

Silkworm Genetics and Breeding Strategies

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Preface

Sericulture, an age-old agro-based industry, continues to play a vital role in rural livelihoods and sustainable economic development. At the heart of this industry lies the silkworm, whose productivity and quality traits are deeply influenced by its genetic makeup. Advances in genetics and breeding have significantly transformed silkworm improvement programs, enabling the development of superior races with enhanced yield, disease resistance, and adaptability to diverse environmental conditions.

This book, *Silkworm Genetics and Breeding Strategies*, aims to provide a comprehensive understanding of the genetic principles governing silkworm biology and the modern breeding approaches employed for their improvement. It integrates classical genetics with contemporary molecular tools, offering insights into trait inheritance, genomic selection, hybridization techniques, and conservation of genetic resources.

Designed for students, researchers, and professionals in sericulture and allied fields, this volume bridges the gap between theoretical knowledge and practical application. Each chapter has been carefully structured to highlight both fundamental concepts and emerging trends, ensuring relevance in the context of rapidly evolving scientific advancements.

The editors sincerely hope that this book will serve as a valuable resource for strengthening silkworm breeding programs and promoting innovation in the silk industry. It is our aspiration that readers will find this work informative, inspiring, and instrumental in advancing research and development in sericulture.

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