August 9th, 2010

BIOTECHNOLOGY REPORT

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- ***The 1st survey on agribiotechnology in Brazil for the 2010/11 growing season showed there was a substantial growth in the adoption rate of biotech soybeans, corn, and cotton.***
- ***The Brazilian farmers are expected to plant 17.2 million hectares with GM soybean cultivars, or 75.6% of the total harvested surface, in 2010/11.***
- ***In respect of cotton, in the 2010/11growing season, if the current market conditions remain the same, together with the expected total planting of 972.5 thousand hectares, the Brazilian cotton farmers are expected to cultivate 250 thousand hectares with GM cotton cultivars.***
- ***The Summer corn crop is expected to reach a total cultivated area of 7.6 million hectares, out of which 3.22 million hectares, according to the 1st survey on the adoption of biotechnology, or 42.1% of the total area, are reserved for biotech corn.***
- ***In respect of the Winter corn crop growing season of 2010/11, the initial estimate shows a total planting of 5.2 million hectares, out of which 3.9 million hectares, or 75.6% of the total area, are reserved for biotech corn.***
- ***For both corn crops, the total area harvested with biotech corn is expected to reach 7.1 million hectares or 55.6% of the total area in 2010/11.***

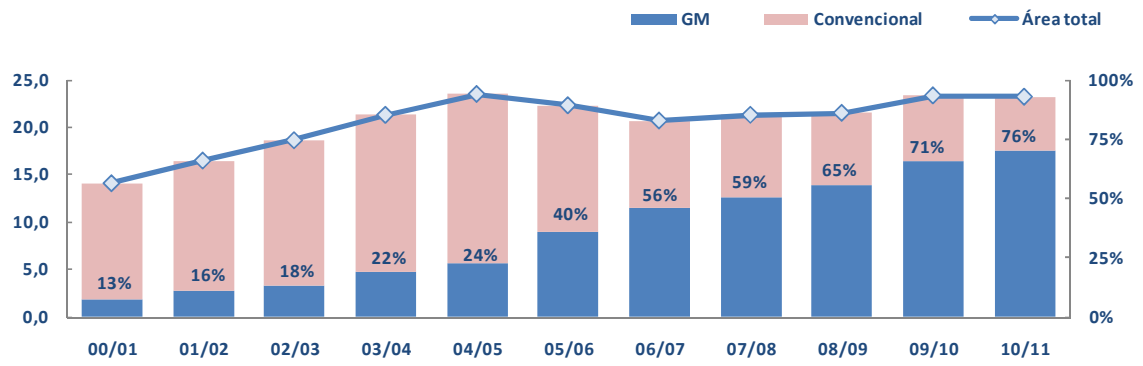
1 SOYBEANS

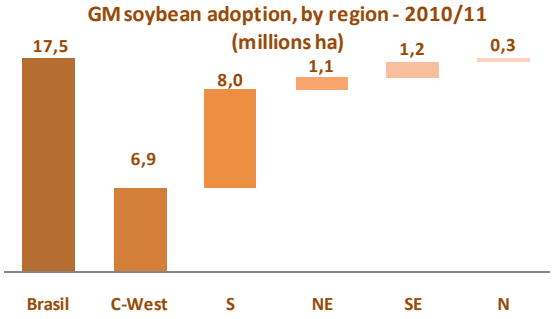
- *The 1st survey of agribiotechnology adoption in Brazil for the 2010/11 growing season shows a substantial growth rate for biotech soybeans, corn, and cotton.*
- *In respect of soybeans, the Brazilian farmers are expected to grow in 2010/11, 17.2 million hectares with genetically modified herbicide tolerant (HT) soybean varieties.*
- *Considering our initial estimate for the total area to be harvested with soybeans in 2010/11 of 23.2 million hectares, the adoption rate for biotech soybeans reaches 75.6% of the total harvested surface.*
- *In comparison with the 2009/10 growing season, we identified an absolute growth of 1.1 million hectares observed particularly in the South region, where we estimate an increase of 480 thousand hectares in the area to be harvested with HT soybeans. The second largest increase of 278 thousand hectares is forecasted in the Middle-West region.*
- *We can affirm that among the reasons that support the ongoing adoption of HT soybeans in Brazil is the best availability of varieties adapted to the different producing regions and also the reduced production cost in relation to the conventional cultivar, due, mainly, to the low glyphosate prices in the domestic market.*
- *It is worth highlighting the fact that in several regions, the farmers interviewed by Céleres® have already reported higher productivity levels for genetically modified cultivars, slowly reversing by one degree the disadvantage this item represented in relation to the conventional cultivars.*
- *This observation was reinforced by comparing it with the data supplied by the Brazilian Ministry of Agriculture's National Crops Registry (RNC), which shows that between 2005 and 2009, in Brazil, 303 new varieties of soybeans were registered, and out of this total, 201 (66.3%) were genetically modified cultivars.*

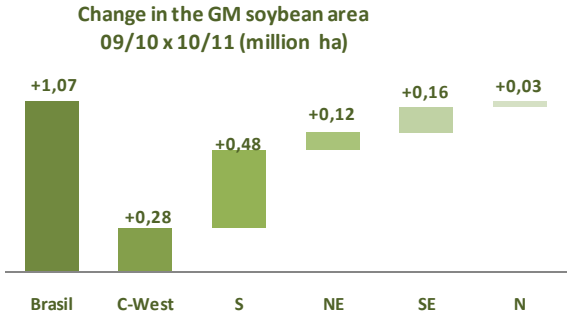
GM soybean planting - 2010/11

	Planted Area (,000 ha)	Yield (kg/ha)	Production (,000 t)	Biotech planted area		Biotech Production (.000 T)
				Adoption	(,000 ha)	
NORTH	**574**	**2.930**	**1.682**	**57,9%**	**332**	**974**
NORTHEAST	**1.747**	**2.984**	**5.213**	**64,6%**	**1.129**	**3.365**
Maranhão	425	3.185	1.353	60,0%	255	812
Piauí	316	2.828	894	60,0%	190	536
Bahia	1.006	2.949	2.966	68,0%	684	2.017
SOUTHEAST	**1.732**	**2.942**	**5.094**	**67,1%**	**1.162**	**3.416**
Minas Gerais	1.106	2.992	3.309	66,0%	730	2.184
São Paulo	626	2.853	1.785	69,0%	432	1.232
SOUTH	**9.176**	**2.642**	**24.243**	**87,0%**	**7.980**	**20.657**
Paraná	4.519	3.040	13.735	75,0%	3.389	10.301
Santa Catarina	481	2.924	1.407	98,0%	472	1.379
Rio Grande do Sul	4.176	2.179	9.101	98,6%	4.119	8.976
C-WEST	**9.963**	**3.160**	**31.483**	**69,5%**	**6.929**	**21.838**
Mato Grosso	5.828	3.285	19.144	66,0%	3.846	12.635
Mato Grosso do Sul	1.758	2.734	4.805	74,0%	1.301	3.556
Goiás	2.323	3.168	7.360	75,0%	1.742	5.520
Distrito Federal	55	3.194	174	73,0%	40	127
N/NE	**2.321**	**2.971**	**6.895**	**62,9%**	**1.461**	**4.339**
C-SOUTH	**20.871**	**2.914**	**60.820**	**77,0%**	**16.071**	**45.910**
BRAZIL	**23.192**	**2.920**	**67.715**	**75,6%**	**17.532**	**50.249**

Source: Céleres * Up dated: August/6/2010







2 COTTON

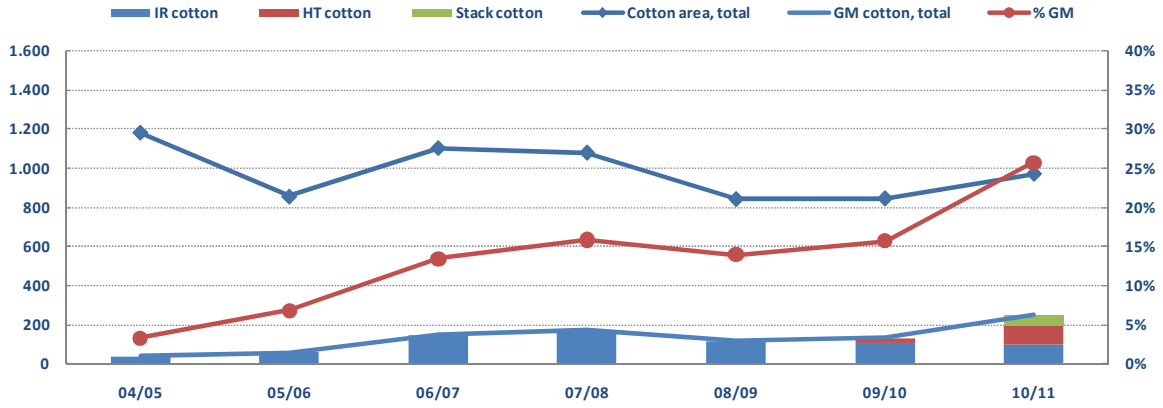
- *The release of new biotech events for cotton has resulted in a biotechnology adoption rate upturn in the 2010/11 growing season. This will be the first crop year in which we will consider the planting of cotton with stacked genes to calculate the total biotechnology adoption rate for cotton.*
- *In the 2010/11 growing season, should the same current market conditions be maintained, together with the total estimate of 972.5 thousand hectares planted with cotton, the Brazilian cotton growers are expected to grow 250 thousand hectares with biotech cotton cultivars, considering the technologies of insect resistance (IR), herbicide tolerance (HT), and insect resistance combined with herbicide tolerance (IR/HT).*
- *We estimate in this first survey that 104 thousand hectares will be planted with the insect resistant variety, which will represent 10.7% of the total area planted with cotton.*
- *For the herbicide tolerant cultivar (HT), we estimate plantations amounting to 92 thousand hectares or 9.5% of the total surface.*
- *At last, for the technologies that combine insect resistance and herbicide tolerance, we forecast the planting of 54 thousand hectares or 5.5% of the total surface.*
- *For all three technologies, the biotechnology adoption rate for cotton is expected to correspond to 25.7% of the total area to be harvested.*
- *However, it is important to recall that the decision to plant cotton goes up to the end of October and this crop is known for being highly sensitive to prices. Since the fiber's price outlook is positive in the New York futures market, the projection that the harvested area will amount to more than the current estimate of 972.5 thousand hectares cannot be entirely dismissed.*
- *And consequently, we can anticipate as well that the final biotech cotton adoption rate may also undergo strong fluctuations until the end of the growing season for the crop year of 2010/11.*

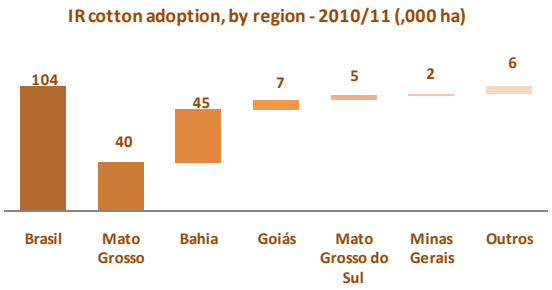
GM cotton planting in Brazil - 2010/11

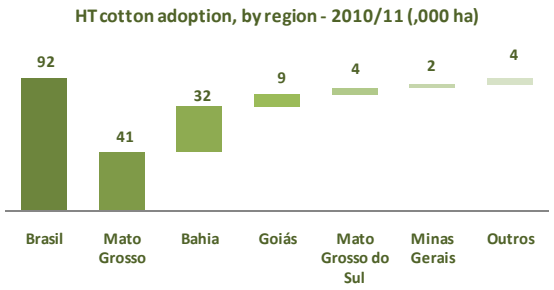
	Planted area (,000 ha)	Yield (Kg/ha)	Production (,000 t)	Adoption rate (% total area)				Biotech area (,000 ha)			
				IR	HT	STACK	Total	IR	HT	STACK	Total
NORTH	**6,2**	**3.898,2**	**9**	**3,8%**	**6,0%**	**1,6%**	**11,4%**	**0**	**0**	**0**	**1**
Tocantins	6,2	1.479,7	9	3,8%	6,0%	1,6%	11,4%	0	0	0	1
NORTHEAST	**371,7**	**1.532,2**	**559**	**13,3%**	**9,3%**	**5,0%**	**27,7%**	**50**	**35**	**19**	**103**
Maranhão	16,0	1.496,1	25	8,4%	8,0%	2,5%	27,5%	2	2	0	4
Piauí	10,2	1.380,0	13	8,4%	6,0%	2,0%	16,4%	1	1	0	2
Bahia	325,0	1.603,9	516	13,8%	9,8%	5,5%	29,2%	45	32	18	95
SOUTHEAST	**27,3**	**1.445,6**	**37**	**8,4%**	**9,2%**	**5,7%**	**23,3%**	**2**	**3**	**2**	**6**
Minas Gerais	20,0	1.473,2	28	8,4%	10,0%	7,0%	25,4%	2	2	1	5
São Paulo	7,3	1.359,3	9	8,4%	7,0%	2,0%	17,4%	1	1	0	1
SOUTH	**0,2**	**820,0**	**0**	**9,0%**	**8,2%**	**0,0%**	**17,2%**	**0**	**0**	**0**	**0**
Paraná	0,2	820,0	0	9,0%	8,2%	0,0%	17,2%	0	0	0	0
C-WEST	**567,0**	**1.495,0**	**951**	**9,2%**	**9,6%**	**5,9%**	**24,7%**	**52**	**54**	**34**	**140**
Mato Grosso	450,0	1.472,0	769	8,9%	9,1%	6,2%	24,2%	40	41	28	109
Mato Grosso do Sul	45,0	1.579,9	75	10,4%	9,5%	4,9%	24,8%	5	4	2	11
Goiás	70,0	1.605,2	104	10,4%	12,9%	4,9%	28,1%	7	9	3	20
Distrito Federal	2,0	1.293,2	3	10,4%	9,5%	0,0%	19,9%	0	0	0	0
N/NE	**378,0**	**1.531,6**	**568**	**13,2%**	**9,3%**	**4,9%**	**27,4%**	**50**	**35**	**19**	**104**
C-SOUTH	**594,5**	**1.492,9**	**988**	**9,2%**	**9,6%**	**5,9%**	**24,7%**	**54**	**57**	**35**	**147**
BRAZIL	**972,5**	**1.506,9**	**1.556**	**10,7%**	**9,5%**	**5,5%**	**25,7%**	**104**	**92**	**54**	**250**

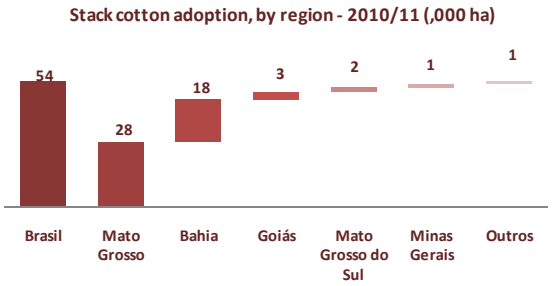
Source: CÉLERES® * Up dated: 6/julho/2010

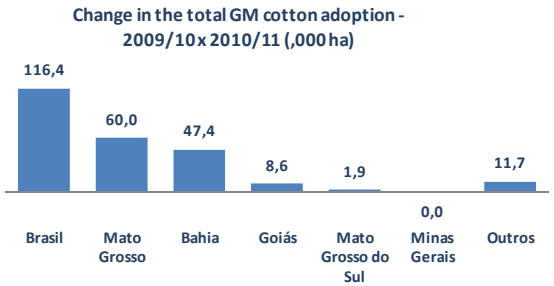
* Lint cotton production in thousand t IR: Insect resistant; HT: Herbicide tolerant; RI/TH: stack gene











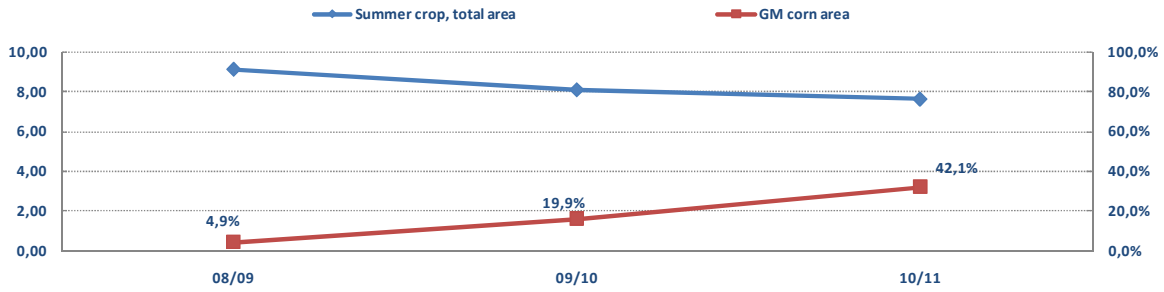
3 CORN

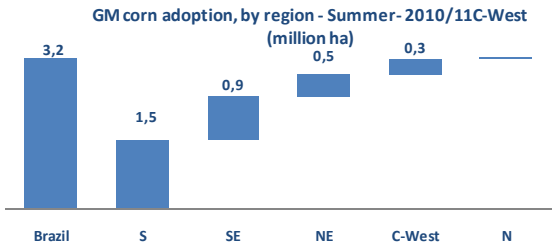
- ***In the third season since biotech corn in Brazil has been first adopted, the favorable results led farmers to substantially increase the use of the technology, both for the Summer and Winter crops. In addition, the approval of the new events with the herbicide tolerance trait plus stacked genes, also contributed to the rise in the adoption of biotech corn in Brazil.***
- ***For the 2010/11 Summer corn growing season, in which the total estimate for the crop comprises an area of 7.6 million hectares, the 1st follow-up carried out by Céleres® on the adoption of biotech Summer corn showed that 3.22 million hectares will be planted with the cultivar or 42.1% of the total projected area for the crop at stake.***
- ***In comparison to the 2009/10 growing season, the Brazilian farmers are planting 1.6 million hectares more with the different biotech corn technologies available in the market.***
- ***Among the technologies, the largest plantations will be sowed with insect resistant (IR) products, covering an area of 2.83 million hectares or 43.9% of the total area. This is followed by the herbicide tolerant (HT) and stacked genes products, which are expected to be planted in an area of 275 thousand (3.6%) and 116 thousand hectares (1.5%), respectively.***
- ***The limited supply of seeds for products with stacked genes in this growing season restricts a more significant rise in the adoption rate, as was the case in the 2008/09 growing season, the first year biotech corn was adopted in Brazil.***

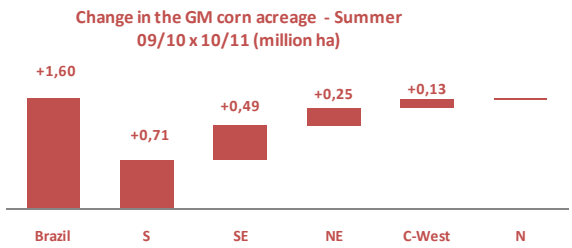
Biotech corn plantings - summer crop - 2010/11

	Planted area (,000 ha)	Yield (Kg/ha)	Production (,000 t)	Adoption rate (% total area)				Biotech area (,000 ha)			
				IR	HT	STACK	Total	IR	HT	STACK	Total
NORTH	**473,7**	**2.248,4**	**1.065**	**4,0%**	**0,5%**	**0,2%**	**4,7%**	**19**	**2**	**1**	**22**
NORTHEAST	**2.646,6**	**1.414,8**	**3.745**	**15,5%**	**1,8%**	**0,8%**	**18,1%**	**409**	**48**	**21**	**478**
Maranhão	377,4	1.550,7	585	33,5%	4,4%	2,0%	39,9%	126	17	7	150
Piauí	322,0	1.302,7	419	32,4%	4,4%	2,0%	38,8%	104	14	6	125
Bahia	386,3	3.348,0	1.293	40,2%	4,4%	2,0%	46,6%	155	17	8	180
SOUTHEAST	**1.587,2**	**5.484,5**	**8.705**	**51,3%**	**4,7%**	**2,1%**	**58,1%**	**814**	**74**	**34**	**922**
Minas Gerais	991,3	5.477,6	5.430	51,4%	4,4%	2,2%	58,0%	509	44	22	575
São Paulo	556,3	5.677,5	3.158	51,4%	5,4%	2,1%	58,9%	286	30	12	328
SOUTH	**2.368,7**	**5.465,5**	**12.946**	**54,3%**	**5,8%**	**2,3%**	**62,3%**	**1.286**	**136**	**54**	**1.476**
Paraná	794,2	7.225,1	5.738	50,2%	5,8%	2,5%	58,5%	399	46	20	465
Santa Catarina	548,7	5.628,0	3.088	61,4%	5,8%	2,5%	69,7%	337	32	14	382
Rio Grande do Sul	1.025,8	4.016,3	4.120	53,6%	5,8%	2,0%	61,3%	550	59	21	629
C-WEST	**570,1**	**6.180,9**	**3.524**	**52,9%**	**2,5%**	**1,1%**	**56,5%**	**302**	**14**	**6**	**322**
Mato Grosso	122,6	4.981,5	610	50,2%	2,2%	1,0%	53,4%	62	3	1	65
Mato Grosso do Sul	61,9	6.871,2	425	55,8%	2,2%	1,0%	59,0%	35	1	1	36
Goiás	368,0	6.378,3	2.347	53,6%	2,6%	1,1%	57,3%	197	10	4	211
Distrito Federal	17,7	7.971,0	141	47,9%	2,6%	1,1%	51,7%	8	0	0	9
N/NE	**3.120,3**	**1.541,4**	**4.809**	**13,7%**	**1,6%**	**0,7%**	**16,0%**	**428**	**50**	**22**	**501**
C-SOUTH	**4.525,9**	**5.562,3**	**25.174**	**53,1%**	**5,0%**	**2,1%**	**60,1%**	**2.401**	**225**	**94**	**2.720**
BRAZIL	**7.646,2**	**3.921,4**	**29.984**	**37,0%**	**3,6%**	**1,5%**	**42,1%**	**2.829**	**275**	**116**	**3.220**

Source: Céleres * Up dated: Aug/6/2010





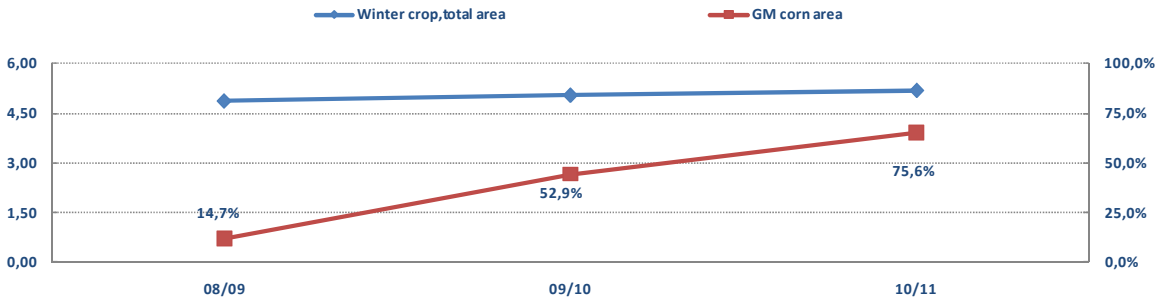


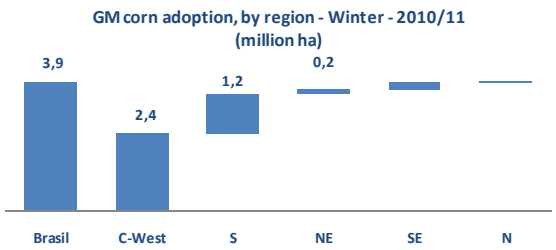
- ***One major fact that should be taken into consideration regarding the adoption of biotech corn, particularly for the Summer corn, is that although the total area to be planted is expected to reach 7.6 million hectares, the participation of hybrid products in this total falls short from 4.5 million hectares, with the remaining area being planted with less technologically sophisticated varieties.***
- ***Therefore, if we are to consider an area to be harvested with biotech products (3.22 million hectares) in relation to the area planted with hybrids, circa 4.5 million hectares in the Summer corn growing season, the participation of biotech corn reaches nearly 63% in the Summer corn growing season.***
- ***For the 2010/11 Winter corn, the initial estimate shows a total of 5.2 million planted hectares, which is 3.9 million hectares or 75.6% of the total area. Such as in the Summer crop case, the insect resistance trait will be more employed in the Winter, covering 3.41 million hectares (66% of the total area), followed by the stacked genes with insect resistance/herbicide tolerance, with 265 thousand hectares (5.1% of the total,) and by herbicide tolerance, with 235 thousand hectares, or 4.5% of the total area to be harvested in the Winter.***

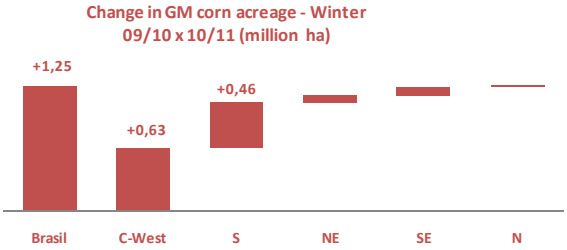
Biotech corn planting - winter crop - 2010/11

	Planted area (,000 ha)	Yield (Kg/ha)	Production (,000 t)	Adoption rate (% total area)				Biotech area (,000 ha)			
				IR	HT	STACK	Total	IR	HT	STACK	Total
NORTH	**32,0**	**2.674,0**	**86**	**10,2%**	**1,6%**	**1,3%**	**13,1%**	**3**	**1**	**0**	**4**
NORTHEAST	**379,9**	**1.047,3**	**398**	**32,4%**	**4,8%**	**3,7%**	**40,8%**	**123**	**18**	**14**	**155**
Bahia	379,9	1.047,3	398	32,4%	4,8%	3,7%	40,8%	123	18	14	155
SOUTHEAST	**285,8**	**2.982,5**	**852**	**58,1%**	**5,9%**	**1,9%**	**65,9%**	**166**	**17**	**5**	**188**
Minas Gerais	27,3	5.680,8	155	54,3%	5,9%	1,9%	62,1%	15	2	1	17
Espírito Santo	0,0	0,0	0	0,0%	0,0%	0,0%	0,0%	0	0	0	0
SOUTH	**1.480,2**	**4.292,3**	**6.354**	**71,6%**	**4,4%**	**5,1%**	**81,1%**	**1.059**	**66**	**76**	**1.201**
Paraná	1.480,2	4.292,3	6.354	71,6%	4,4%	5,1%	81,1%	1.059	66	76	1.201
C-WEST	**2.996,5**	**4.534,4**	**13.587**	**68,8%**	**4,5%**	**5,7%**	**78,9%**	**2.061**	**134**	**169**	**2.364**
Mato Grosso	1.903,4	5.004,1	9.525	68,8%	4,5%	5,7%	78,9%	1.309	85	108	1.502
Mato Grosso do Sul	774,8	3.171,8	2.457	68,8%	4,5%	5,7%	78,9%	533	35	44	611
Goiás	311,8	5.032,4	1.569	68,8%	4,5%	5,7%	78,9%	214	14	18	246
Distrito Federal	6,4	5.541,6	36	68,8%	4,5%	5,7%	78,9%	4	0	0	5
N/NE	**411,9**	**1.173,7**	**483**	**30,6%**	**4,5%**	**3,5%**	**38,6%**	**126**	**19**	**14**	**159**
C-SOUTH	**4.762,5**	**4.366,0**	**20.793**	**69,0%**	**4,5%**	**5,3%**	**78,8%**	**3.286**	**216**	**251**	**3.754**
BRAZIL	**5.174,5**	**4.111,9**	**21.277**	**66,0%**	**4,5%**	**5,1%**	**75,6%**	**3.413**	**235**	**265**	**3.913**

Source: Céleres * Up dated: Aug/6/2010







- ***In terms of the total estimate of corn to be planted in 2010/11, the total area harvested with biotech products is expected to be 7.1 million hectares or 55.6% of the total area (Summer and Winter).With such a surface area, the rise in the total area planted with biotech corn was of 2.9 million in relation to the 4.3 million hectares sowed in the 2008/09 growing season.***
- ***The doubts regarding the acreage be planted, particularly for the Summer crop, may still result in changes in the total area effectively sown with biotech products, but we believe that irrespective of the surface area effectively planted with corn, the growth in the participation of genetically improved products will be significant, showing that we are experiencing a clear change in the corn technology production pattern, with an unmistakable impact on its final productivity.***
- ***Thus, the combination of other technologies, such as soil fertility management and the selection of products that are best adapted to the different producing regions, together with the introduction of biotechnology, strongly contributes to guaranteeing the corn supply in Brazil, despite the reduction in the total area, as observed over the last couple of years.***