

Preface

Man has domesticated though a mere handful of about 40 useful animal species out of innumerable ones having desirable characteristics for mankind and has also been making continuous efforts to develop various breeds and types of animals through selection and breeding practices as well as to know new methods of improvement for various animal and plant species to serve various purposes like milk, meat, eggs, fibre, hides/skin, fuel, manure, draft power etc. As a result a new branch of science, called Genetics had emerged during 20th century with tremendous advancement to exploit the genetic variability for permanent improvement in production and reproduction efficiency of animal and plant populations. The genetics has gained so much popularity that it has found its place in the education curriculum of Agriculture and Veterinary streams throughout the world.

The various courses and their syllabus for teaching to B.V.Sc. & A.H. and B.Sc. (Ag.) students have been nationalized recently by the *Veterinary Council of India* and the *Indian Council of Agricultural Research*, respectively. These nationalized courses are now being taught in all the Veterinary Colleges and Agricultural Colleges under State Agricultural Universities and other colleges affiliated to other traditional Universities all over India. One of these prescribed course is animal genetics and animal breeding with the aim to learn and develop new methods of livestock improvement.

The preent book has been written with the objective to cover the syllabus of courses prescribed at country level by V.C.I. and I.C.A.R. for B.V.Sc. & A.H students and for B.Sc. (Ag.) students of Indian Universities on Animal Genetics, Population Genetics and Animal Breeding, particularly in Indian context. Hope this book will be of great help and great use in general to all interested in the subject and particularly to the under-graduate and post-graduate students, to the teachers and for those who appear in All India Competitive Examination of JRF, SRF, NET, SET, and others.

This book has covered all the topics of the subject of animal genetics and breeding prescribed in the syllabus. The entire subject matter has been spread over 27 chapters. The first 10 chapters of the book have been devoted to *Principles of Animal Genetics*, next 9 chapters to *Population Genetics* concerning with the genetic structure of population for qualitative and quantitative characters and last 8 chapters to *Animal Breeding* covering the methods of exploitation of genetic variation for the genetic improvement of farm animals.

The most *attractive feature* of this book is that the subject matter has been compiled, arranged, presented and expressed in very simple language. Moreover, the numerical solved problems and the numerical exercises to be done by the students have also been given at the end of different parts of the book. Thus, this book has covered both the theoretical as well as practical aspects as per requirement of the courses.

The authors do not claim any originality, as the subject matter has been collected and compiled from various sources, arranged and presented as per requirement of the students of Indian Universities and for the candidates appearing in various competitive examinations. The subject matter has been expressed in simple language so as the concept of the subject become clear.

The authors are highly thankful to those who extended their help, cooperation and suggestions during the course of writing and finalizing the manuscript of this book.

We welcome the reader to bring in our knowledge the mistakes that are likely to occur and send their suggestions for further improvement of the book.

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