

# THE JOURNAL OF AGRICULTURAL SCIENCE

EDITED BY

G. D. H. BELL, B.SC., PH.D., School of Agriculture, Cambridge

E. M. CROWTHER, D.SC., F.R.I.C., Rothamsted Experimental Station, Harpenden

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

H. HUNTER, M.A., D.SC., 176 Huntingdon Road, Cambridge

B. A. KEEN, D.SC., F.R.S., East African Agriculture and Forestry Research  
Organisation, Nairobi, Kenya

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

H. E. WOODMAN, M.A., PH.D., D.SC., School of Agriculture, Cambridge

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



CAMBRIDGE UNIVERSITY PRESS

LONDON: BENTLEY HOUSE, N.W.1

NEW YORK: 51 MADISON AVENUE

*Price 15s. net*

*Issued 19 June 1951*

# Books on Agriculture, Botany and Allied Sciences of all publishers supplied from stock.

Catalogue of Books on Agriculture, Horticulture  
and Allied Subjects available post free on request.  
Please mention interests when writing.

## Scientific Lending Library

New books and latest editions obtainable.

ANNUAL SUBSCRIPTION  
FROM TWENTY-FIVE SHILLINGS  
Prospectus post free on request.

THE LIBRARY CATALOGUE revised to  
December 1949 is now ready.

To subscribers 17s. 6d. net.  
To non-subscribers 35s. net, postage 1s.

*Second-Hand Books*  
140 GOWER STREET, W.C. 1

**H. K. LEWIS & Co. Ltd.**

LONDON: 136 Gower St., W.C. 1  
Telephone EUSton 4282 (7 lines)

★

## AGRONOMY JOURNAL

(formerly the JOURNAL of the  
American Society of Agronomy)

Vol. 43      January 1951      No. 1

Winter Decline of Soil Structure in Clean-tilled  
Soils, by C. S. Slater and Henry Hopp. The  
Use of Undisturbed Soil Cores for Permeability  
and Infiltration Determinations, by Morris  
E. Bloodworth and W. R. Cowley. On the  
Phenology of Field Corn, the Vegetative Period,  
by R. H. Shaw and H. C. S. Thom. Effect of  
Cutting Treatments on the Yield, Botanical  
Composition, and Chemical Constituents of an  
Alfalfa-Bromegrass mixture, by Alexander  
Dotzenko and Gilbert H. Ahlgren.

also other articles concerned with research in  
crops and soils

Published by

The American Society of Agronomy  
2702 Monroe Street  
Madison 5, Wisconsin

Price, outside U.S. and Canada: \$11.00  
per year

## THE EMPIRE JOURNAL OF EXPERIMENTAL AGRICULTURE

THIS JOURNAL offers agricultural research workers a medium for disseminating the records and results of their investigations on the feeding and management of live stock, cultivation and manuring of crops, trial of farm machinery, agricultural economics, and experimental technique.

Vol. XIX. No. 73

CONTENTS

January 1951

- G. AP GRIFFITH: Factors influencing Nitrate Accumulation in Uganda Soil.  
L. G. VALLANCE: Recent Advances in Sugar-cane Culture in Queensland. With Plate 1.  
R. E. ALTONA and N. J. MENTZ: The Control of Weeds in Maize with Selective Plant-growth Regulators.  
D. J. HALLIDAY and W. G. TEMPLEMAN: Field Experiments in Selective Weed Control by Plant-growth Regulators. III. Weed Control in Grassland.  
G. HASKELL and P. DOW: Studies with Sweet Corn. V. Seed-settings with Distances from Pollen Source.  
S. BARTLETT, E. S. BAXTER, R. BRAUDE and K. G. MITCHELL: The Nutritive Value of Conophor Cake-meal for Young Dairy Stock and Fattening Pigs.  
G. P. HUGHES and T. A. EVANS: Response of an Established Sheep Ley to Dressings of Sulphate of Ammonia. Pt. I. Yields and Botanical Composition of Herbage cut for Silage and for Hay.

Royal 8vo. 9s. net. Annual subscription (four numbers) 27s. 6d. post free.

OXFORD UNIVERSITY PRESS, Amen House, LONDON, E.C. 4

A Student's Book on  
**Soils & Manures**

SIR E. J. RUSSELL

This well-known practical text-book for students of Agriculture was first published in 1915, has been reprinted eight times, and is still in constant demand. The author has revised this fourth edition to take account of changes in agricultural science and technology.

10s. 6d. net

CAMBRIDGE  
UNIVERSITY PRESS

MICHROME

**MICROSCOPIC STAINS  
& Reagents**

Chosen on merit for exhibition in  
Festival of Britain (Dome of Discovery)

Azocarmine	Haematoxylin
Brilliant Cresyl Blue	Janus Green, B
Cedarwood Oil	Leishman Stain
Field's Stain	Nile Blue
Giemsa Stain	Rosolic Acid

Trypan Red, etc.

Water analysis tablets

**EDWARD GURR, LTD**

42 Upper Richmond Road  
East Sheen, London, S.W. 14  
(formerly of Waterford Road, S.W. 16)  
Telephone: Prospect 7606 & 8051  
Cables: Micromlabs, London

SERVICE, UNIFORM HIGH QUALITY, RELIABILITY  
IMMEDIATE DELIVERY

Now ready: Microscopic Staining Techniques  
Part 1 (24 pp.) 1s. 6d. Part 2 (62 pp.) 3s. 6d.  
Part 3 (64 pp.) 3s. 6d.

See our exhibit, B.I.F.  
Stand B 19, Olympia, London, May 1951

# Agricultural Science Abstracts

OVER ONE HUNDRED SCIENTISTS ARE ENGAGED IN PREPARING OUR ABSTRACTS from the world's scientific press. They are divided into a number of specialised Bureaux, each of which is attached to a well-known agricultural research station working in the same field. This unique service is organised by the Commonwealth Agricultural Bureaux and is the result of forty years of adaptation to the needs of scientists throughout the world. The abstracts, which are essential for research workers, agricultural colleges and libraries, are published in each of the following subjects:

DAIRY SCIENCE    ANIMAL NUTRITION    ANIMAL BREEDING  
ANIMAL HEALTH    SOIL SCIENCE    HORTICULTURE  
HERBAGE    FIELD CROPS    FORESTRY    PLANT BREEDING  
MYCOLOGY    PARASITOLOGY    ENTOMOLOGY

Please write for full particulars and catalogue of other agricultural publications to The Publishing Manager.

COMMONWEALTH AGRICULTURAL BUREAUX  
FARNHAM ROYAL                      BUCKS.                      ENGLAND



“Milking troubles?”

# GASCOIGNES CAN HELP YOU

— whatever the size of your herd

The Gascoigne range of milking equipment covers the requirements of even the smallest dairy farmer with as few as three cows. The range extends till it is available for herds of 150 cows or more. Bucket units, direct to churn milking, auto-recording — every conceivable system can be supplied by Gascoignes.

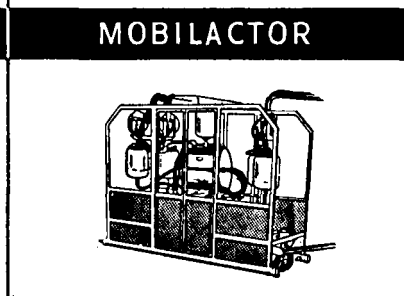
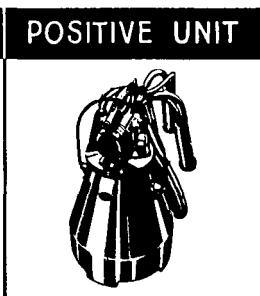
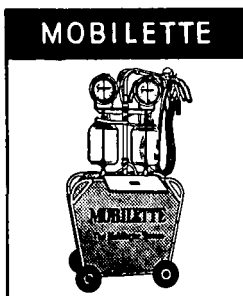
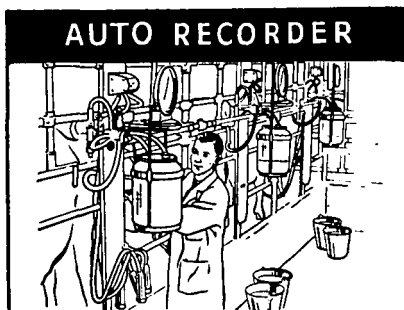
**Auto-Recorder.** For economical and efficient milk production there's nothing to beat the Gascoigne Auto-Recorder in a separate milking shed. Let your cows carry the can (as far as possible).

**Miracle Milker.** A small portable Bucket Plant with Positive Unit.

**Mobilette.** A two-unit mobile recorder for cowshed use on any existing vacuum line.

**Positive Unit.** The most up-to-date streamlined unit in the world with ten unique features.

**Mobilactor.** A four-unit mobile recorder and milk cooler. Record as you milk as you cool.



# GASCOIGNES

READING · PHONE: READING 5067 & 2273