



Cotton Cultivation in India

For Prelims: [Hybrid cotton](#), [Bt cotton](#), [Cotton Corporation of India \(CCI\)](#), [Kasturi Cotton](#), [Cott-ally Mobile App](#), [Mega Textile Parks \(MITRA\)](#), [Pink bollworm](#), [Genetically-modified crops](#)

For Mains: [Significance of Cotton for India](#), [Issues and Challenges](#)

Source: HT

Why in News?

Apart from extending the **11% import duty waiver on cotton**, the Union government has **raised the MSP for cotton for the 2025-26 season** and **expanded procurement efforts** to support farmers facing price pressures and **stabilize the textile industry**.

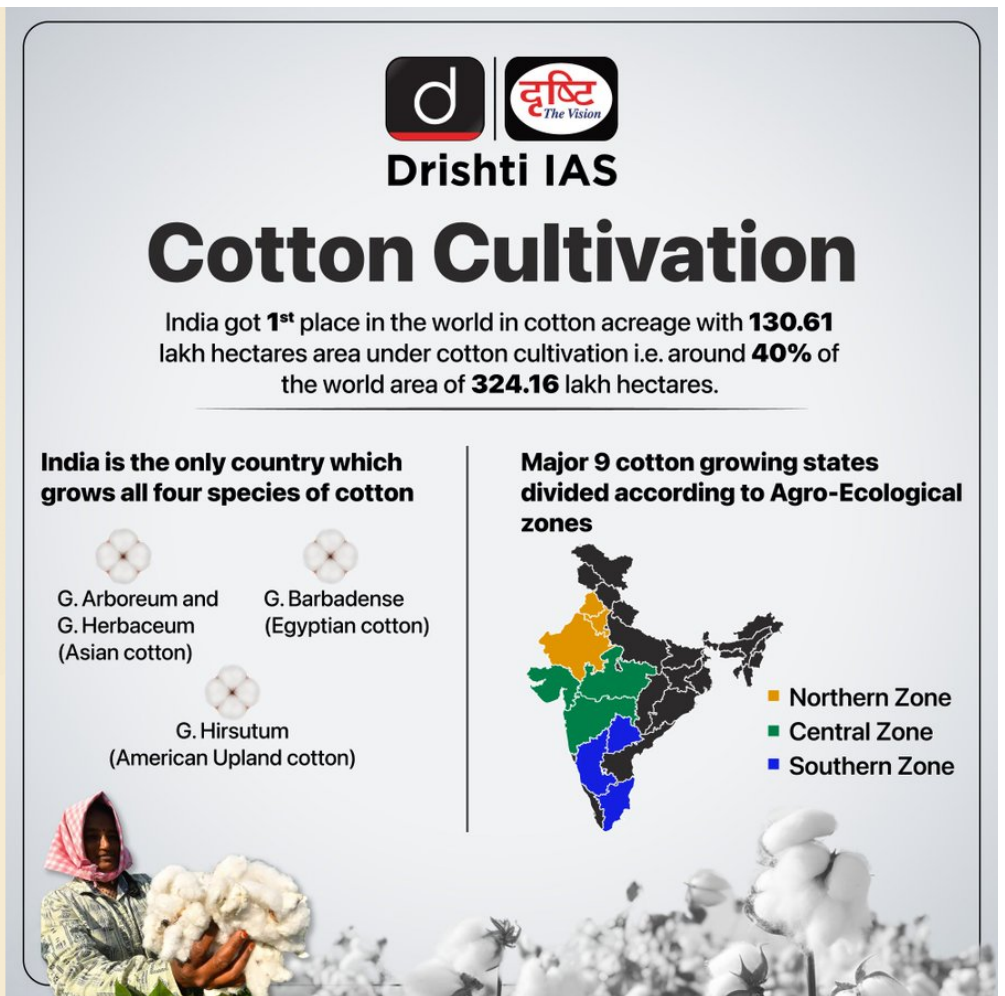
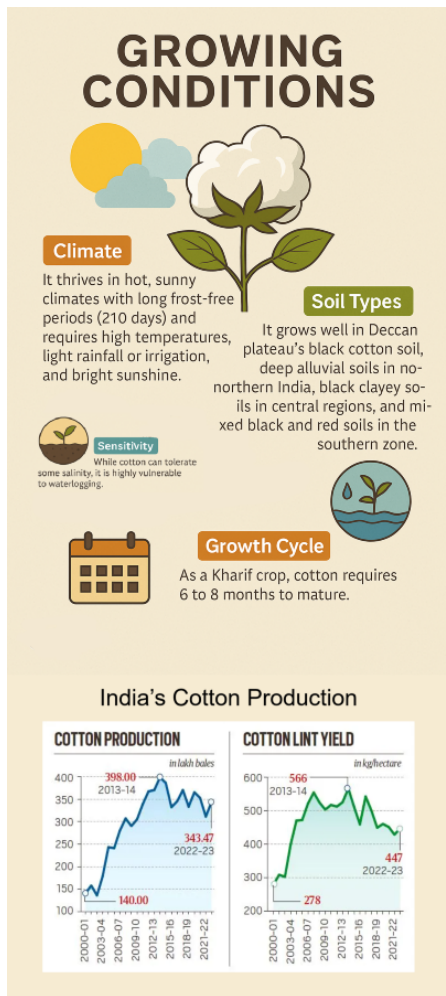
- The move addresses both the challenges of rising imports and the need to safeguard farmer **welfare amid a 15-year low in domestic cotton production**.

What is the State of Cotton Cultivation in India?

- **About:** Cotton, popularly called “White Gold”, is India’s most important [commercial crop](#), contributing about one-fourth of global output.
 - Nearly **two-thirds (67%) of the area is rain-fed**, making cultivation highly dependent on monsoons, while **only a third (33%) is irrigated**.
 - Cotton cultivation in India dates back to the [Indus Valley Civilization](#), with **textiles** famed worldwide for their **quality and craftsmanship**, but under **colonial rule** India was reduced to a **raw cotton supplier** for British mills.
- **Growing Conditions:** It is a **subtropical crop** that **requires a warm, sunny, frost-free climate** with adequate humidity.
 - It grows well in **deep alluvial soils** (north India), **black clayey soils** (central India), and **red-black mixed soils** (southern India).
 - While it can withstand some **salinity**, the crop is **extremely vulnerable to waterlogging**, making **proper drainage** crucial.
 - Cotton is primarily a **Kharif crop**, with its sowing season starting in **early April-May in northern India** and during the **monsoon season in the southern zone**.
- **Hybrid and Bt Cotton:** Hybrid Cotton is produced by crossing two parent varieties with different traits, often occurring naturally through cross-pollination.
 - **Bt Cotton** is a **genetically modified variety** that resists common pests, especially bollworms.
- **India’s Scenario:** India is the **second-largest producer and consumer of cotton in the world, after China**
 - Cotton contributes **24% of global output**; India has the **largest acreage** but ranks **36th in productivity**.
- **Significance:** Cotton contributes significantly to foreign exchange, with exports of 30

lakh bales (6% of global share) in 2022-23, sustains 6 million farmers and 40-50 million workers in processing and trade.

- The **cotton textiles industry is the second-largest employer** in India, after agriculture.



What are the Key Challenges to the Cotton Sector in India?

- **Weather Variability & Climate Risks:** Cotton is highly **climate-sensitive**, with yields impacted by erratic **rainfall, droughts, floods**, declining soil fertility, and limited irrigation.
 - **Rising temperatures and shifting rainfall patterns** add long-term risks to sustainable cotton production.
- **Low Yield & Outdated Practices:** Many farmers still rely on **traditional methods**, leading to **low productivity** (480 kg/ha in India vs world avg. 800 kg/ha) and inferior fibre quality.
 - Lack of access to modern techniques, certified seeds, and weed management further widens the gap, especially for **small and new farmers in rural areas**.
- **Pest & Disease Infestations:** The **Pink Bollworm (PBW)** and other pests, along with **fungal infections**, are reducing cotton output.
 - India's **cotton production has dropped to a 15-year low of 25 million bales** due to these issues and declining GM cotton effectiveness.
- **High Cost of Cultivation:** **Rising input costs** for seeds, fertilizers, pesticides, and **cheaper imports** make cotton **farming economically unsustainable**, particularly for small and marginal farmers.
- **Market-Related Challenges:** Farmers face **restricted market access** and are often forced to **sell at below-MSP rates**, while **global market fluctuations**, such as **tariffs and duties**, affect their profitability and export competitiveness.

Government Initiatives to Support Cotton Industry in India

- **Cotton Corporation of India (CCI):** Established in **1970** under the **Ministry of Textiles** as a PSU under the [Companies Act 1956](#).
 - It aims to ensure fair **prices for farmers, stabilize market fluctuations and enforce MSP operations**.
- **Technology Mission on Cotton (2000):** Aimed at enhancing **productivity, quality, and competitiveness** through improved seeds, irrigation, and modern technology.
- **Bt Cotton (2002):** India's first **GM crop**
- **Cotton Development Programme under NFSM (2014-15):** Implemented in **15 major cotton-growing states** to increase productivity and output.
- **National Technical Textiles Mission (2020):** Promotes research, innovation, and value addition in cotton-based technical textiles.
- **Mega Investment Textile Parks (MITRA):** Establishes **7 textile parks in 3 years** to boost investment, infrastructure, and global competitiveness.
- **Cott-Ally Mobile App:** Offers farmers real-time information on **MSP, procurement centres, payments, and best practices**.
- **Textile Advisory Group (TAG):** Constituted by the Ministry of Textiles to coordinate stakeholders on productivity, prices, branding, and policy issues.
- **Committee on Cotton Promotion and Consumption (COCPC):** Ensures the **availability of cotton to the textile industry**.

What Measures Can be Taken to Boost the Cotton Industry in India?

- **Integrated Pest & Crop Management:** Adopt **Integrated Pest Management (IPM)** using **natural controls, trap crops**, and beneficial insects while expediting approval of **pest-resistant GM hybrids** (whitefly- and pink bollworm-resistant varieties) to reduce pesticide dependency.
- **Bridging the Yield Gap:** Boost productivity through **NFSM-led large-scale demonstrations**, adoption of **High-Density Planting Systems (HDPS)**, and the **5-year Mission for Cotton Productivity** (focused on extra-long staple varieties), aiming at improved yield, sustainability, and reduced import dependence.
- **Modernisation & Infrastructure:** Utilise **Technology Upgradation Fund Scheme (TUFS)** and [MITRA](#) to **modernise ginning, spinning, and weaving units**, while encouraging **investment in cotton-linked clusters** for global competitiveness.
- **Extension & Farmer-Centric Services:** Enhance agricultural extension via [Krishi Vigyan Kendras](#) and [CCI](#), and scale digital platforms like the [Cott-Ally App](#) to deliver real-time updates on MSP, weather, pest alerts, and procurement logistics.
- **Branding & Global Competitiveness:** Expand **"Kasturi Cotton"** branding with **QR-code traceability** to assure quality, build a distinct identity for Indian cotton, attract premium prices, and enhance trust among global buyers.

Conclusion

Cotton remains central to India's **agriculture-industry-trade nexus**, but persistent **low yields, pest threats, climate risks, and global trade pressures** undermine its potential. Strengthening **MSP operations, sustainable farming practices, modern infrastructure, and branding initiatives** will be crucial to ensure **farmer welfare, export competitiveness, and textile sector growth**.

Drishti Mains Question:

Q. What are the key challenges faced by the cotton sector in India? Suggest measures to improve the productivity of the cotton sector in India.

UPSC Civil Services Examination Previous Year Question (PYQ)

Prelims

Q1. The black cotton soil of India has been formed due to the weathering of (2021)

- (a) brown forest soil
- (b) fissure volcanic rock
- (c) granite and schist
- (d) shale and limestone

Ans: (b)

Q2. A state in India has the following characteristics: (2011)

1. Its northern part is arid and semi-arid.
2. Its central part produces cotton.
3. Cultivation of cash crops is predominant over food crops.

Which one of the following states has all of the above characteristics?

- (a) Andhra Pradesh
- (b) Gujarat
- (c) Karnataka
- (d) Tamil Nadu

Ans: (b)

Q3. "The crop is subtropical in nature. A hard frost is injurious to it. It requires at least 210 frost — free days and 50 to 100 centimeters of rainfall for its growth. A light well-drained soil capable of retaining moisture is ideally suited for the cultivation of the crop." Which one of the following is that crop? (2020)

- (a) Cotton
- (b) Jute
- (c) Sugarcane
- (d) Tea

Ans: A

Mains

Q. Analyse the factors for the highly decentralised cotton textile industry in India.