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# **Significance of desi Cotton (*Gossypium arboreum*) - A Brief Review**

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## **ABSTRACT**

***Gossypium arboreum*, commonly known as tree or desi cotton, holds significant importance in the realm of cotton production and agricultural sustainability. This paper provides a concise review of the significance of *G. arboreum* cotton, highlighting historical relevance, agronomic attributes, economic importance, and potential applications. The review explores the unique traits of *G. arboreum* cotton, such as its drought tolerance, pest resistance, and fiber quality, which contribute to its adaptability and resilience in diverse environmental conditions.**

## **INTRODUCTION**

Cotton, a staple fiber in the textile industry, has been cultivated for thousands of years, with diverse species contributing to its cultivation worldwide. Among these, *Gossypium arboreum*, commonly known as arboreum cotton or desi cotton or diploid cotton, holds a significant place. Desi cottons are still under cultivation because of their inherent ability to resist major pest and diseases and can withstand against drought (Patil *et al.*, 2015). This review paper explores the importance of arboreum cotton in the context of agriculture, textile production, and ecological sustainability.

**HISTORICAL CONTEXT**

*Gossypium arboreum* has a rich historical background, dating back to ancient civilizations such as those of the Indian subcontinent. Its cultivation has played a pivotal role in shaping societies and economies, particularly in regions with suitable climatic conditions for its growth.

**AGRICULTURAL IMPORTANCE**

One of the key features of *desi* cotton is its resilience to various environmental stresses, including drought and pests. It is very well adapted to the fluctuating rainfall and adverse climatic conditions and suits well to scanty resources (Bhailume *et al.*, 2014). This resilience makes it a valuable asset for farmers, especially in regions prone to erratic weather patterns and limited access to irrigation facilities. Additionally, arboreum cotton exhibits relatively high tolerance to pests and diseases, reducing the need for excessive pesticide application compared to other cotton species.

**TEXTILE QUALITY AND VERSATILITY**

Cotton occupies prime position as fiber crop of masses of the world in general and of India in particular (Bhailume *et al.*, 2016). Beyond its agricultural significance, *arboreum* cotton offers unique qualities that enhance the quality of textile products. The fibers derived from *arboreum* cotton are characterized by their strength, durability, and luster, making them highly desirable for a wide range of textile applications. Furthermore, the natural color variations of arboreum cotton fibers offer opportunities for innovative and sustainable textile designs, reducing the reliance on synthetic dyes and chemical treatments.

**ECOLOGICAL SUSTAINABILITY**

In an era marked by growing environmental concerns, the cultivation of *arboreum* cotton holds promise for promoting ecological sustainability in agriculture. Unlike genetically modified cotton varieties, *arboreum* cotton is often grown using traditional farming practices that minimize environmental impact. Furthermore, its ability to thrive in marginal lands and its reduced need for synthetic inputs contribute to a more sustainable agricultural ecosystem.

**IMPORTANT VARIETIES DEVELOPED AT AGRICULTURE RESEARCH STATION; JALGAON, MAHARASHTRA**

Agriculture Research Station, Jalgaon; affiliated to MPKV, Rahuri is the prime research center working on *desi* cotton. Following are the important *desi* cotton varieties developed at the center.

Sl. No.	Variety	Year of release
1	Y-1	1961
2	Phule JLA 794	2004
3	JLA-505	2015
4	JAL-603	2017
5	JLA-906	2019
6	JLA-1110	2020
7	JLA-1207	2022

## **CONCLUSION**

In conclusion, arboreum cotton stands out as a valuable crop with multifaceted importance. Its resilience, quality attributes, and ecological benefits underscore its significance in both agricultural and textile industries. As efforts towards sustainable agriculture and responsible textile production continue to gain momentum, arboreum cotton is poised to play a crucial role in shaping a more resilient and environmentally conscious future. Further research and investment in *arboreum* cotton cultivation and utilization are warranted to fully realize its potential benefits.

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