

BOLL WEEVIL CONTROL IN COLOMBIA



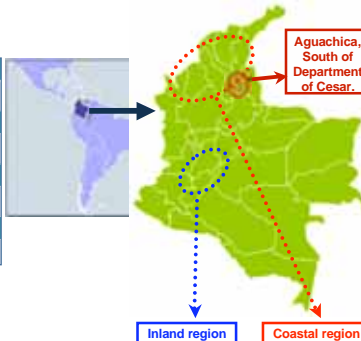
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GENERAL ASPECTS OF COTTON CROPS IN COLOMBIA

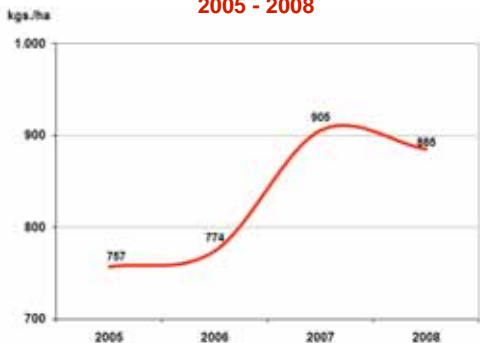
Cotton Average statistics
2005 – 2008

Harvested area	54.000 hectares/year
Production of lint	44.000 metric tons/year
Strength	High quality fiber
Most important plague	Boll Weevil



Source: Conalgodón

EVOLUTION OF FIBER YIELDS IN COLOMBIA, 2005 - 2008



Source: Conalgodón

CURRENT COSTS OF BOLL WEEVIL CONTROL IN COLOMBIA

Cost of production, 2007/08

	COP/ha. (\$/Ha.)	Share %
Total costs	3,742,318	100
Costs of plague control	436,129	11.7
Boll Weevil control	214,804	5.7

Source: Conalgodón

Boll weevil control represents 50% of total costs of plague management and 6 % of total costs of production.

STRATEGIES OF BOLL WEEVIL CONTROL IN COLOMBIA

STRATEGIES

- **Regulations control:** time limit for seeding and destruction of cotton sprouts.
- **Cultural control:** destruction of cotton sprouts and spontaneous cotton plants in rotation crops. Structures recollection.
- **Ethologic control:** 2 Boll Weevil attractant and control tube with 60 mg *glandure* pheromone; installation of 1 tube 30 days before seeding or during seeding and another one at destruction.



Boll Weevil



Attractant and control tube



Detail of tube

STRATEGIES OF BOLL WEEVIL CONTROL IN COLOMBIA

STRATEGIES (Cont.)

- **Chemical Control:** General application of pesticide if Boll Weevil infestation is total.
- **Monitoring:** Range of actions according to infestation levels



Boll Weevil traps



DIFFICULTIES: Inefficiencies in sprout destruction, lack of unified technical packages, random seedings, errors in monitoring and alerts, legal flaws, climate, alternate hosts.

PRECEDENTS: COTTON IN THE SOUTH OF CESAR BEFORE 1996/97

Competitiveness Crisis: High unit costs of production and low or negative profits

- ◇ High costs of production:
 - Plague control: 11 - 16 sprays, high level of Boll Weevil infestation
 - Soil degradation
 - Inefficient crop work
 - Insufficient investigation
 - Low technology adoption
- ◇ Productivity stagnation
- ◇ High finance costs

INPLANTATION OF MODERNIZATION MODEL AND REACTIVATION IN COALCESAR

Also allowed new tools and strategies to fight Boll Weevil.

COALCESAR COST OF PRODUCTION: 1995/96 vs 2007/08

Labor/Item	Total costs - share %		% Change
	1995/96	2007/08	
Land preparation	3.7	5.0	1.3
Sowing	2.6	11.2	8.6
Land rent	3.1	7.9	4.8
Fertilizers	5.8	12.8	6.9
Growth regulators	0.0	1.2	1.2
Weeding	5.8	5.9	0.1
Growing labors	2.9	3.3	0.4
Mechanic control	1.0	0.0	(1.0)
Plagues and diseases control	30.6	6.0	(24.6)
Harvesting	12.5	19.0	6.5
Drainage	0.0	0.5	0.5
Transportation	1.2	1.6	0.4
Ginning - Marketing	13.2	19.0	5.8
Technical assistance	1.3	1.5	0.2
Financial and administrative	16.2	5.2	(10.9)
TOTAL	100.0	100.0	

Number of total sprays

- Before: between 11 and 16.
- Today: sprays only in focus for Boll Weevil and 2 sprays (average) for others plagues and diseases.

COALCESAR STRATEGIES

LOW BUDGET AGRICULTURE

- Strict compliance planned agriculture model.
- Technical assistance zoning
- Concentrated seeding in short periods.
- Coalcesar controls the technical activities of crop handling through its technical department.

CROP AND ETHOLOGICAL CONTROL OF THE BOLL WEEVIL

- Integrated Crop Control:
 - Efficient destruction of sprouts
 - Monitoring equipment in non-growing periods
 - Efficient collection of affected soil and plant structures.
 - 90 day non-growing period.
 - Monitoring network, 2 attractants and control tube/ha., 60 mg glandure Pheromone.
 - Attractant and control tube installation.

Boll weevil must be controlled during 365 days/year.

BEFORE	CROP DEVELOPMENT	AFTER HARVEST
<ul style="list-style-type: none"> - Sprout and spontaneous cotton control. - Monitoring and tracking of picudo population levels with pheromone traps. - Attractant and control tube installation. 	<ul style="list-style-type: none"> - Seeding on established dates. - Monitoring with pheromone traps. - Collection and destruction of damaged structures. - Use of specific pesticides in focus areas. 	<ul style="list-style-type: none"> - Quick and efficient destruction of sprouts after harvest - Installation of attractant and control tube to control boll weevil population before they move to refuges. - Monitoring of population levels with pheromone traps.

RESULTS OBTAINED IN COALCESAR

- No widespread applications of agro-chemicals, only focused applications at plague points.
- The efficient control of Boll Weevil has allowed the massive adoption of transgenic technology.
- Significant cost reduction in plague control, improving crop profitability.
- The use of transgenic seeds is appropriate when the population of Boll Weevil is low: proper handling during the non-growing period will diminish the probability of picudo incidence, thus reducing plague control costs

Today: High profit crops

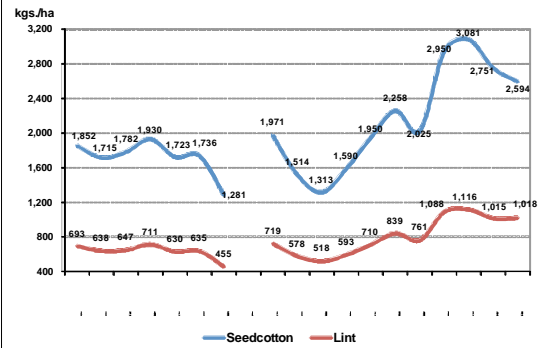
COALCESAR: cotton fiber quality characteristics

Average quality characteristics

	2006/07	2007/08
Length	1,14 (1.5/32")	1,11 (1-1/8")
Grade	M - SM	SM - GM
Micronaire	4.5	4.2
Strength	29.3	28.9
Uniformity	82.1	81.2
Leaf/ Trash	3.5	2.2

Source: Conalgodón

COALCESAR: SEEDCOTTON AND LINT YIELDS, 1989/90 – 2007/08









Boll Weevil control campaign: example of poster

Thank you!

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