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## A HALF-CENTURY OF ACHIEVEMENT BY THE ILLINOIS AGRICULTURAL EXPERIMENT STATION<sup>1</sup>

By the late Dr. H. W. MUMFORD

DEAN OF THE COLLEGE OF AGRICULTURE AND DIRECTOR OF THE AGRICULTURAL EXPERIMENT STATION

THE responsibility for evaluating the work of the Illinois Agricultural Experiment Station for the period of half a century is a task from which any thoughtful person might well shrink, not because it is an unpleasant duty, but because adequate treatment of the subject is obviously impossible. The findings of the station over this period have been reported in painstaking detail in some thousands of printed pages. The human record is found in changed practices on the farms of the state and in a higher level of living than would otherwise have been possible. All I can do is to choose examples that will illustrate something of the underlying objectives and policies of the station and that will be suggestive of the scope and significance of its work.

<sup>1</sup> Abstract of address at the fiftieth anniversary of the Illinois Agricultural Experiment Station, March 25, 1938. Dr. Mumford died on May 14.

Starting with the establishment of the Morrow plots in 1876 and the initiation of the Soil Survey in 1902, the station, through an unbroken program of research, has accumulated a wealth of knowledge concerning the soils of Illinois, on the basis of which land-use programs can be intelligently planned and the land resources conserved as a continuing source of wealth.

The oldest experimental plots of their kind in the United States, the Morrow plots have stood as incontrovertible evidence of the tragedy of faulty soil management and the promise that is held out to the future in intelligent soil management. From 44 bushels of corn an acre in the early years of these plots, good methods of soil management have advanced yields to 66 bushels. On adjacent land, depleted by continuous cropping to corn year after year, the yields are now only 24 bushels, and they are still declining.

But after all the Morrow plots cover less than an



FIG. 1.

Fig. 1 illustrates how the marks would be in animal No. 201,111.

The clipping of tails for numbering animals is only applicable to certain species and, in some of these, it should be used with the greatest care. A clipped tail indicates animal No. 150,000. Then by combining the clipped tails with the previous parts of the system, a total of 299,999 animals may be numbered.

EMMETT B. CARMICHAEL

UNIVERSITY OF ALABAMA

#### PERMANENT MOUNTS OF HELMINTH EGGS IN AQUEOUS PRESERVING FLUIDS

It is often desirable to prepare permanent mounts of helminth eggs by a simple technique which will eliminate the shrinkage and distortion that frequently occur in the longer process of dehydration and subsequent mounting in damar. In the following technique the eggs are mounted permanently on the slide in 4 per cent. formaldehyde: (1) Place the slide on a turn table and ring a cell with "Murrayite"; (2) fill the cell immediately with the preserving fluid (4 per cent. formaldehyde) containing the eggs. An excess of the preserving fluid should be placed in the cell to prevent trapping air bubbles; (3) place a circular coverglass in position immediately. With gentle pressure of the index fingers rotate the coverglass through an arc of

approximately 30 degrees, thus pressing the edge into the soft cement. Usually the coverglass will adhere, even though the rim may have become wet with the overflowing preserving fluid; (4) allow the slide to dry over night and then re-ring it to insure a more permanent seal; (5) twenty-four hours later the slide can be rinsed in running water, dried with a cloth and labelled.

Similar permanent mounts of adults and larvae of *Trichinella spiralis* have been made by preserving them in an aqueous solution of 4 per cent. formaldehyde and 30 per cent. glycerine.

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J. HENRY WALKER

DEPARTMENT OF BIOLOGY,  
UNIVERSITY OF ALABAMA

#### BOOKS RECEIVED

- AREER, AGNES. *Herbals; Their Origin and Evolution; A Chapter in the History of Botany, 1470-1670*. Revised edition. Pp. xxiv + 326. 131 figures. Cambridge University Press, Macmillan. \$7.50.
- FRÉCHET, MAURICE. *Second Livre; Méthode des Fonctions Arbitraires, Théorie des Evénements en Chaîne dans le Cas d'un Nombre Fini D'états Possibles, Tome I, Fascicule III, Les Principes de la Théorie des Probabilités*. Pp. x + 315. Gauthier-Villars, Paris. 130 fr.
- Science Reports of the Tôhoku Imperial University; Fourth Series (Biology), Vol. XII, No. 4. April, 1938. Pp. 483-670 + iv. Maruzen, Tokyo and Sendai.
- STEVENS, S. SMITH and HALLOWELL DAVIS. *Hearing; Its Psychology and Physiology*. Pp. xv + 489. 166 figures. Wiley. \$4.50.
- STIRLING, M. W. *Historical and Ethnographical Material on the Jivaro Indians*. Bulletin 117 of the Bureau of American Ethnology, Smithsonian Institution. Pp. xi + 148. Illustrated. Superintendent of Documents, Washington. \$0.35.
- Svenska Linné-Sällskapets Årsskrift; Årgång XXI, 1938. Pp. 179. Illustrated. Almqvist and Wiksells Boktryckeri, Upsala.
- WATERMAN, N. *Diet and Cancer: An Experimental Study*. Pp. 96. Illustrated. D. B. Centen's Uitgevers-Maatschappij, Amsterdam. \$2.50.
- WATSON, W. H. *On Understanding Physics*. Pp. xii + 146. Cambridge University Press, Macmillan. \$2.25.
- WILDER, GEORGE D. and HUGH W. HUBBARD. *Birds of Northeastern China; A Practical Guide Based on Studies Made Chiefly in Hopei Province. Handbook No. 6, April, 1938*. Pp. v + 700. Illustrated. Peking Natural History Bulletin. \$9.00.
- WRIGHT, SYDNEY L. *The Story of The Franklin Institute*. Pp. 104. Illustrated. The Institute, Philadelphia. \$1.00.
- YOE, JOHN H. *A Laboratory Manual of Qualitative Analysis*. Pp. ix + 219. 7 figures. Wiley. \$2.50.
- YOUNG, CLARENCE W., G. LEDYARD STEBBINS and CLARENCE J. HYLANDER. *The Human Organism and the World of Life; A Survey in Biological Science*. Pp. viii + 657. 128 figures. Harper. \$3.00.

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