

THE BULLETIN

of the

UNITED STATES GOLF ASSOCIATION GREEN SECTION

Vol. 13

Washington, D. C., October, 1933

No. 5

Contents

	Page
Effect of Variations in Concentration of Mineral Nutrients Upon the Growth of Several Types of Turf Grasses. By Mary E. Reid.....	122
Effects of Shade on the Growth of Velvet Bent and Metropolitan Creeping Bent. By Mary E. Reid.....	131
Relationship Between Fertilizing and Drainage in the Occurrence of Brown-patch. By Arnold S. Dahl.....	136
Usefulness of Kentucky Bluegrass and Canada Bluegrass in Turfs as Affected by Their Habits of Growth. By Morgan W. Evans and John E. Ely.....	140
Buffalo Grass for Fairways in the Plains States. By David A. Savage.....	144
Questions and Answers.....	149

EXECUTIVE COMMITTEE

GANSON DEPEW, Chairman, Marine Trust Bldg., Buffalo, N. Y.
H. KENDALL READ, Vice-Chairman, Philadelphia, Pa.
EBERHARD ANHEUSER, St. Louis, Mo.
ROBERT F. ARNOTT, Upper Montclair, N. J.
H. CHANDLER EAGAN, Medford, Oreg.
WALTER S. HARBAN, Washington, D. C.
K. F. KELLERMAN, Washington, D. C.
NORMAN MACBETH, Los Angeles, Calif.
JOHN MONTEITH, JR., Washington, D. C.
GUY M. PETERS, Chicago, Ill.
FREDERICK SNARE, Havana, Cuba.

RESEARCH COMMITTEE

UNITED STATES DEPARTMENT OF AGRICULTURE

K. F. KELLERMAN, Chairman; Associate Chief, Bureau of Plant Industry.
F. H. HILLMAN, Botanist, Seed Investigations.
A. J. PIETERS, Principal Agronomist in Charge, Forage Crops and Diseases.
OSWALD SCHREINER, Principal Biochemist in Charge, Soil Fertility.
W. R. WALTON, Senior Entomologist, Cereal and Forage Insects.
HARVEY L. WESTOVER, Senior Agronomist, Forage Crops and Diseases.

UNITED STATES GOLF ASSOCIATION GREEN SECTION

JOHN MONTEITH, JR.
KENNETH WELTON

ADVISORY COMMITTEE

WILLIAM H. ASTON, Detroit, Mich.
DOUGLAS CALL, Richmond, Va.
PAUL N. COATES, St. Paul, Minn.
W. C. FOWNES, JR., Pittsburgh, Pa.
A. J. GOETZ, Webster Groves, Mo.
WILLIAM HARRIG, Cincinnati, Ohio.
WILLIAM R. HOCHSTER, Mamaroneck, N. Y.
JAS. E. MACCLOSKEY, JR., Pittsburgh, Pa.
JOHN MORLEY, Youngstown, Ohio.
ALEX PIRIE, Fort Sheridan, Ill.
GEORGE SARGENT, Atlanta, Ga.
C. A. SAWYER, JR., Boston, Mass.
JOHN SHANAHAN, West Newton, Mass.
STANLEY B. SHERMAN, Cleveland, Ohio.
HARRISON SMITH, Oklahoma City, Okla.
HENRY P. SMITH, Waco, Tex.
RAYMOND TOWER, Tampa, Fla.
C. A. TREGILLUS, Everett, Ill.
JOSEPH VALENTINE, Haverford, Pa.
ALAN D. WILSON, Philadelphia, Pa.
FRANK H. WILSON, Newton Centre, Mass.

THE BULLETIN is published in January, February, May, August, October, and December by the United States Golf Association Green Section, at Room 7207, Building F, Constitution Ave. and 7th St., Washington, D. C.

Address all MAIL to P. O. Box 313, Benjamin Franklin Station, Washington, D. C.

Send TELEGRAMS to Room 7207, Building F, Constitution Ave. and 7th St., Washington, D. C.

Subscription Price: In United States of America, \$4.00 a year; in all other countries, \$5.00 a year.

Entered as second-class matter, April 21, 1926, at the post office at Washington, D. C., under the Act of March 3, 1879. Copyrighted, 1933, by the United States Golf Association Green Section.