

Veterinary Andrology & Artificial Insemination

M.S.Saxena



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(For the Students of B.V.Sc. & A.H. Degree Programme)

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Foreword

There is a great paucity of textbooks in the field of veterinary sciences written by Indian authors as reference and textbooks suitable to Indian college curriculum. Most Indian teachers use textbooks written by American and European authors directed at the clientele in their respective countries which are supplemented by notes to suit experience of Indian and other developing countries. This is a very unsatisfactory situation. In spite of a number of efforts by Indian Council of Agricultural Research and the publishing community at large, the number of authors who have taken up the challenge of writing books to serve as textbooks in veterinary colleges are very few. There seems to be no tradition which could generate a crop of authors who could take upon themselves the very important task of writing textbooks suitable for our curriculum in the veterinary colleges.

With the notification of standards for veterinary education by the Indian Veterinary Council, the entire course curriculum has been revised/updated and it is therefore necessary that attempts should be made by various university teachers to prepare texts to suit this course curriculum. Dr. Saxena's attempt to produce a basic text on andrology and artificial insemination based on the syllabus prescribed by Indian Veterinary Council is a good attempt in this direction. The need for a comprehensive book on clinical andrology and artificial insemination meant for undergraduates in the veterinary schools was urgent; this book can now be used as a textbook which will fill the long felt need in the subject. The text is primarily devoted to andrological examination of breeding bulls and their management, collection, evaluation and preservation of semen particularly of buffaloes. This is going to be very useful to the beginners. A chapter on cleaning and sterilization of equipment, recording of data is important from the point of view of veterinary practice. I believe that this compendium will be used as a workbook by the teachers as well as students. They should assist Dr. Saxena in improving its functional use in due course of time.

P.N. Bhat
Chairman, World Buffalo Trust

Preface

Reproduction is a joint venture in which both males and females participate. Reproductive disorders are more apparent in females, hence failures are often attributed to female gender only. A close examination of the process, however, reveals that males are as great offenders as females to cause infertility problems. The male should provide sperms which are competent to fertilize the ovum. Whenever there is large-scale problem of infertility in a herd or in large number of females, the male is always seen with suspicion. In addition to productive efficiency, the clinical examination of the bull for its reproductive efficiency is gaining more and more popularity.

There are many excellent books on andrology and A.I. which would undoubtedly remain unmatched for many years to come. None of these are tailor-made for the B.V.Sc. & A.H. syllabus prescribed by Indian Veterinary Council and followed by Indian veterinary institutions. Necessity for a concise book on "Clinical Andrology and A.I." within the scope and apprehension of undergraduate veterinary students has thus been felt for long. This compendium cum workbook has been attempted with the expectation that it would fulfill this long felt need and would provide necessary guidelines to the B.V.Sc. & A.H. students.

Basically, the contents of the book have been drawn from diverse literary sources as well as the practical field experience of the author. There might be some errors in the text and there is tremendous scope for improvement. The suggestions and criticisms would always be heartily welcomed.

Many of my senior colleagues, my associates, friends and students have made valuable contributions towards compilation of this book and the author is deeply indebted to Dr. Harpal Singh, Dean, College of Veterinary Sciences; Dr. S.N. Maurya, Prof. & Head, Department of Gynaecology and Obstetrics; Dr. B.D. Lakhchaura, Prof. & Head, Department of Veterinary Biochemistry for their inspiration and valuable suggestions. Dr. V. Umaphathi, Junior Research Officer and Mr. K.C. Joshi, Steno-typist of the Department of Veterinary Biochemistry deserve exceptional appreciation for their wholehearted help. Sincere thanks are due to Dr. V.B. Saxena, Dr. H.P. Gupta and Dr. Shiv Prasad for their critical suggestions. Km. Geeta Kandpal, Teaching Associate of the Department of Veterinary Biochemistry deserves appreciation in handling work on computer. The author would like to express his appreciation and indebtedness to his wife Meena and daughters, Shilpi and Shubhangi for their understanding and forgiveness they had shown for his several long absences from home.

M.S. Saxena

Syllabus (For B.V.Sc. & A.H. Degree Programme)

Andrology and Artificial Insemination

VOG-511

Cr. Hrs. 2 + 0 = 2

Introduction, development, comparative study of male genitalia and gonads. Growth, puberty, sexual maturity and libido. Endocrine control of reproduction in the male domestic animals. Factors affecting maturity and sex drive in bulls. Sexual behaviour in males. Forms of male infertility. General considerations. Factors affecting infertility in male, its treatment and diagnosis. Diseases, abnormalities and malformations of male genitalia, their diagnosis and treatment of coital injury and infections. Testicular hypoplasia and degeneration. Diseases of the accessory sex glands. Introduction, history, development, advantages and limitations of A.I. methods of semen collection in various species. Technique of A.I. factors affecting quality and quantity of semen. Tests for evaluation of semen; extension of semen; preservation of semen at different temperatures. Storage and shipment of semen, metabolism of semen, biochemistry of semen.

Andrology and Artificial Insemination (Clinics)

VOG-512

Cr. Hrs. 0 + 2 = 2

Andrological investigations of breeding bulls. Assessment of sires. Physical examinations—observing sexual behaviour; palpation of scrotum, spermatic cord, seminal vesicles and ampullae. Collection of materials for sperm activity, morphology and diagnosis of reproductive disorders in bulls. Preparation of A.V., collection of semen, evaluation, dilution, preservation techniques at different temperature. Freezing of semen. Insemination techniques in chilled and frozen semen. Planning and organization of A.I. centre. Selection, care, training and maintenance of breeding bulls for A.I., recording systems. Care, sterilization. Storage and upkeep of equipments used for Artificial Insemination.

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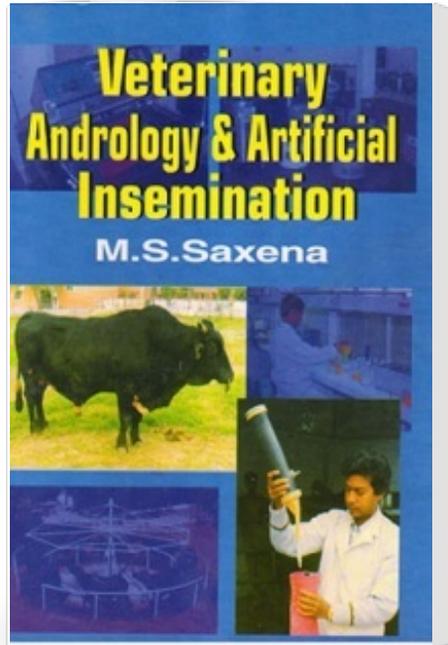
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