

# WEED SCIENCE

JOURNAL OF THE WEED SCIENCE SOCIETY OF AMERICA

## CONTENTS

Effects of Herbicides on ATP Levels in Excised Soybean Hypocotyls. R. D. Gruenhagen and D. E. Moreland .....	319
Dissipation of Dicamba, Picloram, and 2,3,6-TBA Across Nebraska. O. C. Burnside, G. A. Wicks, and C. R. Fenster .....	323
Uptake and Translocation of Selected Herbicides in Mugwort. A. B. Rogerson and S. W. Bingham .....	325
Dissipation of Picloram from Vegetation of Semi-Arid Rangelands. C. J. Scifres, R. R. Hahn, and M. G. Merkle .....	329
Effect of Environment on the Activity of Diphenamid. M. R. Lynch and R. D. Sweet .....	332
Response of Cotton to Combinations of Herbicides and Disulfoton. H. W. Ivy .....	338
Competition of Blue Mustard with Winter Wheat. D. G. Swan .....	340
Stem Abnormality Induced by DCPA. R. K. Nishimoto and G. F. Warren .....	343
Selective Chemical Control of Cocklebur in Cottonseed. James E. Smith and A. W. Cole .....	346
Penetration and Translocation of Picloram in Canada Thistle. M. P. Sharma, F. Y. Chang, and W. H. Vanden Born .....	349
A Microradioautographic Study of <sup>14</sup> C-Diuron Absorption by Cotton. R. H. Strang and R. L. Rogers .....	355
A Microradioautographic Study of <sup>14</sup> C-Trifluralin Absorption. R. H. Strang and R. L. Rogers .....	363
Atrazine and Simazine Increase Yield and Quality of Range Forage. Burgess L. Kay .....	370
Response of Weeds and Soybeans to Vernolate and Other Herbicides. B. J. Johnson .....	372
Effect of Weed Competition on Sunflowers. B. J. Johnson .....	378
Picloram Persistence in Semiarid Rangeland Soils and Water. C. J. Scifres, R. R. Hahn, J. Diaz-Colon, and M. G. Merkle .....	381
Anatomy of Johnsongrass. C. G. McWhorter .....	385
Influence of Incorporation Depth on Chloramben Activity. Duane N. Sommerville and L. M. Wax .....	394
Biologically Active Substances in Subterranean Parts of Purple Nutsedge. Theresa Friedman and M. Horowitz .....	398
Control of Waterlilies with Dichlobenil. R. D. Comes and L. A. Morrow .....	402
Influence of Light and Sucrose on <i>N</i> -Glucosyl Pyrazon Formation in Red Beet. G. R. Stephenson, D. R. Dilley, and S. K. Ries .....	406
Metabolism of Atrazine by Fall Panicum and Large Crabgrass. Lafayette Thompson, Jr., J. M. Houghton, F. W. Slife, and H. S. Butler .....	409
Determination of Arsenical Herbicide Residues in Plant Tissues. R. M. Sachs, J. L. Michael, F. B. Anastasia, and W. A. Wells .....	412
Adsorption of Picloram by Soil Colloids and Various Other Adsorbents. R. Grover .....	417
Growth of Johnsongrass Selections Under Different Temperatures and Dark Periods. G. W. Burt and I. M. Wedderspoon .....	419
Two New Varieties of <i>Setaria viridis</i> . Marvin M. Schreiber and Lawrence R. Oliver .....	424
Differential Selectivity of Herbicides on Six <i>Setaria</i> Taxa. Lawrence R. Oliver and Marvin M. Schreiber .....	428
Environmental Effects on Absorption and Translocation of 2,4,5-T in Winged Elm. Gene D. Wills and Eddie Basler .....	431
Report, Subcommittee on Standardization of Common and Botanical Names of Weeds .....	435
WSSA Placement Service .....	477
News Notes .....	479
Sustaining Members .....	480
Metric-English Equivalents .....	481

VOLUME 19  
JULY 1971  
NUMBER 4

# WEED SCIENCE

*Issued six times a year by the Weed Science Society of America*

FRED W. SLIFE, *Treasurer-Business Manager*, Department of Agronomy,  
University of Illinois, Urbana, Illinois 61801

EARL G. RODGERS, *Editor*, 2183 McCarty Hall, University of Florida,  
Gainesville, Florida 32601

## ASSOCIATE EDITORS

D. E. DAVIS, Department of Botany  
and Microbiology, School of Agri-  
culture, Auburn University, Au-  
burn, Alabama 36830

C. L. FOY, Department of Plant Path-  
ology and Physiology, Virginia Poly-  
technic Institute, Blacksburg, Vir-  
ginia 24061

T. J. SHEETS, Pesticide Residue Re-  
search Laboratory, North Carolina  
State University, Box 5215, Raleigh,  
North Carolina 27607

DR. C. R. SWANSON, Plant Science Re-  
search Division, Crops Protection  
Research Branch, Southern Weed  
Science Laboratory, Stoneville, Mis-  
sissippi 38776

## EDITORIAL COMMITTEE

ARNOLD P. APPLEBY, Department of  
Farm Crops, Oregon State Univer-  
sity, Corvallis, Oregon 97331

JOHN D. BANDEEN, Crop Science De-  
partment, University of Guelph,  
Guelph, Ontario, Canada

GALE A. BUCHANAN, Department of  
Agronomy and Soils, School of  
Agriculture, Auburn University,  
Auburn, Alabama 36830

O. C. BURNSIDE, Department of Agron-  
omy, University of Nebraska, Lin-  
coln, Nebraska 68503

W. R. BYRNES, Department of Forestry  
and Conservation, Purdue Universi-  
ty, Lafayette, Indiana 47907

P. A. FRANK, Plant Science Research  
Division, Room 240, South Build-  
ing, Plant Industry Station, Belts-  
ville, Maryland 20705

K. C. HAMILTON, Department of  
Agronomy, University of Arizona,  
Tucson, Arizona 85721

J. L. HILTON, Plant Science Research  
Division, ARS, USDA, Beltsville,  
Maryland 20705

R. H. HODGSON, Metabolism and Ra-  
diation Research Laboratory, Plant  
Science Research Division, ARS, U.  
S. Department of Agriculture, Uni-  
versity Station, Fargo, North Da-  
kota 58102

L. G. HOLM, Department of Horti-  
culture, College of Agricultural and  
Life Sciences, University of Wiscon-  
sin, Madison, Wisconsin 53706

R. D. ILNICKI, Department of Soils  
and Crops, Rutgers University, New  
Brunswick, New Jersey 08903

L. S. JORDAN, Department of Horti-  
cultural Science, University of Cal-  
ifornia, Riverside, California 92502

C. G. McWHORTER, Plant Science  
Research Division, Crops Protection  
Research Branch, Southern Weed  
Science Laboratory, Stoneville, Mis-  
sissippi 38776

A. D. WORSHAM, Department of Crop  
Science, North Carolina State Uni-  
versity, Raleigh, North Carolina  
27607

WEED SCIENCE is a journal published by the Weed Science Society of America. The subscription price is \$20.00 yearly for six issues; single copies \$4.00.

Address all communications regarding subscriptions and reprints to F. W. Slife, Department of Agronomy, University of Illinois, Urbana, Illinois 61801. All checks, money orders, and other remittances should be made payable to the Weed Science Society of America.

The editorial office is located at 2183 McCarthy Hall, University of Florida, Gainesville, Florida 32601. Inquiries concerning manuscripts and other materials for publication should be addressed to the editorial office.

Printing is by the W. F. Humphrey Press, Inc., Geneva, New York.

To join the Weed Science Society of America, send remittance of \$15.00, payable to the Weed Science Society of America, to Dr. F. W. Slife, Department of Agronomy, University of Illinois, Urbana, Illinois 61801. Give name, official position (if any), and complete address. Dues are for the calendar year only.

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