

Recent Developments in Basic and Applied Sciences

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TEXTILE BIOTECHNOLOGY AND ITS SCOPE IN INDIA

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Abstract:

This chapter explores the burgeoning field of textile biotechnology and its potential applications in India's textile industry. We delve into the underlying principles, current trends, and promising prospects of utilizing biotechnology in textiles. Through an examination of methodologies, case studies, and industry insights, we aim to shed light on the transformative role that biotechnology can play in enhancing the sustainability, functionality, and innovation of textiles in India. Through a comprehensive examination of methodologies, this chapter uncovers the diverse approaches employed in textile biotechnology research and development. Real-world case studies and industry insights offer concrete examples of how biotechnology is being harnessed to address sustainability concerns, enhance textile functionality, and foster innovation. As India stands at the crossroads of technological advancement and environmental stewardship, this chapter underscores the transformative potential of biotechnology in catalyzing a sustainable and technologically advanced future for its textile sector. It underscores the importance of embracing biotechnological solutions to propel India's textile industry to the forefront of global textile innovation.

Keywords: Sustainable Fibers, Textile Biotechnology, Eco-friendly Textiles, Indian Textile Industry

Introduction:

The textile industry in India has a rich history, serving as a vital economic pillar for the nation. However, in an era marked by sustainability concerns and technological advancements, there is a growing need for innovative solutions that can revitalize the sector. Textile biotechnology, the amalgamation of biology and textiles, holds significant promise. In this chapter, we embark on a journey to explore the scope, opportunities, and challenges of textile biotechnology in India.

Methodology:

Our investigation into the scope of textile biotechnology in India is based on a comprehensive review of scholarly literature, industry reports, and interviews with experts in the field. We have also

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