

Preface

Fiber plants have been integral part of the human society. Fiber and subsequently fabric preparation was associated with rise and fall of various civilizations as well as considered as a parameter of living standards. Cultivation of fiber crops is as old as human civilization. Acceleration in population growth, reduction in cultivable land, and availability of freshwater for irrigation associated with climate change have profound effects for the capability of agriculture to meet the world's demands for food, feed, fiber, and fuel. Success depends on the recognition and exploit of existing molecular techniques, finding new sources as well as the increasing development of farming systems that use saline water and integrate nutrient flows.

The productivity of fiber crops, worldwide, is severely hampered by the prevalence of pests, weeds, and pathogens apart from various environmental factors. Several beneficial agronomic traits, viz. early maturity, improved fiber quality, and heat tolerance, have been successfully incorporated into fiber crops by employing conventional hybridization and mutation breeding.

Now, new advances in biotechnology are making it possible to develop plants that contain new genes which could not be introduced by sexual means. These advances in genetic engineering offer great new opportunities for improvement and sustainable use of fiber crops.

Fiber plants: Biology, biotechnology, and applications are presented with an aim to provide information about resources, their utilization, and technology available for their improvement. The purpose of this book is to assess the potential effects of biotechnological approaches particularly genetic modification on present scenario of fiber crop cultivation and improved production. The topics covered include biology, biotechnology, genomics, and applications of fiber crops such as cotton, flax, jute, and banana. The proposed book is to provide comprehensive and broad subject-based reviews, useful for students, teachers, researchers, and all others interested in the field. The field has been kept wide and general to accommodate the wide-ranging topics. How biotechnology can affect and solve the problems of fiber

crops has been presented by world's leading scientists and expert of the field. This book will be useful to agriculturists, biotechnologists, botanists, industrialists, and those governments involved in planning of fiber crop cultivation.

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