Vol. 53. Part 3 December 1959

THE JOURNAL OF AGRICULTURAL SCIENCE

EDITED BY

G. D. H. BELL, B.SC., PH.D., Plant Breeding Institute, Cambridge R. E. EVANS, M.SC., PH.D., School of Agriculture, Cambridge

K. E. E VAIVS, M.SC., Ph.D., School of Agriculture, Campinge

J. HAMMOND, C.B.E., M.A., D.SC., F.R.S., School of Agriculture, Cambridge

SIR BERNARD KEEN, D.SC., F.R.S., 72 Eaton Square, London, S.W. 1

SIR E. JOHN RUSSELL, D.SC., F.R.S. Campsfield Wood, Woodstock, Oxon.

E. W. RUSSELL, M.A., PH.D., F.INST.P., East African Agriculture and Forestry Research Organisation, P.O. Box 21, Kikuyu, Kenya

R. K. SCHOFIELD, Ph.D., F.INST.P., Department of Agriculture, Oxford

F. YATES, sc.D., F.R.S., Rothamsted Experimental Station, Harpenden



CAMBRIDGE UNIVERSITY PRESS

BENTLEY HOUSE, 200 EUSTON ROAD, LONDON, N.W. I AMERICAN BRANCH: 32 EAST 57TH STREET, NEW YORK 22, N.Y.

Price 25s. net (U.S.A. \$4.25)

MICHROME STAINS

and Reagents for Biology & Histochemistry

Adenosine Luxol Fast Blue
Adenylic acids Pyronin
Brilliant Cresyl Blue Ribonuclease
Cytase Sudan Black
Giemsa Stain Trypsin
Leishman Stain Urease, etc.

62-page catalogue available on request

Ready January 1960
"Encyclopaedia of Microscopic Stains," about 500 pages
Royal 8vo, price about 95s., by Edward Gurr

EDWARD GURR, LTD.

42 Upper Richmond Road West, East Sheen, London, S.W.14

> Telephone: Prospect 7606 & 8051 Cables: Micromlabs London

SERVICE, UNIFORM HIGH QUALITY, RELIABILITY,
IMMEDIATE DELIVERY

Now ready: new books by Edward Gurr:
"Methods of Analytical Histology and Histochemistry."
Royal 8vo. First edition, 334 pages, 92 × 62. Price 70s.
"Microscopic Staining Techniques." No. 4 (1958), No. 3
(2nd edit. 1958), each 66 pages, each price 6s.
(U.S.A. \$1.00)

HEFFER'S



BOOKS ON
BIOLOGY
AGRICULTURE
FORESTRY

W. HEFFER & SONS LTD. 3-4 Petty Cury, Cambridge

AGRONOMY JOURNAL

Agronomists throughout the world have found the Agronomy Journal, monthly publication and official organ of the American Society of Agronomy, a source of up-to-date reports on agronomic research. Workers in the fields of forages and pastures, small grain improvement, corn, fibre crops and legumes, cultural practices, and soil fertility, as well as closely allied fields of investigation find articles of lasting interest in the Agronomy Journal. Publication is open to members of the American Society of Agronomy.

Non-member subscriptions: \$14.00 per year, U.S. and Canada. \$15.00 per year elsewhere.

American Society of Agronomy 2702 Monroe Street Madison 5, Wisconsin Full particulars of the

JOURNALS

published by the

CAMBRIDGE UNIVERSITY PRESS

may be had from

The Manager

Cambridge University Press

Bentley House, 200 Euston Road

London, N.W. 1



Agric. Sci., 53, 3

More time to kill

Between the Ems and Weser rivers in North Germany lies a flat land of dyke and ditch, with tall-roofed, timbered farmsteads in some of the richest farming country in Lower Saxony. Here, in recent years, one of the most damaging insect pests of Northern Europe—the Beet Fly—has caused heavy losses.

Successful control of the Beet Fly (*Pegomyia hyoscyami* Panz.) is not a simple problem, for to control the first generation larvae which attack while the plants are too small to withstand heavy damage, accurate *timing* of spray applications is essential. Sprayed too early, the insecticide may have lost its power before many of the larvae have hatched. Sprayed too late, the whole crop may be destroyed, for in severe infestations the larval population may be as high as thirty *per leaf*.

In 1956, starting in early May, egg-laying by the Beet Fly continued in the Weser-Ems district for almost six weeks with undiminished intensity, and damage was so great that where no control was exercised, entire fields of beet had to be ploughed up. In Hanover and Westphalia the story was the same. Serious losses were sustained even in some cases where insecticides were used, due to the short residual action of the product. But where *endrin* was employed it was generally found that a single spraying with this advanced Shell insecticide was sufficient. Endrin was so long lasting that it destroyed even those larvae which hatched out weeks after the spray application. Endrin gives itself more time to kill — and does the job thoroughly.

Shell endrin

Shell Endrin, one of six Shell pesticides for world-wide use, protects crops of many kinds in many parts of the world. Between them, endrin, aldrin, dieldrin, Phosdrin, D-D and Nemagon control almost every significant world pest. Whatever Shell does, Shell does well.





Issued by the Shell International Chemical Company Limited and the Bataafse Internationale Chemie Mij. N.V. For further information consult your Shell Company (in the U.K., apply to Shell Chemical Company Limited).