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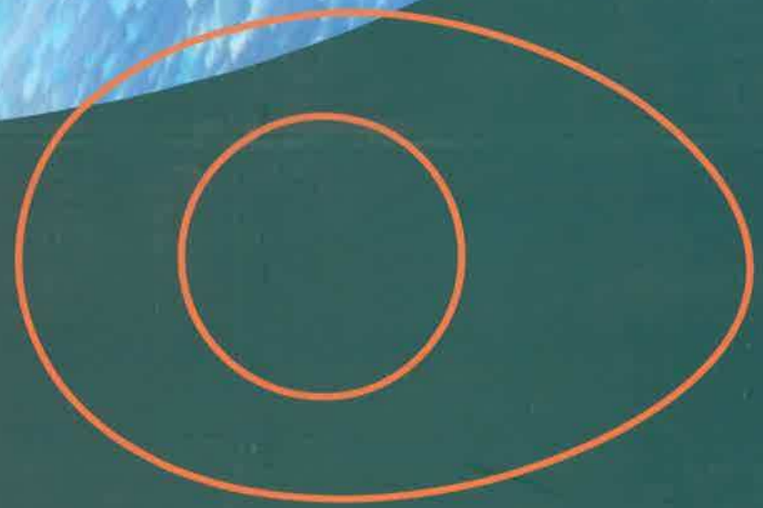

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COLLABORATING AUTHORS

W. W. Cravens
E. M. Funk
W. R. Hinshaw
W. M. Insko, Jr.
Walter Landauer
Helen R. Moseley
J. E. Parker
Alexis L. Romanoff
D. C. Warren

FOREWORD

The International Baby Chick Association, the trade organization of the commercial and breeder hatchery industry, through its Board of Directors at their annual meeting in 1945 appointed a Research Committee to devise means of selecting, initiating, and carrying out research projects of value to the industry.

The Research Committee decided upon and set up a systematic research program to be implemented by funds allocated as fellowships and grants-in-aid to universities, colleges, and experiment stations where such research could be carried on.

The first subject to receive consideration by the committee was the rather general one of factors influencing hatchability and fertility. Studies on this subject would, of course, be of immediate and practical interest to an organization of hatcherymen.

Before initiating further research in this field the committee felt that a fairly comprehensive review of the literature on the subject should be compiled. Such a review would not only bring the industry up to date on the subject but also undoubtedly indicate specific areas where further research was needed. Poultry scientists who were consulted suggested also that such a review would fill a need as a reference and textbook in agricultural colleges.

This volume, which reviews all the significant literature on the factors influencing fertility and hatchability of chicken and turkey eggs, is, therefore, the result of co-operation between the International Baby Chick Association and the various poultry scientists who acted as collaborators. The Research Committee, on behalf of the hatchery industry, gratefully acknowledges the assistance and collaboration of the following scientists who have made this work possible: Dr. W. W. Cravens, Department of Poultry Husbandry, University of Wisconsin, Madison, Wisconsin; Dr. D. C. Warren, Department of Poultry Husbandry, Kansas State College, Manhattan, Kansas; Dr. J. E. Parker, Department of Poultry Husbandry, Oregon State College, Cor-

vallis, Oregon; Prof. E. M. Funk, Department of Poultry Husbandry, University of Missouri, Columbia, Missouri; Prof. W. M. Insko, Jr., Poultry Section, Department of Animal Industry, University of Kentucky, Lexington, Kentucky; Dr. A. L. Romanoff, Department of Poultry Husbandry, Cornell University, Ithaca, New York; Drs. Walter Landauer and Helen R. Moseley, Department of Genetics, University of Connecticut, Storrs, Connecticut; Dr. W. R. Hinshaw, Department of Veterinary Science, University of California, Davis, California.

Especial acknowledgment is made of the advice and assistance of Dr. Lewis W. Taylor, Division of Poultry Husbandry, University of California, Berkeley, California, who has edited these reviews and whose help in this and other ways has been immeasurable.

Further acknowledgment is made of the advice and co-operation of the reviewers whose names are listed in the preface. Their criticisms have greatly aided the editor and his collaborators in developing the contents of the various chapters.

It is hoped that this volume may be useful to the poultry industry, to students, and to others interested in poultry science.

E. A. Nisson
Chairman, Research Committee
International Baby Chick
Association

Research Committee Members
E. A. Nisson, Petaluma, Calif.
E. M. Funk, Columbia, Mo.
Andrew Christie, Kingston, N. H.

Charles H. Price, Telford, Pa.

PREFACE

In accepting their assignments in the co-operative effort to prepare this review, the collaborating authors and the editor have recognized the difficulties involved in the translation of scientific findings into terms of practical application. They have recognized also that the readers of this book will vary widely in scientific training and in practical hatchery experience. Special effort has accordingly been made to explain in the text and to define in the glossary the various scientific and industrial terms used.

The authors have made an extensive survey of the experimental work reported in their respective scientific fields. The significant results and theories developed from such reports published and available to the collaborators by December, 1947, are included in the various chapters. No attempt has been made to cite all publications dealing with reproduction in chickens and turkeys. A list of pertinent references, with stress placed on papers and reviews giving comprehensive citations of literature, has been provided for students and investigators who may desire to make a detailed study of specific phases of fertility or hatchability. Particular consideration has been given to an evaluation of results obtained from past research and to the problems remaining to be solved.

It is the hope of all concerned in the preparation of this volume that their efforts will serve to promote education and research in the breeding and hatchery phases of the poultry industry.

Grateful acknowledgment is made to Dr. H. J. Almquist of the F. E. Booth Co., Emeryville, California, and to a group of colleagues of the editor from the University of California who have reviewed and criticized various chapters as follows: Chapter 1, Dr. Almquist and Dr. C. R. Grau; Chapters 2, 4, and 9, Dr. V. S. Asmundson; Chapter 3, Dr. F. W. Lorenz; Chapter 5, Dr. Grau; Chapter 7, Dr. I. M. Lerner; and Chapter 8, Dr. K. B. DeOme. Dr. R. M. Eakin also made valuable suggestions con-

cerning the program of graduate training discussed in Chapter 9.

The Research Committee and the Executive Directors of the International Baby Chick Association have generously met every request from the collaborating authors and the editor for aid in the preparation of this review. To them should be attributed an important share in whatever merit may be found in the contents of this volume.

L. W. T.

Berkeley, California

CONTENTS

VAS DEFERENS (*pl.* VASA DEFERENTIA). The excretory duct of a testicle; spermatic duct.

VIRUS. A microorganism that is too small to be visible by aid of the compound microscope.

VITELLINE MEMBRANE. A very thin membrane enclosing the yolk.

WOLFFIAN BODY. The second embryonic kidney of the avian embryo; mesonephros.

XANTHOPHYLL. A yellow pigment usually associated with chlorophyll and carotene in plants; it colors such animal fats as egg yolks.

YOLK SAC. A more or less spherical sac attached to an embryo and enclosing the food yolk.

ZYGOTE. A fertilized egg; the individual developing from such a cell.

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