



# sustainable practices innovating in regenerative agriculture for decades

Long before the importance of 'regenerative practices' gained international attention and traction as fundamental to sustainable agriculture, the Brazilian cotton sector has been investing in, adopting, developing and expanding regenerative agriculture practices over the past two decades.

Brazil's cotton producers continue to expand these practices, from no-till farming and use of cover crops to the use of precision technologies. By working with nature, Brazilian cotton is **restoring soils, enhancing biodiversity, improving water cycles, increasing the use of bio-based solutions, and strengthening resilience** – all while increasing yields.

## scale of regenerative practices in Brazilian cotton

- ▶ **75%** of cotton area uses **no-till farming**, the highest adoption globally among cotton producers.
- ▶ **65%** of cotton is grown as a **second summer crop**, mostly in rotation with soybeans, but rotating with up to 16 different crops.
- ▶ **Adoption of biological pest management more than doubled** from **28% to 67% of all Brazilian cotton producers** between the 2019-20 and 2020-21 growing years.
- ▶ By 2030 99% of all Brazilian cotton producers are predicted to integrate biological pest management solutions.
- ▶ In 2022 the Brazilian government approved 112 **registrations of new biological inputs** – representing an **increase of 558% in 10 years**.
- ▶ Nature-based solutions now cover **23 million hectares** of cotton, soy, and sugarcane farms in Brazil.

## key regeneration practices include

### Reduction of chemical inputs:

Minimising the use of synthetic fertilizers and pesticides helps enhance soil and water quality.

### Biological inputs:

Applying natural alternatives, such as biopesticides, enhances soil health, crop growth and favours biodiversity.

### Cover crops:

Planting crops between main cotton cycles prevents soil erosion, improve soil structure, and preserves soil moisture.

### Limiting irrigation:

With 92% of Brazilian cotton production being rain fed.

### Precision agriculture:

Using high-tech precision practices allows for detailed monitoring of soil health, optimised planting, precision application of inputs.

### Zero tillage:

Avoiding soil plowing to preserve soil structure, reduce erosion, and enhances carbon sequestration.

### Crop rotation:

Alternating cotton with leguminous crops like soy fix nitrogen in the soil, improves fertility and reduces the need for fertilizers.

### Preservation of native vegetation:

Maintaining natural habitats within and around farmland supports biodiversity and native ecosystems.

### Weather monitoring:

Closely tracking climate and soil conditions enables on-time, precise interventions.

### Integrated Pest Management (IPM):

Holistic approach to pest management that combines biological, mechanical, chemical and gene-editing methods.

## model of responsibility

Brazilian cotton production is at the forefront of sustainable agriculture, proving that large-scale and environmental stewardship can go hand in hand. By combining ecosystem conservation, technological innovation and resource-efficient agriculture, producers are setting global benchmarks for responsible cotton cultivation – and demonstrating how to do more with less.



### 92% is rainfed

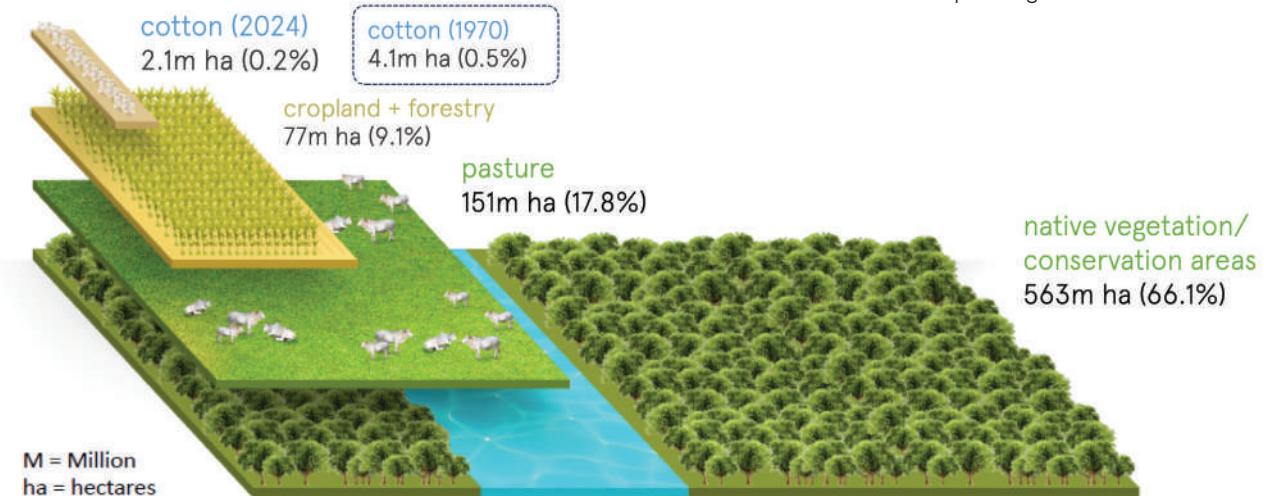
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### 66% preserves native vegetation

a minimum of 20% of total farm areas must consist of native vegetation

### 0.2% of the country's total area is used for cotton

Efficient land use: double-cropping and rotation enable two harvests a year without expanding farmland



Source: Embrapa, ABRAPA, CONAB

## driving opportunity, transforming livelihoods

- ▶ Generates employment
- ▶ Strengthens local economies
- ▶ Improves quality of life
- ▶ Invests in infrastructure, education, and social development
- ▶ Promotes sustainable practices that restore soils and protect biodiversity

## woven into millions of lives

10 million people employed by Brazil's cotton sector, directly and indirectly across the supply chain.

### Cotton Driving Human Development

Over the past 20 years, Brazil's cotton-producing regions have seen a **235% increase in the Human Development Index (HDI)**, now surpassing the Brazil average.



## upholding dignity and safety in cotton work

It's not just about generating jobs: Brazilian cotton fosters safe, fair and dignified employment.

- **Professional qualification programs specifically for women**, including training in Agricultural machinery operation and Cotton classification and quality control.
- The educational program **Conhecendo Agro** (Knowing Agriculture), which educates schoolchildren and teachers about sustainable agriculture and the cotton value chain.
- **Ongoing training and education efforts** to combat discrimination, build skills, and foster mutual respect among workers.

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