BIOTECHNOLOGY REPORTING

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- ***The second estimate for the area harvested with GM crops shows that the total area is expected to reach 37.1 million hectares in the 2012/13 crop year, that is, a growth of 4.6 million hectares (+ 14.0%) in relation to the previous harvest.***

- ***Soybeans are in the leading position, covering an area projected for 12/13 of 24.4 million hectares with biotech soybean varieties or 88.8% of the current projection for the cultivation of soybeans in this crop season.***

- ***The winter corn is still the second most adopted biotech crop, with 87.8% or 6.9 million hectares to be planted with biotech constructs in the 2012/13 crop season.***

- ***The adoption rate of biotech cultivars for the summer corn crop is expected to represent 64.8% of the total area, or 5.3 million hectares.***

- ***The biotech cotton adoption rate for 2012/13 is expected to represent 50.1% of the total area projected for this season's campaign, i.e., 547 thousand hectares.***

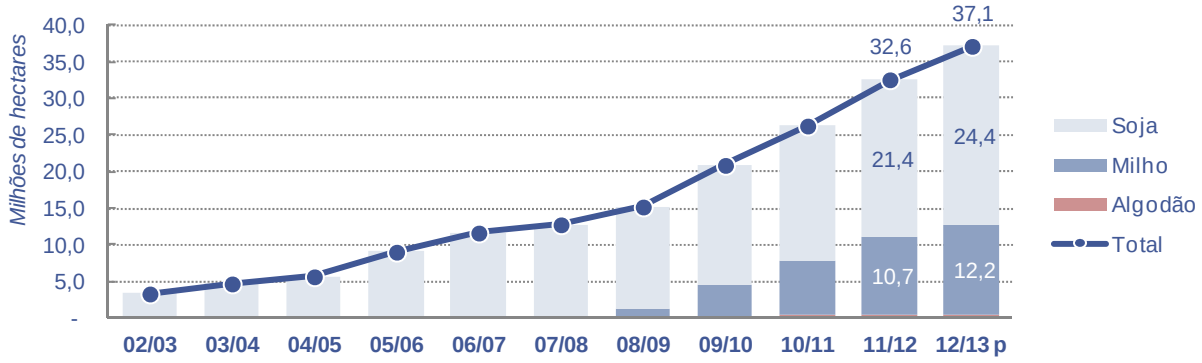
- ***Upon analyzing the traits used, herbicide tolerance heads the list, with 25.7 million hectares or 69.4% of the total area harvested with biotech varieties, followed by insect resistance, with 5.8 million hectares (15.7%) and lastly, stacked genes technology, with 5.5 (14.9%) million hectares.***

- ***Mato Grosso remains in the leadership, with 9.9 million hectares or 26.8% of the total area with biotech crops in Brazil, followed by Paraná, 6.8 million hectares (18.3% of the total area with biotech crops).***

1 OVERALL ANALYSIS

- The 2nd follow-up on agricultural biotechnology adoption for the 2012/13 crop season shows one more crop season having experienced a substantial increase in the use of this technology by the Brazilian farmers. Taking into account the plantation of soybeans, corn, and cotton this year - 37.1 million hectares are being harvested with crops having GM traits, a growth of 4.6 million hectares in comparison to the 2011/12 (+ 14.0%) crop season.
- In the comparison drawn with the 1st follow-up, there was a 1.4% increase in the adoption rate, particularly in the Brazilian South and Southeast regions, with a greater advance of biotech soybeans and summer corn, even without the expected approval of stacked genes soybeans. The advancement observed occurred mainly as a result of the good prices practiced in the market in the 12/13 crop season, together with a better supply and availability of seeds adapted to the producing regions.
- Encouraged by one more year of favorable margins, the Brazilian farmers are increasingly investing in traits that favor gains in productivity so as to increase the agricultural income. And in this case, biotechnology adoption - moreover in the case of corn - has proven to be a major tool to help increase the productivity rates in Brazil.
- In addition, traits that bring about indirect benefits, such as easier crop and soil management have been vital elements in the Brazilian farmers' choice to plant GM crops.
- Soybeans continue to spearhead the GM crop adoption, with a total of 24.4 million hectares or 65.7% of the total area in Brazil with biotech crops, + 2.1% in relation to the 1st follow-up, followed by corn (summer + winter), with 12.2 million hectares (32.9% of the total area), + 0.8% in comparison to the 1st follow-up and for summer corn alone, since the harvest for winter corn has not started yet. Finally, the plantations with GM cotton are expected to represent only 1.5% of the total area with biotech crops, with 0.55 million hectares, the same figure shown in the August/2012 assessment, since this crop's harvest season has not begun yet.

Figure 1. Agricultural biotechnology adoption in Brazil. By crop.



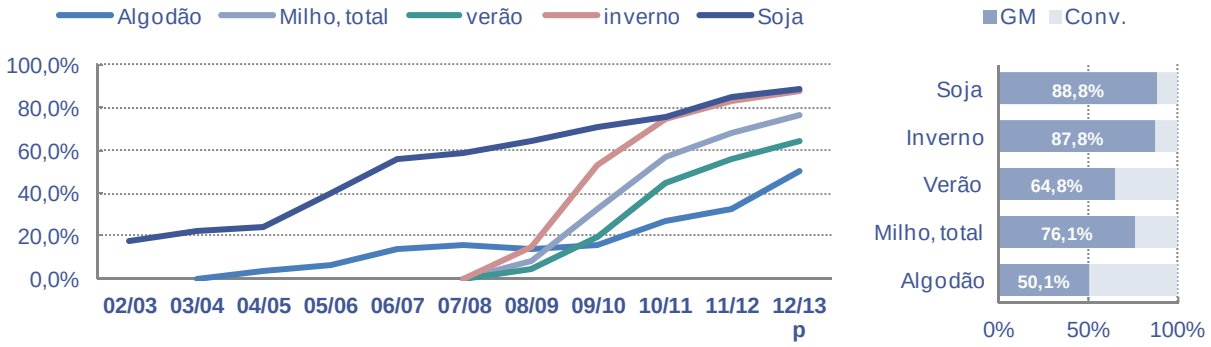
Source: CÉLERES® | Totals in million hectares

- Individually, soybeans continue to be the most adopted biotech crop, where 24.4 million hectares or 88.8% of the total area forecasted for 2012/13 (27.5 million hectares) is expected to be planted GM cultivars. In comparison to the previous crop season, projections indicate a growth of almost 3.0 million hectares in the area harvested with GM soybeans. Considering that the total area is projected to grow by 2.3 million hectares, we have a new market share increase of GM crops over the conventional ones.
- The adoption of winter corn has remained unaltered in relation to the previous assessment, due to the fact that the planting season has not started yet. Therefore the adoption is predicted to be 87.8% of the area to be harvested, in the beginning of next year, coming closer to the soybeans adoption level and also to the adoption levels observed in the United States. We forecast an area with GM crops of 6.9 million hectares, a growth of 1.2 million hectares in comparison to what was harvested in 2011/12. Although some significant changes may still occur in the farmers' intentions of planting biotech winter corn, in view of market

uncertainties, we are almost totally convinced that there will be a substantial increase in the harvested area, resulting from the boost in prices observed throughout 2012.

- Regarding the summer season, we project an adoption rate of 64.8% or 5.3 million hectares, a rise of 305 thousand ha in relation to biotech constructs planted in 2011/12, but bringing to mind that the area to be harvested with summer corn is expected to undergo a downturn of 695 ha (92% of planting activities having been concluded by the end of this report), due to a greater competition from soybean plantations in the different regions in which these two crops compete for space in the summer season, mainly in the South and Southeast .
- Considering the total corn harvest (summer + winter), the biotech adoption rate expected is 12.2 million hectares, or 76.1% of the total area of both crops. Five years ago, the total adoption rate for biotech corn was only of 1.2 million hectares. In comparison to the previous year, this rate is expected to increase by 1.5 million hectares.

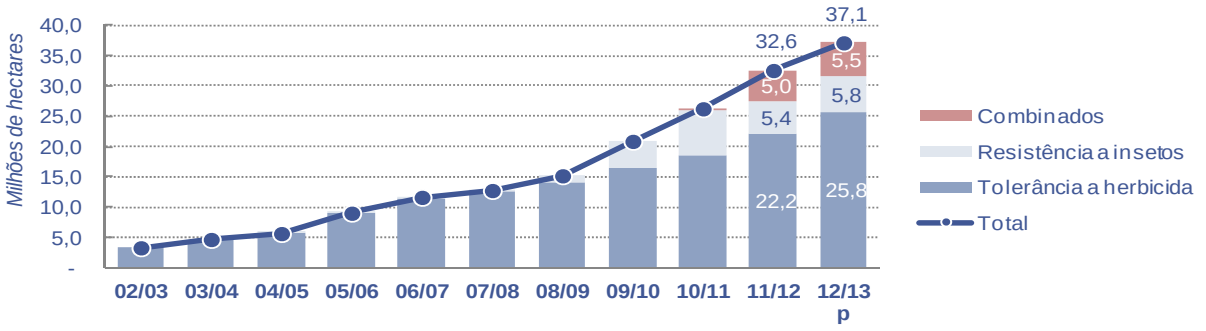
Figure 2. Agricultural biotechnology adoption in Brazil.



Source: CÉLERES® | % of total area

- As was the case for the winter corn, the adoption expected of biotech cotton remains unaltered in relation to the first follow-up, precisely due to the pending start-up of the planting activities. The trait for herbicide tolerance in cotton is expected to substantially boost the biotech cotton adoption rate to 546.7 thousand hectares or 50.1% of the farmers' intention to plant the variety in 2012/13. In view of the cotton market conditions, there is a clear sentiment that the area to be effectively harvested is smaller than today's total estimate, which also implies that there may be a smaller area planted with the biotech variety.
- In comparison to last year, we forecast a growth of 93.6 thousand hectares in the area harvested with GM cotton varieties, mainly due to a greater adoption rate of herbicide tolerant crops, maintaining the current planting premises.
- Upon analyzing crop biotechnology adoption in Brazil by type of trait, we found that herbicide tolerant crops individually occupy the largest extension of land area planted with biotech crops in Brazil, with 25.7 million hectares and an increase of 3.6 million hectares in comparison to the adoption rate recorded in 2011/12.
- It is followed by insect resistant crops, which also individually, represent the second largest land area planted with biotech varieties, covering 5.8 million hectares and with a growth by 450 thousand ha in relation to the previous year.
- Finally, the stacked genes traits are expected to total 5.5 million hectares, drawing closer, as projected, to the single gene insect resistant crops. This technology is expected to grow in use by 527 thousand ha in relation to the previous year. However, the delay in the Monsanto's stacked soybean event approval in China has frustrated the possible growth of stacked genes technology in Brazil.

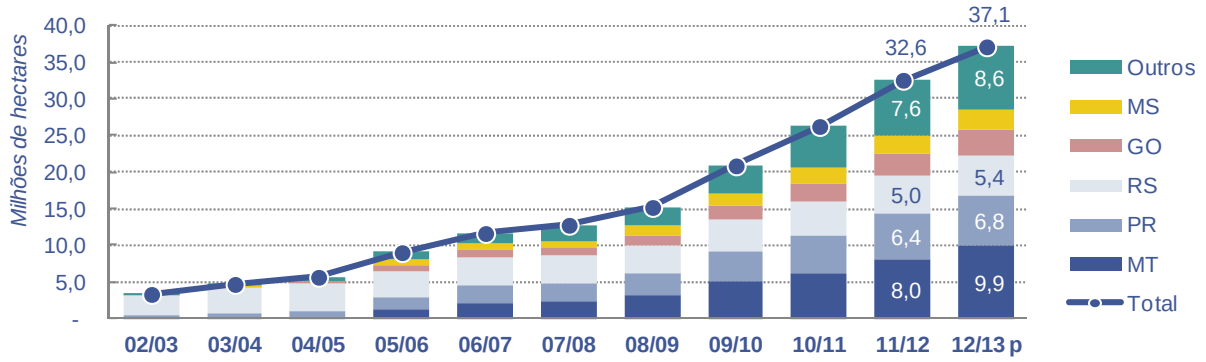
Figure 3. Agricultural biotechnology adoption in Brazil. By trait.



Source: CÉLERES® | Totals in million hectares

- The analysis by regions shows the clear and irreversible dissemination of crop biotechnology in the country's major grain producing regions. Mato Grosso continues in the leadership, with 9.9 million hectares having been planted with GM crops (including soybeans, corn, and cotton), followed by Paraná, with 6.8 million hectares and by Rio Grande do Sul, with 5.4 million hectares.
- Individually, Mato Grosso is also expected to account for the highest individual variation, with a growth of 2.0 million hectares, in comparison to last year. The second highest individual variation is expected to happen in Goiás, where we foresee an increase by 0.5 million hectares to be planted with biotech crops.

Figure 4. Agricultural biotechnology adoption in Brazil. By state.



Source: CÉLERES® | Totals in million hectares

2 ATTACHMENTS

Figure 5. Biotech soybean adoption rate in Brazil.

	Area (million ha)	Productivity (tons/ha)	Production (million tons)	Adoption (% of the total area)				Area with biotech crops (million ha)			
				IR	HT	IR/HT	Total	IR	HT	IR/HT	Total
NORTH	**0,78**	**3,03**	**2,37**	**0,0%**	**65,6%**	**0,0%**	**65,6%**	**0,00**	**0,51**	**0,00**	**0,51**
NORTHEAST	**2,40**	**3,08**	**7,39**	**0,0%**	**83,4%**	**0,1%**	**83,5%**	**0,00**	**2,00**	**0,00**	**2,00**
Maranhão	0,65	3,13	2,02	0,0%	76,5%	0,0%	76,5%	0,00	0,49	0,00	0,49
Piauí	0,49	2,94	1,43	0,0%	72,9%	0,0%	72,9%	0,00	0,35	0,00	0,35
Bahia	1,27	3,11	3,95	0,0%	91,0%	0,2%	91,2%	0,00	1,15	0,00	1,16
SOUTHEAST	**1,92**	**2,91**	**5,58**	**0,0%**	**88,2%**	**0,1%**	**88,3%**	**0,00**	**1,69**	**0,00**	**1,69**
Minas Gerais	1,25	3,07	3,84	0,0%	87,2%	0,1%	87,3%	0,00	1,09	0,00	1,09
São Paulo	0,67	2,60	1,74	0,0%	90,0%	0,1%	90,1%	0,00	0,60	0,00	0,60
SOUTH	**9,72**	**2,58**	**25,08**	**0,0%**	**92,0%**	**0,0%**	**92,0%**	**0,00**	**8,94**	**0,00**	**8,94**
Paraná	4,77	2,89	13,79	0,0%	84,8%	0,0%	84,8%	0,00	4,04	0,00	4,05
Santa Catarina	0,50	2,85	1,43	0,0%	98,1%	0,0%	98,1%	0,00	0,49	0,00	0,49
Rio Grande do Sul	4,45	2,22	9,87	0,0%	99,0%	0,0%	99,0%	0,00	4,41	0,00	4,41
MIDWEST	**12,64**	**3,05**	**38,58**	**0,0%**	**88,7%**	**0,0%**	**88,8%**	**0,00**	**11,21**	**0,01**	**11,22**
Mato Grosso	7,78	3,11	24,23	0,0%	87,0%	0,0%	87,0%	0,00	6,77	0,00	6,77
Mato Grosso Sul	1,98	2,69	5,34	0,0%	89,0%	0,0%	89,0%	0,00	1,77	0,00	1,77
Goiás	2,81	3,13	8,80	0,0%	93,2%	0,0%	93,2%	0,00	2,62	0,00	2,62
Distrito Federal	0,06	3,39	0,21	0,0%	93,2%	0,0%	93,2%	0,00	0,06	0,00	0,06
NORTH/NORTHEAST	**3,18**	**3,07**	**9,76**	**0,0%**	**79,0%**	**0,1%**	**79,1%**	**0,00**	**2,52**	**0,00**	**2,52**
MIDSOUTH	**24,28**	**2,85**	**69,24**	**0,0%**	**90,0%**	**0,0%**	**90,0%**	**0,00**	**21,84**	**0,01**	**21,85**
BRAZIL	**27,46**	**2,88**	**79,00**	**0,0%**	**88,7%**	**0,0%**	**88,8%**	**0,00**	**24,36**	**0,01**	**24,37**

Source: CÉLERES®

Figure 6. Biotech corn adoption rate, summer in Brazil.

	Area (million ha)	Productivity (tons/ha)	Production (million tons)	Adoption (% of the total area)				Area with biotech crops (million ha)			
				IR	HT	IR/HT	Total	IR	HT	IR/HT	Total
NORTH	**0,51**	**2,54**	**1,30**	**7,1%**	**1,9%**	**2,9%**	**11,9%**	**0,04**	**0,01**	**0,01**	**0,06**
NORTHEAST	**2,83**	**1,80**	**5,11**	**17,9%**	**2,6%**	**9,8%**	**30,3%**	**0,51**	**0,07**	**0,28**	**0,86**
Maranhão	0,49	1,80	0,88	34,5%	4,9%	21,2%	60,7%	0,17	0,02	0,10	0,30
Piauí	0,35	1,81	0,64	33,9%	4,8%	19,0%	57,6%	0,12	0,02	0,07	0,20
Bahia	0,43	4,03	1,73	39,9%	5,1%	21,4%	66,4%	0,17	0,02	0,09	0,28
SOUTHEAST	**1,68**	**6,38**	**10,73**	**53,0%**	**7,1%**	**33,0%**	**93,1%**	**0,89**	**0,12**	**0,56**	**1,57**
Minas Gerais	1,04	6,41	6,64	55,4%	6,3%	28,9%	90,6%	0,57	0,07	0,30	0,94
São Paulo	0,60	6,59	3,92	48,5%	8,0%	41,0%	97,5%	0,29	0,05	0,24	0,58
SOUTH	**2,44**	**6,20**	**15,14**	**46,1%**	**5,5%**	**37,6%**	**89,2%**	**1,13**	**0,13**	**0,92**	**2,18**
Paraná	0,85	8,44	7,20	46,7%	5,2%	37,0%	88,9%	0,40	0,04	0,32	0,76
Santa Catarina	0,51	6,41	3,27	46,0%	6,8%	38,1%	90,9%	0,23	0,03	0,19	0,46
Rio Grande do Sul	1,08	4,33	4,68	45,6%	5,1%	37,9%	88,6%	0,49	0,06	0,41	0,96
MIDWEST	**0,67**	**7,41**	**4,93**	**44,7%**	**6,6%**	**39,9%**	**91,2%**	**0,30**	**0,04**	**0,27**	**0,61**
Mato Grosso	0,14	6,20	0,87	44,0%	7,0%	34,2%	85,2%	0,06	0,01	0,05	0,12
Mato Grosso Sul	0,09	8,01	0,72	42,9%	6,8%	37,9%	87,6%	0,04	0,01	0,03	0,08
Goiás	0,41	7,56	3,12	45,3%	6,5%	42,2%	93,9%	0,19	0,03	0,17	0,39
Distrito Federal	0,02	9,58	0,22	45,0%	6,3%	42,5%	93,8%	0,01	0,00	0,01	0,02
NORTH/NORTHEAST	**3,35**	**1,92**	**6,41**	**16,2%**	**2,5%**	**8,8%**	**27,5%**	**0,54**	**0,08**	**0,29**	**0,92**
MIDSOUTH	**4,79**	**6,43**	**30,81**	**48,3%**	**6,2%**	**36,3%**	**90,9%**	**2,31**	**0,30**	**1,74**	**4,35**
BRAZIL	**8,14**	**4,57**	**37,22**	**35,1%**	**4,7%**	**25,0%**	**64,8%**	**2,86**	**0,38**	**2,03**	**5,27**

Source: CÉLERES®

Figure 7. Biotech corn adoption, winter in Brazil.

	Area	Productivity	Production	Adoption (% of the total area)				Area with biotech crops (million ha)			
	(million ha)	(tons/ha)	(million tons)	IR	HT	IR/HT	Total	IR	HT	IR/HT	Total
NORTH	**0,04**	**2,83**	**0,12**	**7,8%**	**3,5%**	**14,8%**	**26,1%**	**0,00**	**0,00**	**0,01**	**0,01**
NORTHEAST	**0,45**	**1,33**	**0,60**	**16,4%**	**5,6%**	**23,3%**	**45,3%**	**0,07**	**0,03**	**0,11**	**0,21**
Maranhão	0,02	0,00	0,00	37,5%	9,9%	44,1%	91,5%	0,01	0,00	0,01	0,01
Piauí	0,01	0,00	0,00	37,5%	9,9%	44,1%	91,5%	0,00	0,00	0,00	0,01
Bahia	0,43	1,40	0,60	15,2%	5,4%	22,1%	42,7%	0,07	0,02	0,09	0,18
SOUTHEAST	**0,39**	**3,84**	**1,51**	**36,9%**	**9,1%**	**43,7%**	**89,7%**	**0,15**	**0,04**	**0,17**	**0,35**
Minas Gerais	0,06	6,60	0,39	36,1%	9,4%	43,0%	88,5%	0,02	0,01	0,03	0,05
São Paulo	0,34	3,36	1,12	37,1%	9,0%	43,9%	89,9%	0,12	0,03	0,15	0,30
SOUTH	**2,15**	**5,13**	**11,04**	**37,1%**	**8,8%**	**45,8%**	**91,6%**	**0,80**	**0,19**	**0,98**	**1,97**
Paraná	2,15	5,13	11,04	37,1%	8,8%	45,8%	91,6%	0,80	0,19	0,98	1,97
Santa Catarina	0,00	0,00	0,00	0,0%	0,0%	0,0%	0,0%	0,00	0,00	0,00	0,00
Rio Grande do Sul	0,00	0,00	0,00	0,0%	0,0%	0,0%	0,0%	0,00	0,00	0,00	0,00
MIDWEST	**4,85**	**5,20**	**25,23**	**37,1%**	**9,7%**	**43,7%**	**90,5%**	**1,80**	**0,47**	**2,12**	**4,39**
Mato Grosso	3,10	5,63	17,45	37,5%	9,9%	44,1%	91,5%	1,16	0,31	1,37	2,84
Mato Grosso Sul	1,18	3,81	4,50	36,1%	9,2%	42,9%	88,2%	0,43	0,11	0,51	1,04
Goiás	0,56	5,77	3,23	37,1%	9,5%	43,5%	90,1%	0,21	0,05	0,24	0,50
Distrito Federal	0,01	6,38	0,05	36,1%	8,1%	44,1%	88,3%	0,00	0,00	0,00	0,01
NORTH/NORTHEAST	**0,50**	**1,46**	**0,72**	**15,7%**	**5,5%**	**22,5%**	**43,7%**	**0,08**	**0,03**	**0,11**	**0,22**
MIDSOUTH	**7,39**	**5,11**	**37,78**	**37,1%**	**9,4%**	**44,3%**	**90,8%**	**2,74**	**0,69**	**3,28**	**6,71**
BRAZIL	**7,89**	**4,88**	**38,50**	**35,7%**	**9,1%**	**43,0%**	**87,8%**	**2,82**	**0,72**	**3,39**	**6,93**

Source: CÉLERES®

Figure 8. Biotech corn adoption, total in Brazil.

	Area	Productivity	Production	Adoption (% of the total area)				Area with biotech crops (million ha)			
	(million ha)	(tons/ha)	(million tons)	IR	HT	IR/HT	Total	IR	HT	IR/HT	Total
NORTH	**0,56**	**2,56**	**1,42**	**7,1%**	**2,1%**	**3,8%**	**13,0%**	**0,04**	**0,01**	**0,02**	**0,07**
NORTHEAST	**3,29**	**1,74**	**5,71**	**17,7%**	**3,0%**	**11,7%**	**32,4%**	**0,58**	**0,10**	**0,38**	**1,06**
Maranhão	0,50	1,74	0,88	34,6%	5,1%	21,9%	61,6%	0,17	0,03	0,11	0,31
Piauí	0,36	1,76	0,64	34,0%	4,9%	19,7%	58,5%	0,12	0,02	0,07	0,21
Bahia	0,86	2,72	2,33	27,5%	5,3%	21,7%	54,5%	0,24	0,04	0,19	0,47
SOUTHEAST	**2,08**	**5,90**	**12,24**	**49,9%**	**7,5%**	**35,1%**	**92,5%**	**1,04**	**0,16**	**0,73**	**1,92**
Minas Gerais	1,09	6,42	7,03	54,4%	6,5%	29,7%	90,5%	0,59	0,07	0,32	0,99
São Paulo	0,93	5,42	5,04	44,4%	8,4%	42,0%	94,8%	0,41	0,08	0,39	0,88
SOUTH	**4,59**	**5,70**	**26,18**	**41,8%**	**7,0%**	**41,4%**	**90,3%**	**1,92**	**0,32**	**1,90**	**4,15**
Paraná	3,00	6,07	18,23	39,8%	7,8%	43,3%	90,9%	1,19	0,23	1,30	2,73
Santa Catarina	0,51	6,41	3,27	46,0%	6,8%	38,1%	90,9%	0,23	0,03	0,19	0,46
Rio Grande do Sul	1,08	4,33	4,68	45,6%	5,1%	37,9%	88,6%	0,49	0,06	0,41	0,96
MIDWEST	**5,51**	**5,47**	**30,16**	**38,0%**	**9,3%**	**43,3%**	**90,6%**	**2,10**	**0,51**	**2,39**	**5,00**
Mato Grosso	3,24	5,65	18,32	37,8%	9,8%	43,7%	91,3%	1,22	0,32	1,42	2,96
Mato Grosso Sul	1,27	4,11	5,22	36,6%	9,0%	42,5%	88,1%	0,46	0,11	0,54	1,12
Goiás	0,97	6,53	6,35	40,6%	8,2%	43,0%	91,8%	0,39	0,08	0,42	0,89
Distrito Federal	0,03	8,80	0,27	42,8%	6,7%	42,9%	92,5%	0,01	0,00	0,01	0,03
NORTH/NORTHEAST	**3,84**	**1,86**	**7,13**	**16,1%**	**2,9%**	**10,5%**	**29,6%**	**0,62**	**0,11**	**0,40**	**1,14**
MIDSOUTH	**12,18**	**5,63**	**68,59**	**41,5%**	**8,1%**	**41,2%**	**90,8%**	**5,06**	**0,99**	**5,02**	**11,07**
BRAZIL	**16,03**	**4,72**	**75,72**	**35,4%**	**6,9%**	**33,8%**	**76,1%**	**5,68**	**1,10**	**5,42**	**12,20**

Source: CÉLERES®

Figure 9. Biotech cotton adoption in Brazil.

	Area	Productivity	Production	Adoption (% of the total area)				Area with biotech crops (million ha)			
	(million ha)	(tons/ha)	(million tons)	IR	HT	IR/HT	Total	IR	HT	IR/ HT	Total
NORTH	**0,01**	**3,58**	**0,01**	**17,7%**	**29,5%**	**11,8%**	**59,0%**	**0,00**	**0,00**	**0,00**	**0,01**
NORTHEAST	**0,41**	**1,50**	**0,57**	**17,7%**	**29,1%**	**11,8%**	**58,5%**	**0,07**	**0,12**	**0,05**	**0,24**
Maranhão	0,02	1,49	0,03	17,7%	29,5%	11,8%	59,0%	0,00	0,01	0,00	0,01
Piauí	0,02	1,32	0,03	17,7%	29,5%	11,8%	59,0%	0,00	0,01	0,00	0,01
Bahia	0,36	1,56	0,51	17,7%	29,5%	11,8%	59,0%	0,06	0,11	0,04	0,21
SOUTHEAST	**0,03**	**1,43**	**0,04**	**24,8%**	**12,5%**	**12,5%**	**49,8%**	**0,01**	**0,00**	**0,00**	**0,01**
Minas Gerais	0,02	1,46	0,03	24,8%	12,5%	12,5%	49,8%	0,00	0,00	0,00	0,01
São Paulo	0,01	1,33	0,01	24,8%	12,5%	12,5%	49,8%	0,00	0,00	0,00	0,00
SOUTH	**0,00**	**0,79**	**0,00**	**10,5%**	**10,5%**	**9,0%**	**30,0%**	**0,00**	**0,00**	**0,00**	**0,00**
Paraná	0,00	0,79	0,00	10,5%	10,5%	9,0%	30,0%	0,00	0,00	0,00	0,00
Santa Catarina	0,00	0,00	0,00	0,0%	0,0%	0,0%	0,0%	0,00	0,00	0,00	0,00
Rio Grande do Sul	0,00	0,00	0,00	0,0%	0,0%	0,0%	0,0%	0,00	0,00	0,00	0,00
MIDWEST	**0,64**	**1,33**	**0,89**	**12,3%**	**25,1%**	**7,3%**	**44,7%**	**0,08**	**0,16**	**0,05**	**0,29**
Mato Grosso	0,52	1,28	0,70	10,6%	25,5%	6,4%	42,5%	0,06	0,13	0,03	0,22
Mato Grosso Sul	0,05	1,46	0,08	8,5%	35,0%	12,0%	55,5%	0,00	0,02	0,01	0,03
Goiás	0,07	1,57	0,12	26,5%	15,9%	10,6%	53,0%	0,02	0,01	0,01	0,04
Distrito Federal	0,00	1,29	0,00	26,5%	15,9%	10,6%	53,0%	0,00	0,00	0,00	0,00
NORTH/NEAST	**0,42**	**1,50**	**0,58**	**17,7%**	**29,1%**	**11,8%**	**58,5%**	**0,07**	**0,12**	**0,05**	**0,24**
MIDSOUTH	**0,67**	**1,33**	**0,94**	**12,9%**	**24,5%**	**7,5%**	**44,9%**	**0,09**	**0,17**	**0,05**	**0,30**
BRAZIL	**1,09**	**1,39**	**1,52**	**14,7%**	**26,3%**	**9,1%**	**50,1%**	**0,16**	**0,29**	**0,10**	**0,55**

Source: CÉLERES®

Figure 10. Biotech adoption in Brazil.

	Area	Productivity	Production	Adoption (% of the total area)				Area with biotech crops (million ha)			
	(million ha)	(tons/ha)	(million tons)	IR	HT	IR/HT	Total	IR	HT	IR/ HT	Total
NORTH	**1,35**	**9,17**	**3,81**	**3,1%**	**39,1%**	**1,7%**	**43,9%**	**0,04**	**0,53**	**0,02**	**0,59**
NORTHEAST	**6,09**	**6,32**	**13,67**	**10,7%**	**36,4%**	**7,1%**	**54,3%**	**0,65**	**2,22**	**0,43**	**3,31**
Maranhão	1,17	6,36	2,92	15,2%	45,0%	9,6%	69,8%	0,18	0,52	0,11	0,81
Piauí	0,87	6,03	2,10	14,7%	43,3%	8,5%	66,5%	0,13	0,38	0,07	0,58
Bahia	2,48	7,38	6,78	12,1%	52,6%	9,3%	73,9%	0,30	1,30	0,23	1,83
SOUTHEAST	**4,03**	**10,23**	**17,87**	**25,9%**	**46,0%**	**18,2%**	**90,2%**	**1,04**	**1,85**	**0,73**	**3,63**
Minas Gerais	2,36	10,95	10,89	25,4%	49,2%	13,9%	88,4%	0,60	1,16	0,33	2,09
São Paulo	1,61	9,36	6,80	25,8%	42,4%	24,4%	92,6%	0,41	0,68	0,39	1,49
SOUTH	**14,31**	**9,07**	**51,26**	**13,4%**	**64,7%**	**13,3%**	**91,5%**	**1,92**	**9,26**	**1,91**	**13,09**
Paraná	7,77	9,75	32,02	15,4%	55,0%	16,7%	87,1%	1,20	4,28	1,30	6,78
Santa Catarina	1,01	9,26	4,69	23,2%	52,0%	19,2%	94,5%	0,23	0,53	0,19	0,95
Rio Grande do Sul	5,53	6,55	14,54	8,9%	80,7%	7,4%	97,0%	0,49	4,46	0,41	5,36
MIDWEST	**18,79**	**9,85**	**69,64**	**11,6%**	**63,2%**	**13,0%**	**87,8%**	**2,18**	**11,89**	**2,44**	**16,50**
Mato Grosso	11,54	10,05	43,25	11,1%	62,5%	12,6%	86,2%	1,28	7,22	1,45	9,95
Mato Grosso Sul	3,30	8,26	10,63	14,2%	57,4%	16,5%	88,2%	0,47	1,90	0,55	2,91
Goiás	3,86	11,23	15,27	10,7%	70,3%	11,1%	92,1%	0,41	2,71	0,43	3,55
Distrito Federal	0,10	13,49	0,49	14,5%	63,4%	14,2%	92,1%	0,01	0,06	0,01	0,09
NORTH/NORTHEAST	**7,44**	**6,42**	**17,48**	**9,3%**	**36,9%**	**6,1%**	**52,4%**	**0,69**	**2,75**	**0,46**	**3,90**
MIDSOUTH	**37,13**	**9,81**	**138,76**	**13,8%**	**61,9%**	**13,7%**	**89,5%**	**5,14**	**23,00**	**5,08**	**33,22**
BRAZIL	**44,58**	**8,99**	**156,24**	**13,1%**	**57,8%**	**12,4%**	**83,3%**	**5,84**	**25,75**	**5,53**	**37,12**

Source: CÉLERES® | Includes cotton, total corn and soybeans