

BRAZILIAN COTTON: PRODUCTION AND TECHNICAL CHARACTERISTICS

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Abstract

Some years ago, Brazil used to be the biggest South American Cotton producer, meeting its domestic demands and creating a surplus aimed at exports. Since early 90's, various changes on Brazilian economical structure, problems related to crop pests and the famous 'boll weevil' attack resulted in insufficient production to meet the domestic consumption necessities. As a result, the imports of this raw material reached the amount of US\$500 million in 1998. In 1991, an area of 1,877,500 ha was cultivated, resulting in a production of 716,800 ton of cotton fiber. From then on, the production suffered a continuous decreasing to a crop area of 668,500 ha and a production of 307,300 ton of cotton fiber. A large and successful effort is being carried out in Mato Grosso State, located in the Central West of Brazil intending to meet the domestic demands for cotton fibers and to generate, once again, a surplus for exports.

Discussion

The Textile and Clothing industries represent the fourth biggest economic activity worldwide. The Brazilian industry is recovering after a long period of closed market. Following an abrupt opening of the economy, Brazil faced a competition of lower price goods imported mainly from the Far Eastern countries, if compared to similar goods produced by the national industry. This fact brought about a significant impact over many cotton companies, leading to the bankrupt of those that could not achieve a competitiveness level to support the foreign competition. One of the consequences of the economic opening was the increased import of cotton, due to the favorable price and payment conditions by means of international interest rates. This situation resulted in a dramatic fall of the Brazilian cotton production, that by 1990 reached 91% of the national consumption and in 1997 represented only 40%, being the 60% left supplied by imports, leading to an exceeding expenditure of budget, and contributing to the deficit of the Brazilian trade balance, Table 1.

Government Action

The Brazilian Government kept taking some measures in order to favor the cotton culture recovering. The most important measures were:

- Extension of credit limits at lower interest rates
- rise on import fees from zero to 6%, figures that reached 8% with the Real (R\$) devaluation, increasing the national cotton competitiveness
- creation of credit lines allowing the industrial sector to buy Brazilian cotton under the same conditions for the imported products
- creation of Price Leveling Premium (PEP) in order to guarantee the government minimum prices
- creation of Federal Government Loan (EGF) to the cotton production and manufacturing sectors

These measures revealed a government concern about this culture as an alternative to reduce commercial trade deficit and to create jobs and family income in the agricultural sector.

Solving Problems

To overcome this condition related to cotton supplying, a large and successful effort is being carried out in Mato Grosso State, located in the Central West of Brazil, intending to meet the domestic demands for cotton fibers and to generate, once again, a surplus for exports.

In 1999, Mato Grosso is reported as the main cotton producer State in Brazil, representing 43% of national production at high productivity index. Due to its location, Mato Grosso State has comparative advantages to the other states as far as cotton production is concerned, Figure 1.

Climate, pluvial conditions, soil and landscape features, minor occurrence of crop pests and diseases, together with harvesting high technology are some of these advantages, Figure 2.

The PROALMAT (Mato Grosso Cotton Culture Support Program) was created in order to develop the textile industry pool in Mato Grosso State, providing support to producers who meet quality, sanitary and environmental respect standards. The "Mato Grosso Cotton Quality" Project, developed by PROALMAT, aims at creating efforts to improve fiber quality standards for the cotton produced in that State, concerned with human and environmental aspects, through training activities, instruction and development in research areas, dissemination of technology, phytosanitation defense, production, ginning, marketing, packaging and fiber analysis. The PROALMAT Program is supported by FACUAL (Cotton Culture Support Fund) financing the largest research program in South America, offering technological support to producers via Fundação Mato Grosso (Mato Grosso Foundation).

The producers enrolled in the PROALMAT benefit from the Program through reduction of up to 75% in ICMS (taxes over products and services), according to the following:

Grade of cotton	Reduction in ICMS
8 or higher	Zero
7/8	50%
7/0	60%
6/7	70%
6 or lower	75%

Part of this reduction is reverted for FACUAL.

Cotton producers should meet the following requirements in order to take part in the Program:

- a) attest the use of certified seeds
- b) carry out technical assistance and extension programs
- c) perform a safe disposal system for chemical products packaging
- d) have no taxes debits
- e) have ginning mills accredited to the PROALMAT

Crop remains elimination practices are also considered of great importance, maintaining the field free of pest infestation and diseases which affect the technical availability and production costs in cotton culture.

The measures being taken for the PROALMAT implementation are:

- Developing research to obtain cotton varieties with increased productivity, improved fiber quality and higher disease and pest resistance
- Developing research in Pest Integrated Management and soil fertilization
- Seeking a better equilibrium of all production factors
- Developing agriculture workers training programs aimed at seeding and harvesting operations, considering aspects which might affect the product quality during ginning by means of contamination, as well as, work and environment security and sanitary standards
- Developing controlling measures in order to verify the obedience of the law to such activities, mainly those related to labour requirements (e.g., not allowing children at work)
- Developing a ginning mill operators training program, running a school with specific courses on total quality, security and hygiene at work
- Offering technical management systems for the ginning mills
- Introducing HVI analysis system for all cotton production in order to trade the bales based on HVI results

- Establishing a partnership with BM&F (Stock Dealer Institution) and others institutions in order to define a cotton fiber quality certificated system for the "Mato Grosso Cotton Quality" Program
- Defining minimum requirements for the "Mato Grosso Cotton Quality" Program
- Creating "Quality Label" and "Green Label", adding market value to the Mato Grosso cotton
- Consulting environmental institutions about the possibility of having an Accreditation Program as "environment friend" for Mato Grosso cotton production
- Presenting the cotton quality standards to the national and foreign industry through a Marketing Program
- Attending national and international fairs and other events presenting the "Mato Grosso Cotton Quality" Program
- Issuing brochures, folders, etc. showing the Mato Grosso cotton quality and characteristics
- Identifying national and foreign clients for the different sorts of cotton produced in Mato Grosso
- Joining other sectors involved in the cotton chain, from cotton producers to retailers
- Supporting programs on certified cotton trade
- Helping sectorial institutions on their claims over official trade policy
- Improving the use of the future stock market for cotton trade

Results from the Cotton Improvement Program

The *Cultivar* genetic improvement program is carried out by Fundação Mato Grosso, Table 2 and 3.

Table 1. Cotton supply and demand in Brazil, 1987-2000

Year	Production	Consumption	Imports	Exports
1000 Ton				
87/88	863,6	838,0	81,0	35,0
88/89	709,3	810,0	132,1	160,0
89/90	665,7	730,0	86,1	110,8
90/91	717,0	718,1	15,9	124,3
91/92	667,1	741,6	167,8	33,8
92/93	420,2	829,5	501,2	7,4
93/94	483,1	836,6	367,3	4,3
94/95	537,1	803,7	282,3	52,5
95/96	410,0	820,0	385,3	1,6
96/97	305,0	798,0	470,0	0,3
97/98	411,0	782,0	316,0	3,1
98/99 ¹	520,0	820,0	270,0	3,1
99/00 ²	593,0	830,0	230,0	3,1

Source: CONAB ¹Estimates ²Expected

Table 2. Agronomic characteristics for varieties experiments I – High Technology carried out in Rondonópolis MT - 1997/98.

Cultivar	Yield	
	Kg/ha	% Fiber
MT 96-24	4.883	37,21
MT 96-283	4729	39,37
MT 96-212	4535	39,57
MT 96-268	4472	37,58
ITA 96-227	4264	41,59
ITA 96	4038	34,27
MT 96-52	3948	40,44
MT96-339	3457	38,51
MT 96-66	3347	39,02
MT 96-10	3108	37,77
MT 96-16	2612	38,77
MT 96-21	2559	39,96
MT 96-32	2476	38,53
MT 96-54	2399	39,75
ITA 90	2774	38,99
IAC 22	2748	35,75
Average	3522	38,75
CV%	15,74	1,87

Source: Fundação Mato Grosso

Table 3. HVI average results for Mato Grosso cotton, crop 1998/99

Region	MIC	UHM	UI	Strength	SFC
South	3,62	28,23	80,45	28,28	9,06
North	4,12	28,27	81,38	29,43	8,98

Source: BM&F

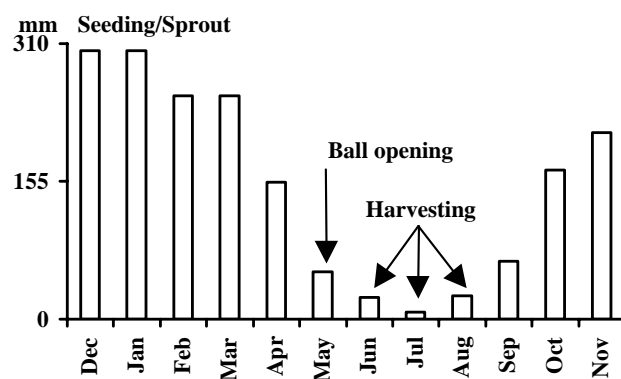


Figure 2. Monthly average rain fall in MT, 1981-95

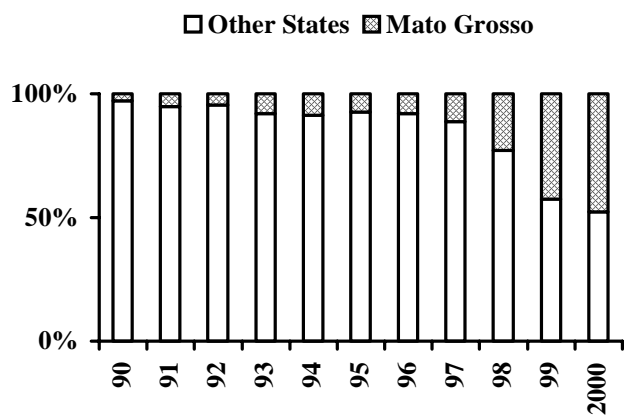


Figure 1. Increased sharing of MT cotton in Brazilian overall cotton production, 1990-00.