASSIUM CYANATE**

for pre-emergence contact weedkilling, post-emergence selective contact weedkilling, top-killing and defoliation. Breaks down rapidly on contact with soil.

### **AERO® CYANAMID, Granular**

Contains 20% nitrogen and 70% hydrated lime. For pre-emergence weed control in peas, corn, asparagus and other crops. For pre-seeding weed control in tobacco and other plant beds, for establishing or renovating weed-free turf. In granular form for easy handling and application.

### AERO® CYANAMID, Special Grade

Contains 21% nitrogen and 70% hydrated lime. In dust form for preemergence residual and contact weed control. Defoliates cotton, field beans and other crops. For pre-harvest top-killing of tomatoes and potatoes.

### AMINO TRIAZOLE (3-amino-1,2,4-triazole) (LIMITED QUANTITIES AVAILABLE FOR EXPERIMENTAL PURPOSES)

### Herbicide, Defoliant, Growth Regulator

Amino Triazole has demonstrated effectiveness in control of a number of troublesome weeds, including Canada thistle, sow thistle, poison ivy, poison oak, quack grass, nut grass and certain woody species. By virtue of a short residual life in the soil, Amino Triazole can be sprayed on weed infestations a short time before planting without injury to the crop.

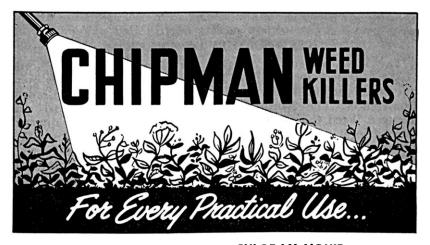
Amino Triazole translocates readily through the plant and produces unusual systemic effects, manifested by albinism or chlorophyll inhibition in new growth. This typical effect has continued to show up as long as one year after spraying certain species.

At rates of  $\frac{1}{2}$  to  $\frac{1}{2}$  pounds per acre, cotton has been defoliated and regrowth controlled for a sufficient time to permit harvest.

### AMERICAN **Cyanami**d COMPANY

AGRICULTURAL CHEMICALS DIVISION
30 Rockefeller Plaza, New York 20, N. Y.

viii



ATLACIDE: A 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 as spray or in original dry form.

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

CHLOREA: A uniform, non-separating combination of sodium chlorate, borate and CMU. Kills all types of weeds and grasses. Combines the proven effectiveness of chlorate on deep-rooted weeds with the soil-surface action of CMU on shallow-rooted grasses and annual seedling growth. Has lasting residual effect to inhibit 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

CHLORAX "40": A non-separating composition of sodium chlorate and borate...for weed and grass control. Has a lasting residual effect. Does not create a fire hazard. Applied dry or as a spray.

CHLORAX LIQUID: Similar to Chlorax "40"...in liquid form for easy mixing with water.

ATLAS "A": A 40% sodium arsenite solution (4 lbs. arsenic trioxide per gal.). Destroys certain submersed vegetation 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 WEED KILLERS: Available as 2,4-D Amine and 2,4-D Ester liquids; also 2,4-D Ester dusts.

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.

Low Volatile 2,4,5-T Low Volatile Brush Killer Sodium TCA ● IPC 25% Liquid Chipman General (Dinitro)

- Write for New Weed Control Booklets –

### CHIPMAN CHEMICAL COMPANY, INC.

Chicago, Ill. BOUND BROOK, N. J. Portland, Orc.

Palo Alto, Calif. . Pasadena, Tex. . Bessemer, Ala.

Manufacturers of Weed Killers Since 1912