Brazilian Livestock Profile

Annual Report 2016

Brazilian Beef
Naturally good

ApexBrasil
BRAZILIAN TRADE AND INVESTMENT PROMOTION AGENCY

ABIEC

Contents

A few words from the CEO

"The country is certainly facing difficult times in its history. We have an economic crisis aggravated by a political crisis.

Agribusiness is still one of the main pillars of Brazil's economic development and it is what supports our net exports.

Despite the negative wave that has been affecting most sectors of the Brazilian economy the agriculture sectors keeps growing, and the beef agroindustrial system is one of the most dynamic in the sector.

In 2010 ABIEC began a pioneering survey to quantify the value chain of beef.

The update we are now releasing indicates that in 2015 the whole chain had R$ 483 billion in transaction, which represents an outstanding growth of 44.7% compared to 2010.

In addition to this information the document is intended to consolidate other relevant information and data for any person that wishes to understand livestock farming and beef chain in Brazil.

ABIEC believes that a solid information base is not only essential for sectors to provide a clear communication channel with society, but also for decision making by the relevant private and government agents or those interested in the development of such chain.

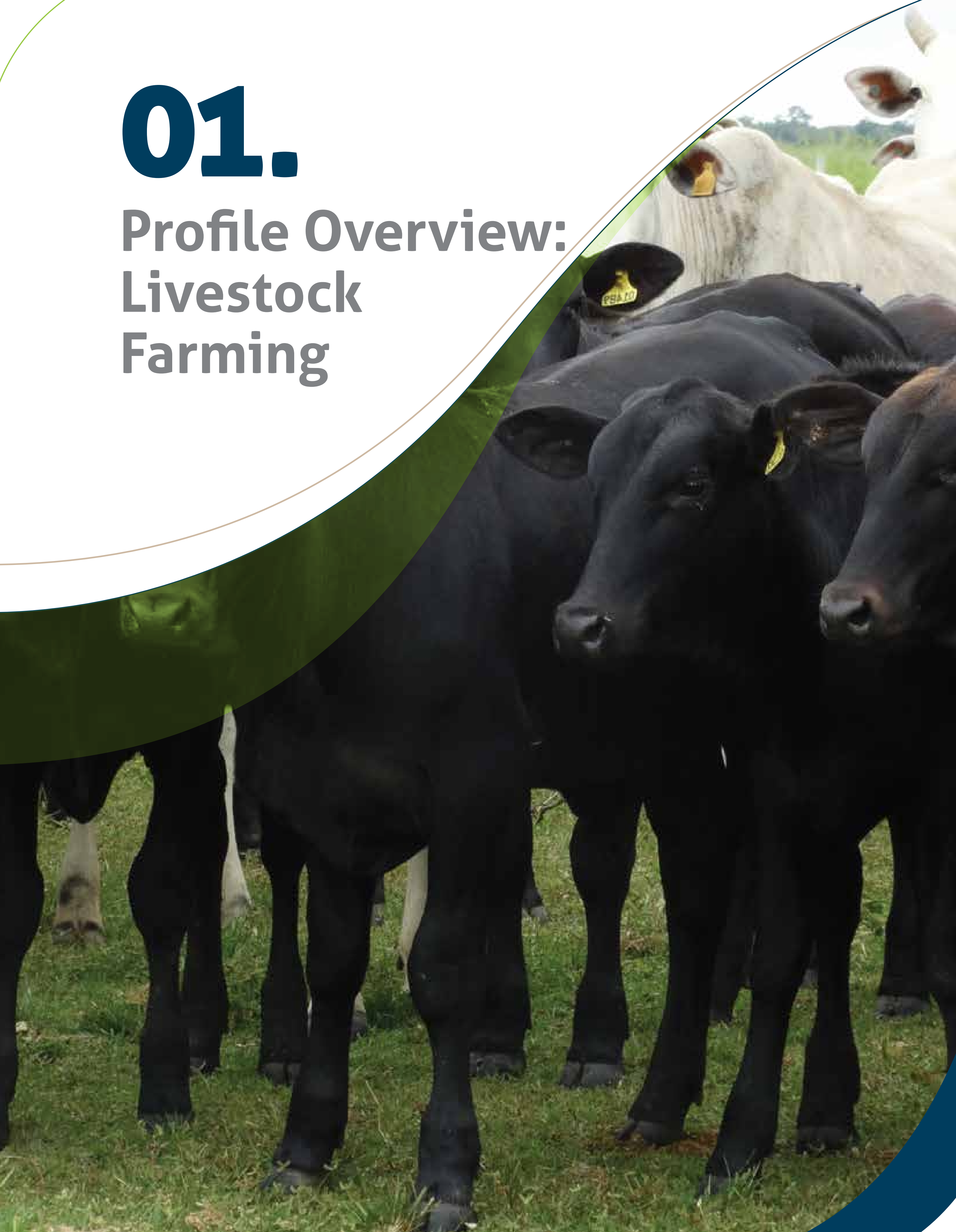
Unfortunately IBGE has recently announced that they were going to once again postpone the Agriculture Census (Censo Agropecuário), which is now expected to be carried out in 2017 due to lack of resources. Faced with so many uncertainties and lacking reliable sources of information ABIEC has undertaken to gather the best available information in a single document every year.

This way we hope to further contribute to the development of our sector and country."

Antônio Jorge Camardelli
President of ABIEC

01.

Profile Overview: Livestock Farming



The Brazilian Gross Domestic Product (GDP) has reached R$ 5.9 trillion in 2015, a 3.85% decrease over the previous result. Agribusiness GDP has reached R$ 1.26 trillion, which is 21% of Brazil's total GDP. Livestock farming GDP has reached R$ 400.7 billion, which is 30% of Brazil's agribusiness.

The Brazilian Net exports Balance in 2015 was US$ 19.69 billion. Agribusiness exports reached US$ 88.22 billion and contributed to a positive balance for the sector, which was essential for a positive net exports balance in Brazil.

Livestock farming production chain in Brazil had more than R$ 483.5 billion in transactions in 2015, a 27% increase over the previous year.

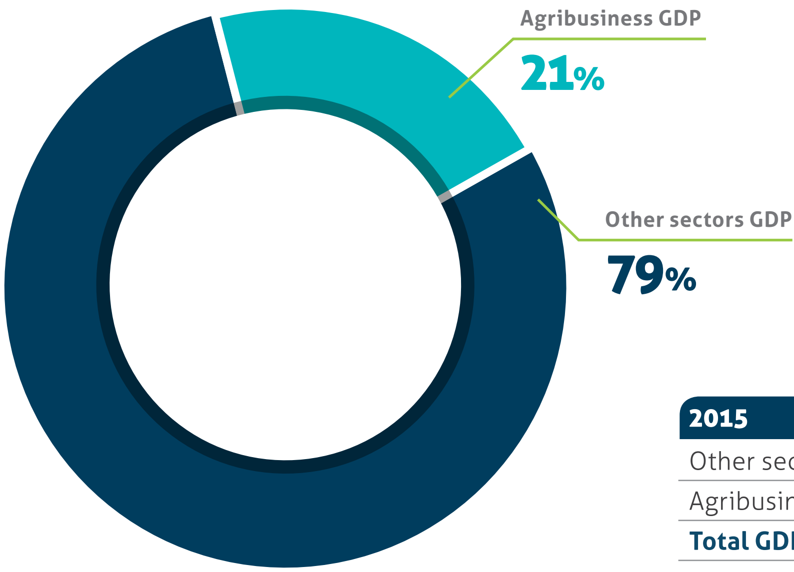
Beef exports generated a US$ 5.9 billion revenue in 2015, a 17% decrease over the previous year due to conjectural problems in one of the major Brazilian beef buyer's markets.

Nevertheless beef exports amounted in revenue for 3% of all Brazilian exports in 2015.

"LIVESTOCK FARMING PRODUCTION CHAIN IN BRAZIL HAD MORE THAN R$ 483.5 BILLION IN TRANSACTIONS IN 2015."

Graph 1

Agribusiness GDP representation in Brazil in 2015.

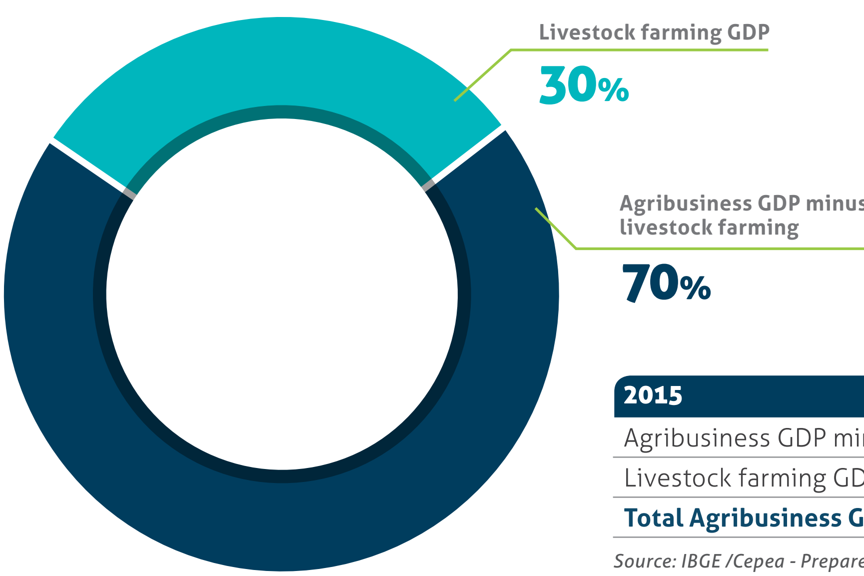


2015	R$ - trillion
Other sectors GDP	4.64
Agribusiness GDP	1.27
Total GDP in Brazil	**5.9**

Source: IBGE /Cepea - Prepared by ABIEC

Graph 2

Livestock farming GDP representation in Brazil's agribusiness GDP.



2015	R$ - billion
Agribusiness GDP minus livestock farming	866.6
Livestock farming GDP	400.7
Total Agribusiness GDP in Brazil	**1,267.2**

Source: IBGE /Cepea - Prepared by ABIEC

Table 1

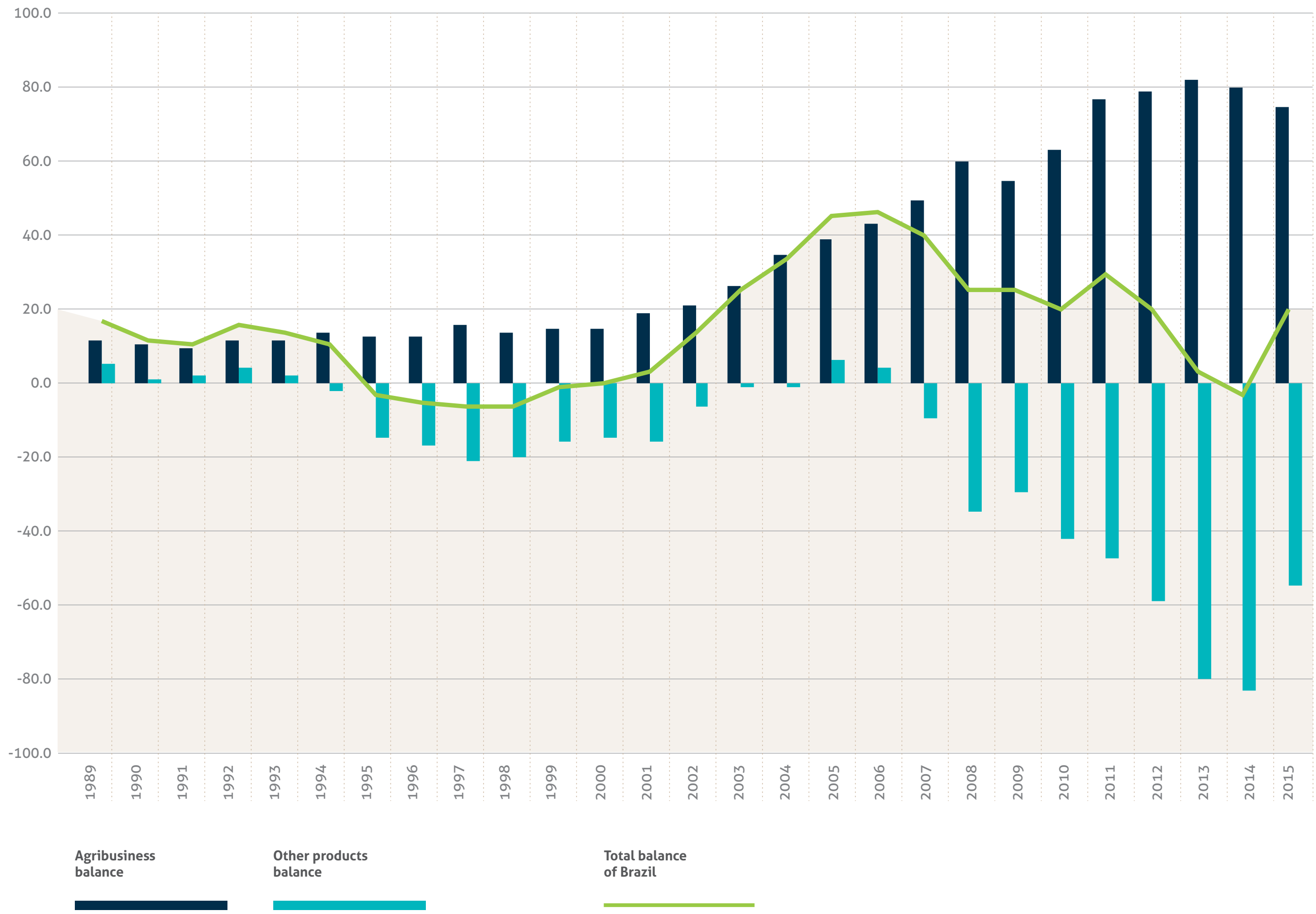
Total GDP, Agribusiness GDP, and Livestock farming GDP.

2015	R$ - trillion	Total GDP percentage
Total GDP	5.9	-
Agribusiness GDP	1.27	21.5%
Livestock farming GDP	**0.40**	**6.8%**

Source: IBGE /Cepea - Prepared by ABIEC

Graph 3

Net exports Balance in Brazil and the importance of agribusiness - billion US$.



Source: Agroconsult / Agrostat / SECEX / MDIC / Conab - Prepared by ABIEC

02.
Chain quantification

The beef agroindustrial system had R$ 483.5 billion in transactions in 2015. Wages and duties of the employees directly employed in the sector (farms and industries) amounted to more than R$ 11.37 billion.

Of the R$ 483.5 billion total in transactions of the livestock farming production chain in 2015, R$ 147.03 billion results from activities prior and at the farms, R$ 145.88 billion from the plants, and R$ 176.36 from retail.

"FROM THE FIRST QUANTIFICATION CARRIED OUT IN 2010 WE HAVE REGISTERED A 44.7% INCREASE IN TRANSACTION AMOUNTS THROUGHOUT THE CHAIN."

Comparing to 2010 the transactions prior to farms have increased 21.72% and at farms we registered a 28.01% increase in revenue. Slaughterhouse revenue has increased 36.37% over 2010, and retail registered a 26.12% increase.

Inputs related to feed, reproduction, animal health, diesel, agricultural inputs, maintenance, and others were responsible for R$ 49 billion.

The sales from cattle for slaughter, replenishment animals, and live cattle exports were responsible for R$ 98 billion.

Inputs used in the slaughterhouse industry, including packing, electric power, parts, boiler oil, cleaning products, and others were responsible for approx. R$ 6.9 billion.

Slaughterhouse revenue registered R$ 93.98 billion in transactions regarding beef sales in the domestic market and R$ 19.49 billion regarding beef exports. Leather revenue in domestic and foreign markets has reached R$ 10.19 billion, while other leather products have reached R$ 15.29 billion.

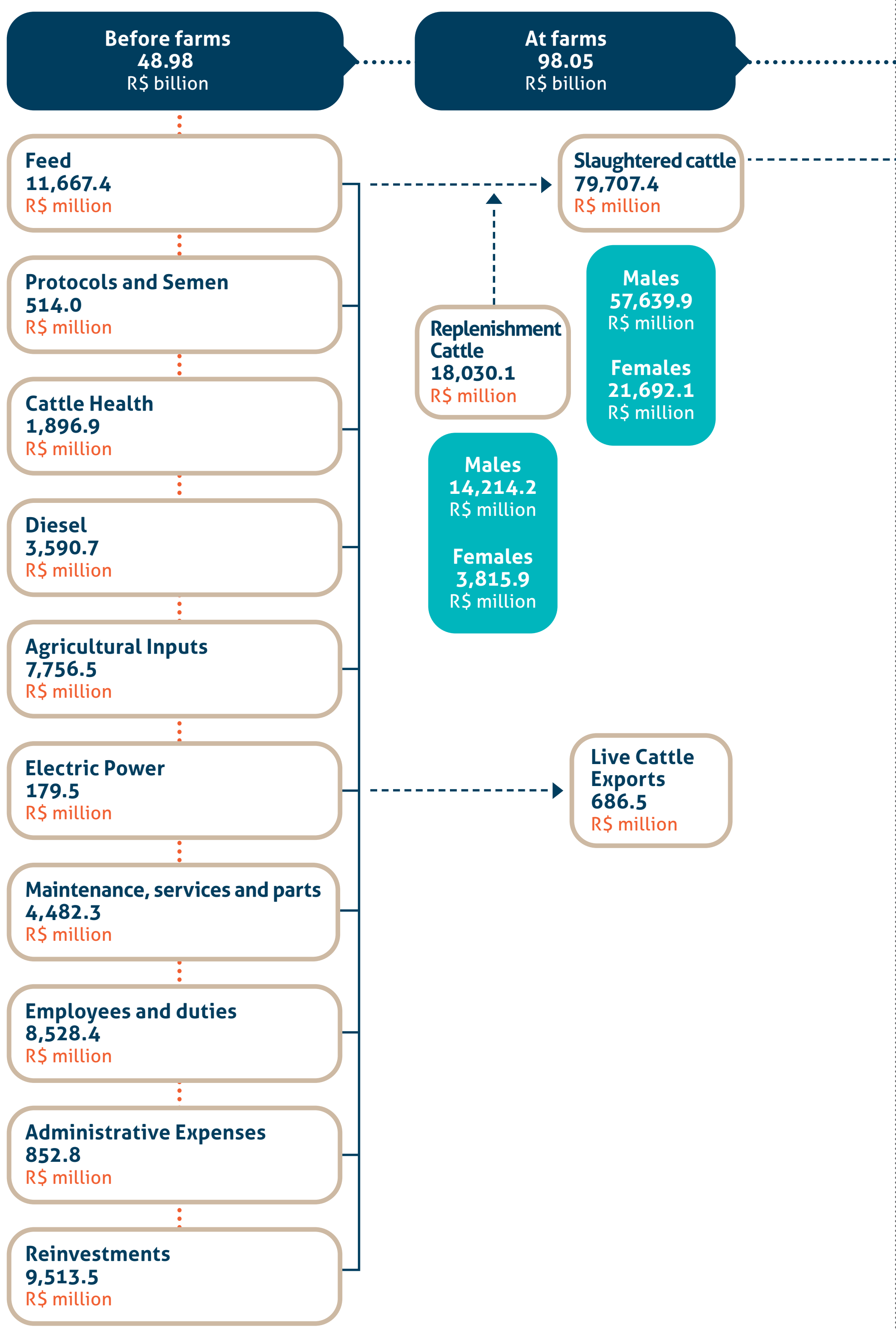
Of the R$ 176.36 billion total retail transactions 87% was related to beef sales, and the other 13% to the sales of other products in 2015.

Scheme 1

Chain mapping

BEEF AGROINDUSTRIAL SYSTEM - 2015

Livestock farming Agribusiness Transactions in 2015



483.50 R$ billion

Inputs and industry services
6.92
R$ billion

- **Packaging** **1,639.0** R$ million
- **Electric Power** **1,639.0** R$ million
- **Parts, Equip. Maint.** **307.9** R$ million
- **Boiler oil** **169.5** R$ million
- **Cleaning products** **85.4** R$ million
- **Cooling Gases** **84.4** R$ million
- **Water filters** **75.6** R$ million
- **PPEs** **55.8** R$ million
- **Lubricant oil and grease** **18.1** R$ million
- **Wages and duties** **2,842.8** R$ million

Slaughterhouse revenue
138.96
R$ billion

- **Beef Domestic Market** **93,989.4** R$ million
- **Beef exports** **19,489.7** R$ million
- **Leather exports** **7,591.6** R$ million
- **Leather Domestic Market** **2,601.2** R$ million
- **Tallow Domestic Market** **1,566.6** R$ million
- **Other subproducts** **13,725.6** R$ million

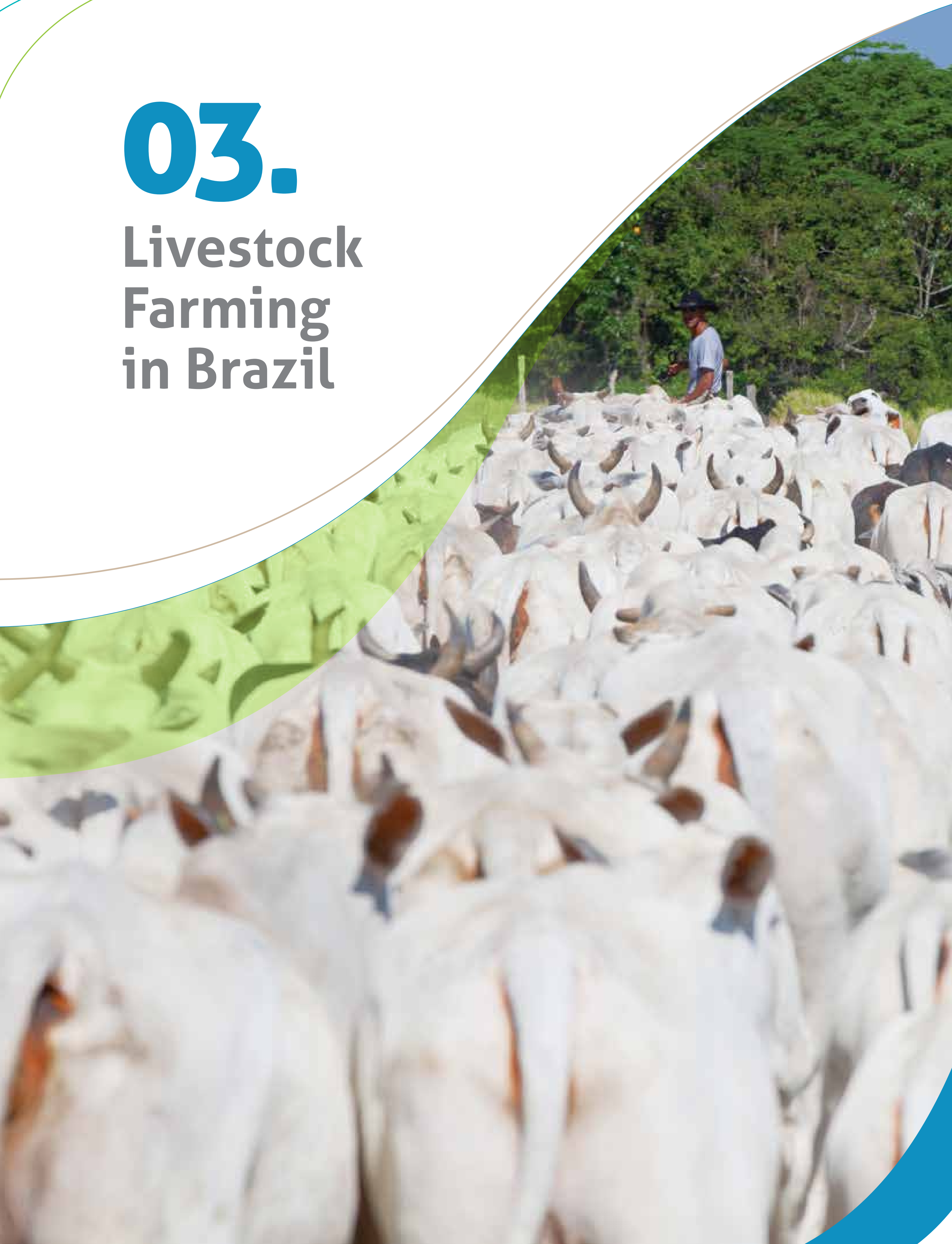
Total Retail
176.36
R$ billion

- **Beef Retail** **153,888.9** R$ million
- **Other products retail** **22,472.910** R$ million

Facilitating agents	R$ million
Third party Services	9,423.4
Fre and internal Diesel	4,589.5
Traceability	46.9
Export Transportation	121.2
R&D	47.1

Source: Agroconsult - using adapted methodology created by PENSA/USP, and data from IBGE (2014), Abiec/Markestrat (2010), secex (2015)

03.
Livestock Farming in Brazil



Brazil has 209.13 million cattle heads over 167 million hectares. A stocking rate of 1.25 heads per hectare.

3.1 Brazilian Beef Profile 2015

167.49 million pasture hectares Stocking rate: 1.25 heads/ha

Live cattle Import 1.776 heads

Cattle Herd 209.13 million heads

Live cattle Export 212,183 heads

Carcass Average weight: 244.2 kg

Average Carcass Yield: (Zebu) 52.3%-55%

Slaughter 39.16 million heads

Offtake: 18.78%
Confinement: 5.05 million heads (12.9% of total slaughter)

EXPORTS (19.63%) 1.88 MT CWE

Beef production 9.56 MT CWE

Domestic market (81.38%) 7.68 MT CWE

Consumption per capita: 38.6 kg/year

74.47% In Natura 1.40 MT CWE	**14.11% Processed 265.54 TT CWE**	**11.4% Offals and Others 214.85 TT CWE**
85 countries	**90 countries**	**69 countries**
Egypt: 17% Russian Federation: 16% Hong Kong: 15% Iran: 9% Others: 43%	EU-27:41% USA: 28% Others: 31%	Hong Kong: 55% Egypt: 8% Others: 37%

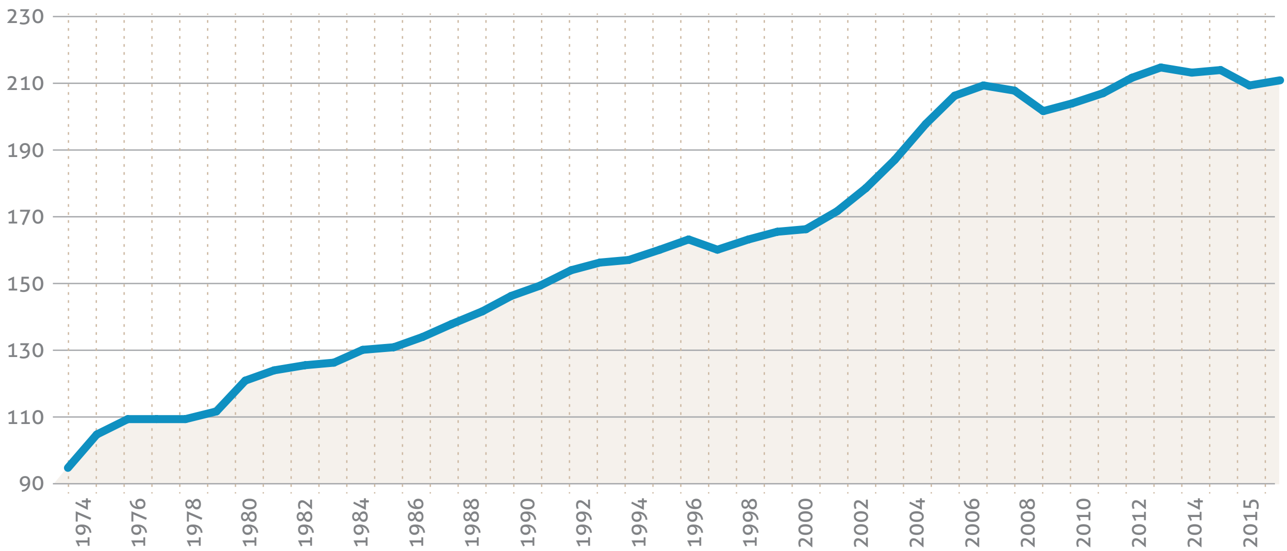
In 2015 the Brazilian beef production has reached 9.56 million tons carcass-weight equivalent (CWE) of a total of 39.16 million heads slaughtered.

Exports have reached 1.88 million tons carcass-weight equivalent, corresponding to 19.63% of the production. The domestic market was responsible for the consumption of 81% of the beef produced in 2015.

3.2 Brazilian Cattle Herd

Graph 4

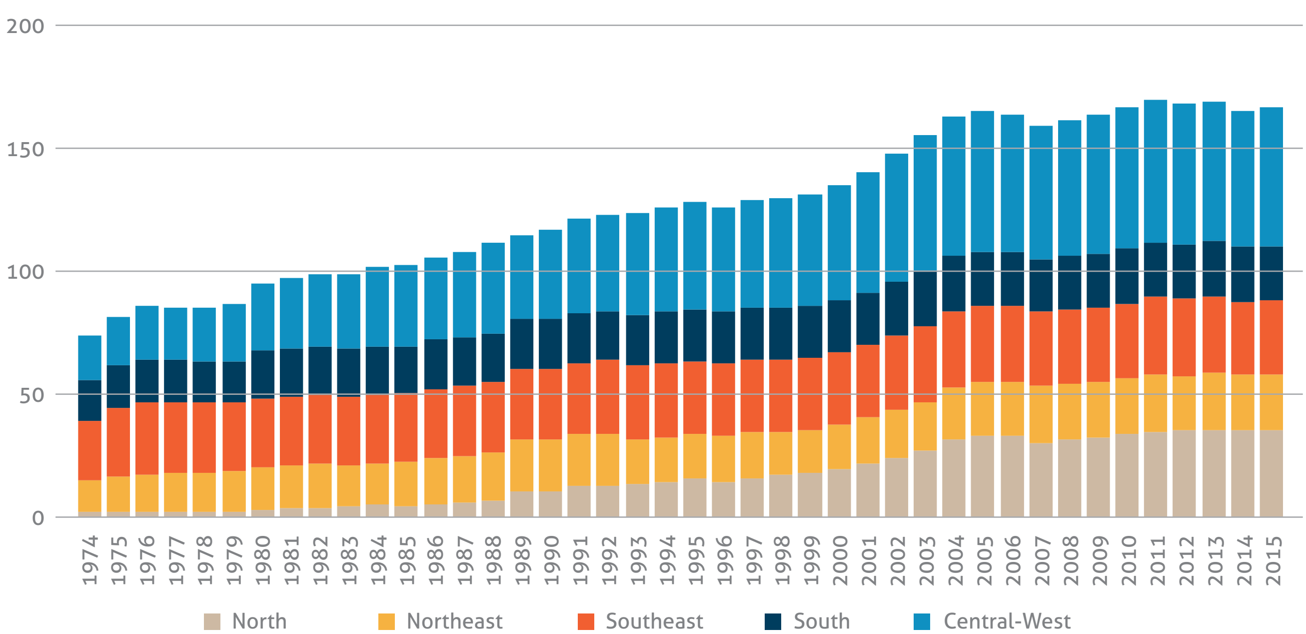
Brazilian Cattle Herd - million heads.



Source: IBGE / Mapa / Agroconsult - Prepared by ABIEC

Graph 5

Brazilian cattle herd development per region - million heads.



Source: IBGE / Agroconsult - Prepared by ABIEC

Table 2

Data on the major livestock farming States in Brazil.

State	Cattle Herd Estimate in 2015 (heads)	State Cattle Herd Percentage in Brazil Total	Cattle Herd growth in the last 9 years - %	% of cattle exclusively destined for slaughter per State	Number of Properties containing cattle*
Mato Grosso	28,457,770	13.61%	9.18%	94.60%	82,558
Minas Gerais	23,588,517	11.28%	6.24%	41.36%	354,062
Goiás	21,659,556	10.36%	4.91%	68.51%	111,693
Mato Grosso do Sul	20,927,902	10.01%	-11.79%	94.65%	48,601
Pará	18,619,088	8.90%	6.38%	89.56%	83,688
Rio Grande do Sul	13,875,358	6.63%	-0.71%	77.16%	329,901
Rondônia	12,793,157	6.12%	11.40%	82.20%	63,273
Bahia	10,222,395	4.89%	-5.04%	56.97%	314,243
São Paulo	10,037,604	4.80%	-21.52%	73.34%	128,238
Paraná	9,120,827	4.36%	-6.59%	65.42%	211,936
Tocantins	8,159,609	3.90%	5.14%	86.56%	43,348
Maranhão	7,598,654	3.63%	14.90%	77.94%	93,263
Santa Catarina	4,407,755	2.11%	27.36%	34.64%	147,338
Acre	2,758,118	1.32%	12.44%	93.00%	18,626
Ceará	2,563,061	1.23%	8.95%	41.63%	124,456
Others	14,340,930	0.57%	5.98%	-	523,168
BRAZIL	**209,130,301**	**100.00%**	**132.99%**	**74.43%**	**2,678,392**

Source: Agroconsult / IBGE - Prepared by ABIEC
** data provided in the last Census - 2006*

Table 3

Number of properties per area per State - Base year 2006.

	Pasture Area (hectares) (2015)	Number of properties per area (hectares) - Base year 2006					
		Less than 20	Between 20 and 200	Between 200 and 1000	Between 1000 and 2500	More than 2500	Total
Brazil	**167,487,880**	**1,392,016**	**1,075,350**	**170,726**	**27,647**	**12,653**	**2,678,392**
Rondônia	8,048,622	12,738	44,515	4,978	775	267	63,273
Acre	1,855,894	3,417	12,407	2,436	243	123	18,626
Amazonas	2,708,674	4,653	7,650	1,168	198	113	13,782
Roraima	904,082	420	3,251	783	184	94	4,732
Pará	20,688,254	16,531	55,167	9,704	1,802	1,145	84,349
Amapá	308,083	84	386	134	36	21	661
Tocantins	7,983,934	7,809	25,257	7,755	1,669	858	43,348
Maranhão	6,329,098	39,542	43,939	8,355	1,009	418	93,263
Piauí	3,068,977	36,423	33,510	4,768	569	199	75,469
Ceará	3,574,714	80,840	37,511	5,546	432	127	124,456
Rio Grande do Norte	2,104,001	29,950	14,808	2,379	293	50	47,480
Paraíba	2,458,039	66,713	22,076	2,934	267	34	92,024
Pernambuco	5,256,402	107,273	29,936	2,787	179	51	140,226
Alagoas	516,305	35,429	8,494	1,077	104	31	45,135
Sergipe	983,803	29,564	10,103	922	62	12	40,663
Bahia	10,324,188	172,240	125,272	14,213	1,835	683	314,243
Minas Gerais	14,686,676	166,223	159,909	24,853	2,329	748	354,062
Espírito Santo	1,907,089	14,072	15,165	1,572	101	25	30,935
Rio de Janeiro	1,205,099	17,389	11,326	1,615	118	16	30,464
São Paulo	5,200,734	63,436	54,480	9,068	982	272	128,238
Paraná	4,103,013	133,546	69,287	8,244	724	135	211,936
Santa Catarina	1,882,455	94,338	50,382	2,347	221	50	147,338
Rio Grande do Sul	8,340,702	204,533	110,684	12,239	2,010	435	329,901
Mato Grosso do Sul	15,548,578	14,290	18,079	9,836	3,978	2,418	48,601
Mato Grosso	22,392,865	12,771	49,936	12,576	4,048	3,227	82,558
Goiás + DF	15,107,599	27,876	62,206	18,571	3,515	1,122	113,290

Source: Agroconsult , IBGE (Census 2006 and PPM 2006) - Prepared by ABIEC

Table 4

Cattle Herd per property size per State - Base year 2006.

		Cattle Herd per property size (hectares) - Census 2006					
	Pasture Area (hectares) (2015)	Less than 20	Between 20 and 200	Between 200 and 1000	Between 1000 and 2500	More than 2500	Total
Brazil	**167,487,880**	**16,807,184**	**52,587,423**	**47,408,774**	**25,223,654**	**34,120,466**	**176,147,501**
Rondônia	8,048,622	330,960	4,126,217	2,224,446	965,169	895,934	8,542,726
Acre	1,855,894	50,412	698,373	391,966	198,137	397,212	1,736,100
Amazonas	2,708,674	112,052	443,521	269,397	111,839	233,829	1,170,638
Roraima	904,082	14,111	144,867	168,013	98,132	111,273	536,396
Pará	20,688,254	565,677	3,948,458	3,353,904	2,026,588	4,118,071	14,012,698
Amapá	308,083	4,413	19,372	19,464	15,451	20,115	78,815
Tocantins	7,983,934	208,927	1,622,429	2,041,112	1,230,497	1,462,764	6,565,729
Maranhão	6,329,098	498,519	2,046,349	1,742,259	722,525	802,512	5,812,164
Piauí	3,068,977	365,716	743,849	368,003	108,207	81,681	1,667,456
Ceará	3,574,714	652,392	818,248	453,155	163,920	75,128	2,162,843
Rio Grande do Norte	2,104,001	219,071	347,672	242,996	86,130	11,316	907,185
Paraíba	2,458,039	443,065	539,718	299,452	63,314	8,908	1,354,457
Pernambuco	5,256,402	723,314	761,808	332,702	50,176	12,432	1,880,432
Alagoas	516,305	263,407	341,613	242,858	61,325	10,662	919,865
Sergipe	983,803	277,766	371,967	207,639	37,326	4,600	899,298
Bahia	10,324,188	1,778,467	4,129,837	2,595,941	1,047,069	678,145	10,229,459
Minas Gerais	14,686,676	2,362,639	8,345,945	6,228,333	1,892,888	1,502,530	20,332,335
Espírito Santo	1,907,089	241,593	785,460	576,174	135,551	52,723	1,791,501
Rio de Janeiro	1,205,099	397,874	862,549	539,880	107,837	16,077	1,924,217
São Paulo	5,200,734	1,305,113	3,969,832	3,395,094	1,152,151	684,240	10,506,430
Paraná	4,103,013	1,764,943	3,420,194	2,930,429	779,853	222,688	9,118,107
Santa Catarina	1,882,455	1,096,310	1,515,541	397,223	85,704	31,224	3,126,002
Rio Grande do Sul	8,340,702	1,975,939	3,328,309	3,258,892	1,830,353	941,017	11,334,510
Mato Grosso do Sul	15,548,578	269,427	1,275,634	4,487,282	4,981,759	9,620,715	20,634,817
Mato Grosso	22,392,865	318,250	3,613,906	4,312,092	3,637,450	8,784,449	20,666,147
Goiás + DF	15,107,599	571,240	4,385,127	6,349,532	3,649,754	3,360,336	18,315,989

Source: Agroconsult , IBGE (Census 2006 and PPM 2006) - Prepared by ABIEC

Table 5

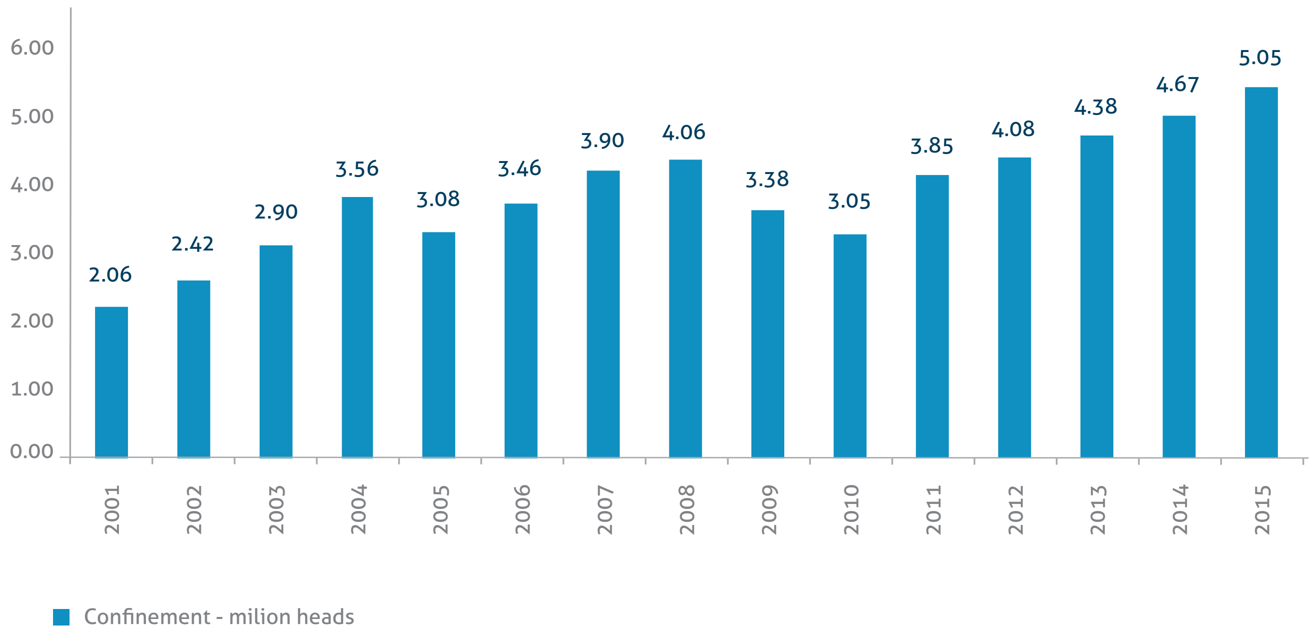
Cattle Herd in the major livestock farming municipalities in Brazil and cattle herd growth in previous years.

Municipality / State	Cattle Herd in 1994 (heads)	Cattle Herd in 2004 (heads)	Cattle Herd in 2014 (heads)	Cattle Herd growth from 1994 to 2014 - %	Cattle Herd growth from 2004 to 2014 - %
São Félix do Xingu - PA	72,840	1,527,017	2,213,310	2938.59%	44.94%
Corumbá - MS	1,380,400	1,889,553	1,761,574	27.61%	-6.77%
Ribas do Rio Pardo - MS	1,473,371	1,380,930	1,099,052	-25.41%	-20.41%
Cáceres - MT	443,594	943,577	1,024,196	130.89%	8.54%
Novo Repartimento - PA	135,000	454,051	959,056	610.41%	111.22%
Vila Bela da Santíssima Trindade - MT	295,643	863,079	943,217	219.04%	9.29%
Juara - MT	319,360	919,964	926,563	190.13%	0.72%
Marabá - PA	84,000	816,738	900,000	971.43%	10.19%
Aquidauana - MS	726,451	621,985	803,976	10.67%	29.26%
Nova Crixás - GO	400,000	676,340	751,000	87.75%	11.04%
Alta Floresta - MT	339,246	723,871	747,578	120.36%	3.28%
Cumaru do Norte - PA	22,143	611,151	743,174	3256.25%	21.60%
Porto Velho - RO	46,689	426,479	741,165	1487.45%	73.79%
Porto Murtinho - MS	550,100	698,378	724,505	31.70%	3.74%
Altamira - PA	80,000	314,217	687,535	759.42%	118.81%
Pontes e Lacerda - MT	356,049	639,389	663,535	86.36%	3.78%
Vila Rica - MT	110,625	526,000	655,938	492.94%	24.70%
Alegrete - RS	567,110	648,698	641,348	13.09%	-1.13%
Sant'Ana do Livramento - RS	531,000	587,387	636,950	19.95%	8.44%
Juína - MT	182,168	533,199	633,492	247.75%	18.81%
Três Lagoas - MS	881,550	957,151	616,018	-30.12%	-35.64%
Santana do Araguaia - PA	336,198	565,775	613,911	82.60%	8.51%
Novo Progresso - PA	105,000	378,573	590,273	462.16%	55.92%
São Miguel do Araguaia - GO	315,000	491,000	586,000	86.03%	19.35%
Água Azul do Norte - PA	52,000	587,216	585,400	1025.77%	-0.31%
Camapuã - MS	589,220	842,080	579,699	-1.62%	-31.16%
Porto Esperidião - MT	134,170	496,594	574,404	328.12%	15.67%
Rio Verde de Mato Grosso - MS	557,402	606,595	557,741	0.06%	-8.05%
Campo Grande - MS	557,189	679,274	548,665	-1.53%	-19.23%
Santa Maria das Barreiras - PA	128,319	564,019	544,541	324.37%	-3.45%
Pacajá - PA	135,000	283,204	536,460	297.38%	89.43%
Coxim - MS	449,068	562,515	518,516	15.46%	-7.82%
Nova Mamoré - RO	38,819	216,403	518,311	1235.20%	139.51%
Santo Antônio do Leverger - MT	261,937	412,535	515,738	96.89%	25.02%
Santa Rita do Pardo - MS	496,642	609,240	514,940	3.68%	-15.48%
Rio Branco - AC	67,896	412,486	513,259	655.95%	24.43%
Paranaíba - MS	637,410	574,890	512,916	-19.53%	-10.78%
Jaru - RO	163,392	504,004	512,236	213.50%	1.63%
Xinguara - PA	507,000	529,337	492,104	-2.94%	-7.03%
Inocência - MS	461,650	540,946	476,654	3.25%	-11.89%
Água Clara - MS	680,039	808,456	468,286	-31.14%	-42.08%

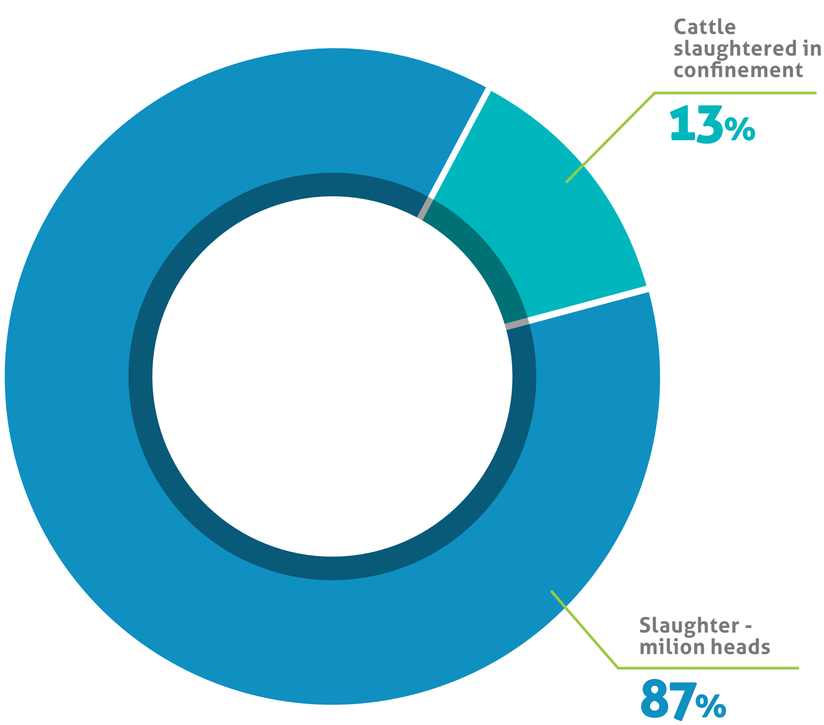
Source: Agroconsult / IBGE - Prepared by ABIEC

Graph 6

Cattle confinement in Brazil - million heads.



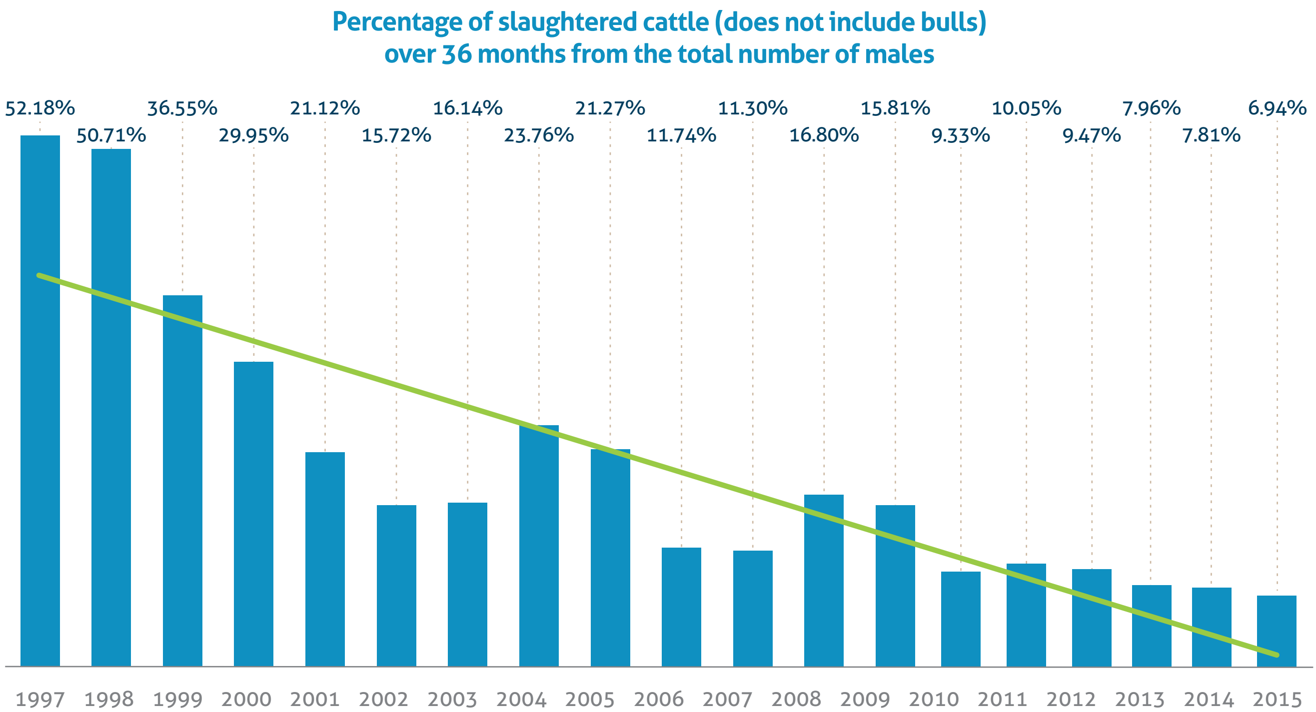
% of cattle slaughtered in confinement of the total slaughter in Brazil



Source: Agroconsult / IBGE - Prepared by ABIEC

Graph 7

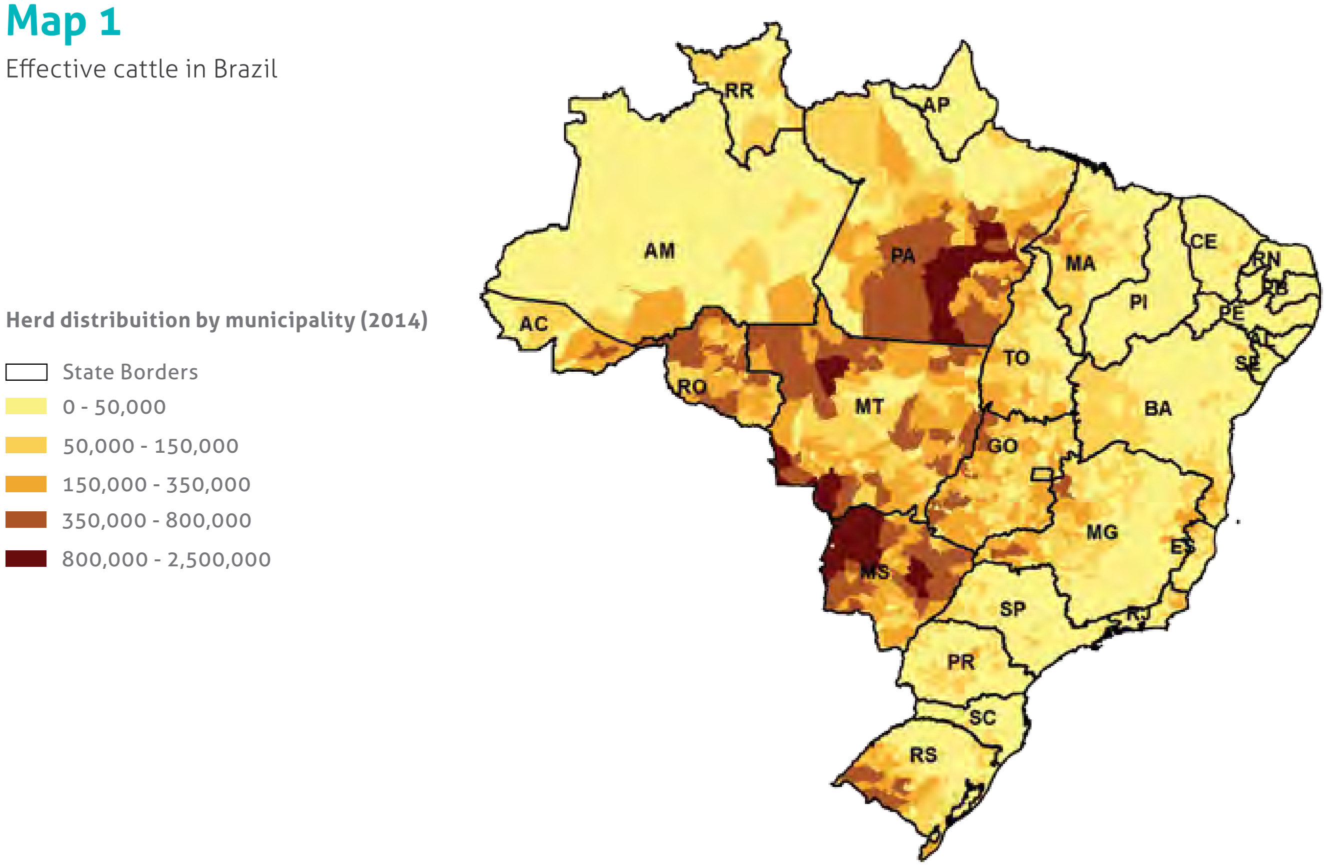
Slaughter development of males older than 36 months.



Source: Agroconsult

Map 1

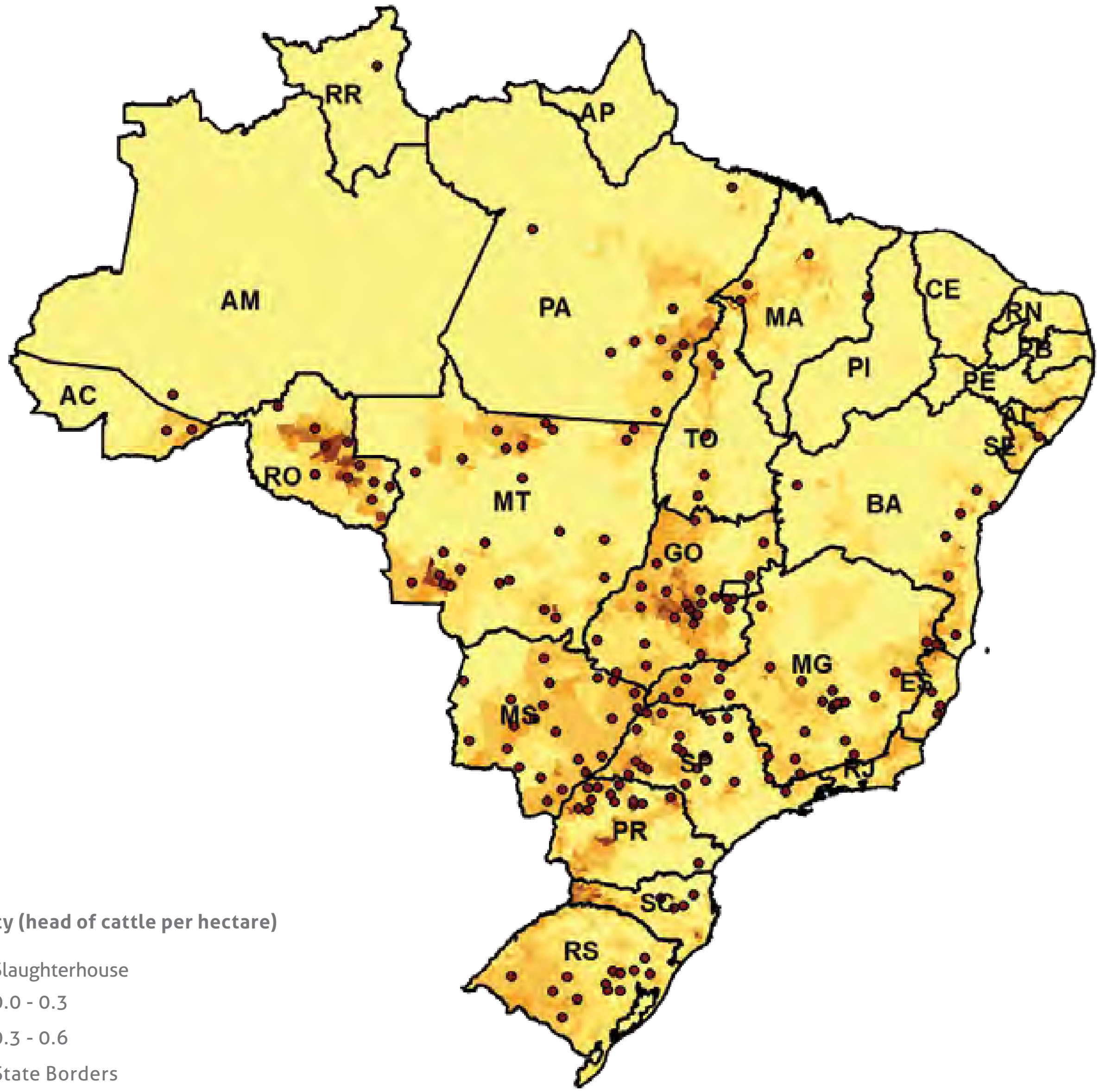
Effective cattle in Brazil



Source: IBGE (2014), Agroconsult.

Map 2

Cattle density in Brazil.



Density (head of cattle per hectare)

- Slaughterhouse
- 0.0 - 0.3
- 0.3 - 0.6
- State Borders
- 0.6 - 0.9
- 0.9 - 1.2
- 1.2 - 1.5
- 1.5 - 3.0
- 3.0 - 5.0

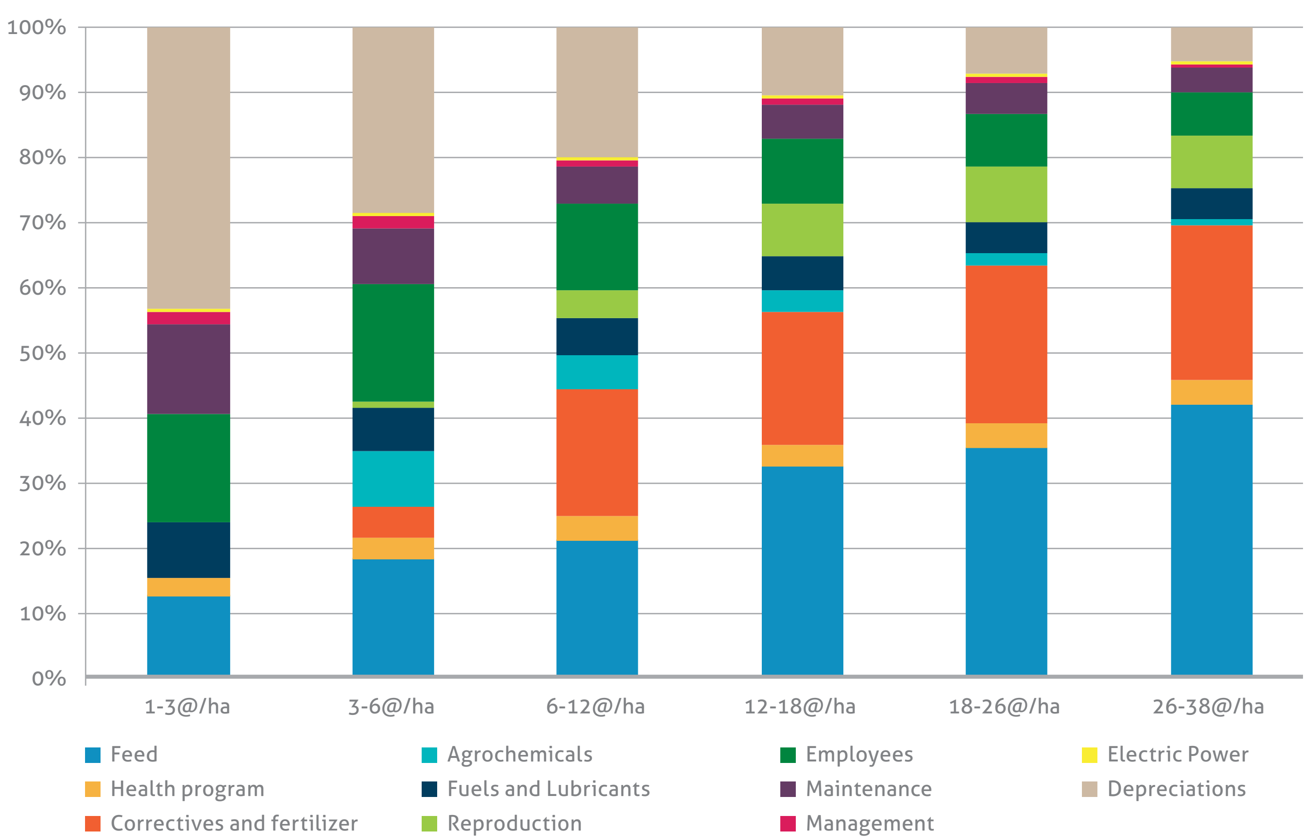
Source: IBGE (2014), Agroconsult.

3.3 Production Cost

Graph 8

Production cost in full cycle farms for six technology levels - Full cycle - 2015 Average

Full Cycle - R$/@	Extractivism	Low Tech	Average Tech	Proper	High Tech	Intensive
RESULT COMPONENTS	**1 - 3 @/ha**	**3 - 6@/ha**	**6-12@/ha**	**12-18@/ha**	**18-26@/ha**	**26-38@/ha**
Feed	14.42	16.96	20.00	30.74	33.68	38.50
Health program	3.09	3.14	3.44	3.31	3.47	3.17
Correctives and Fertilizers	0.00	4.29	18.46	19.14	22.93	21.54
Agrochemicals	0.00	8.00	4.66	3.30	1.64	0.87
Fuels and Lubricants	9.58	5.76	5.31	4.82	4.68	4.32
Reproduction	0.00	1.11	4.01	7.70	8.09	7.26
Employees	18.63	16.60	12.38	9.10	7.67	6.00
Maintenance	15.76	7.57	5.35	5.19	4.60	3.53
Management	1.86	1.66	1.24	0.91	0.77	0.60
Electric Power	0.48	0.29	0.27	0.24	0.23	0.22
Depreciations	48.30	26.23	18.49	9.68	6.68	4.74
Total Operating Costs	112.13	91.62	93.61	94.13	94.43	90.76

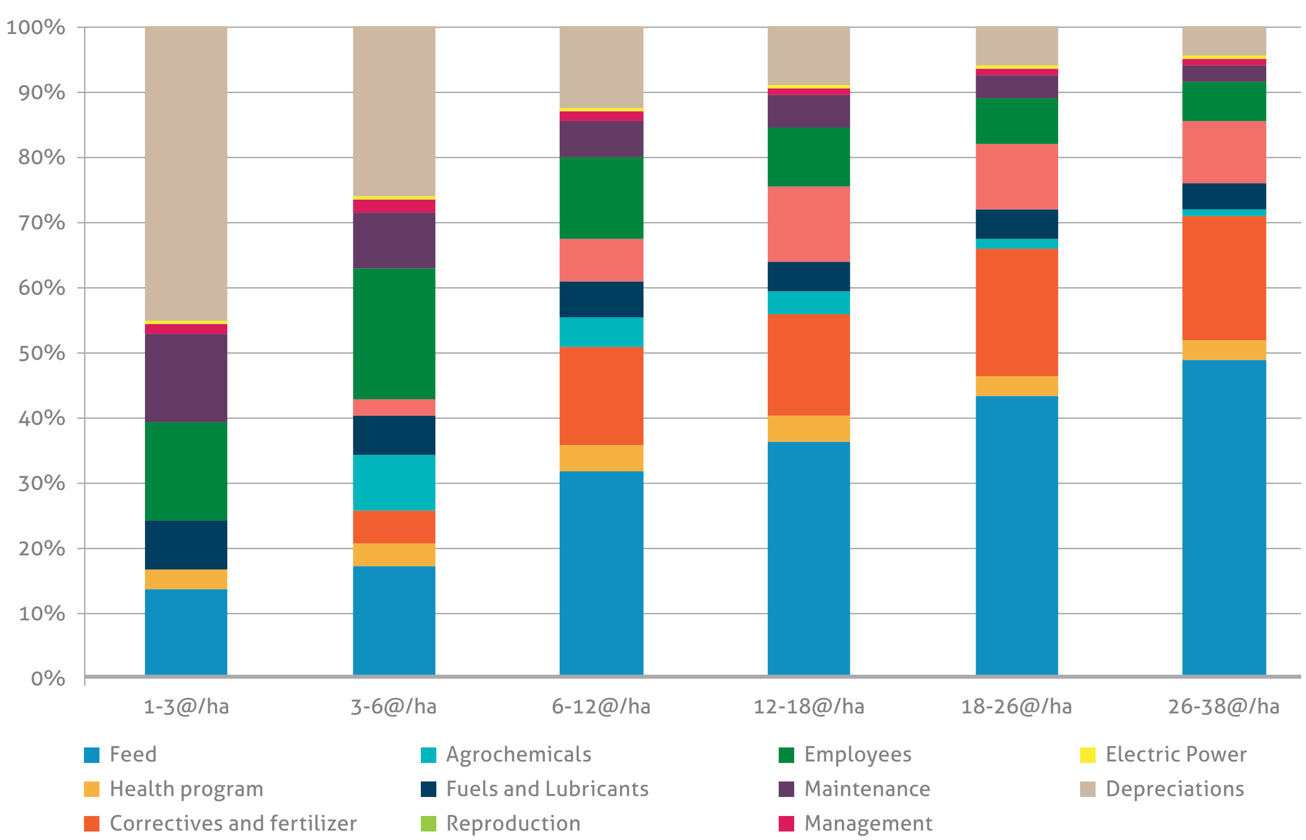


Source: Agroconsult

Graph 9

Production cost in breeding farms for six technology levels - Breeding - 2015 Average

Breeding - R$/@	Extractivism	Low Tech	Average Tech	Proper	High Tech	Intensive
COMPOSITION OF RESULTS	**1 - 3 @/ha**	**3 - 6@/ha**	**6-12@/ha**	**12-18@/ha**	**18-26@/ha**	**26-38@/ha**
Feed	12.15	13.47	29.85	38.41	51.80	62.31
Health program	2.65	3.07	3.72	3.92	4.14	4.12
Correctives and Fertilizers	0.00	3.83	14.48	17.10	23.86	24.76
Agrochemicals	0.00	7.14	4.59	3.58	1.79	1.04
Fuels and Lubricants	7.38	4.94	5.15	4.96	5.13	5.20
Reproduction	0.00	2.02	6.54	12.33	12.22	12.23
Employees	14.14	16.63	12.20	9.87	8.84	7.84
Maintenance	12.40	6.99	5.27	5.09	4.45	3.80
Management	1.41	1.66	1.22	0.99	0.88	0.78
Electric Power	0.37	0.25	0.26	0.25	0.26	0.26
Depreciations	42.78	21.51	12.45	10.27	8.03	6.59
Total Operating Costs	93.28	81.51	95.73	106.75	121.40	128.94

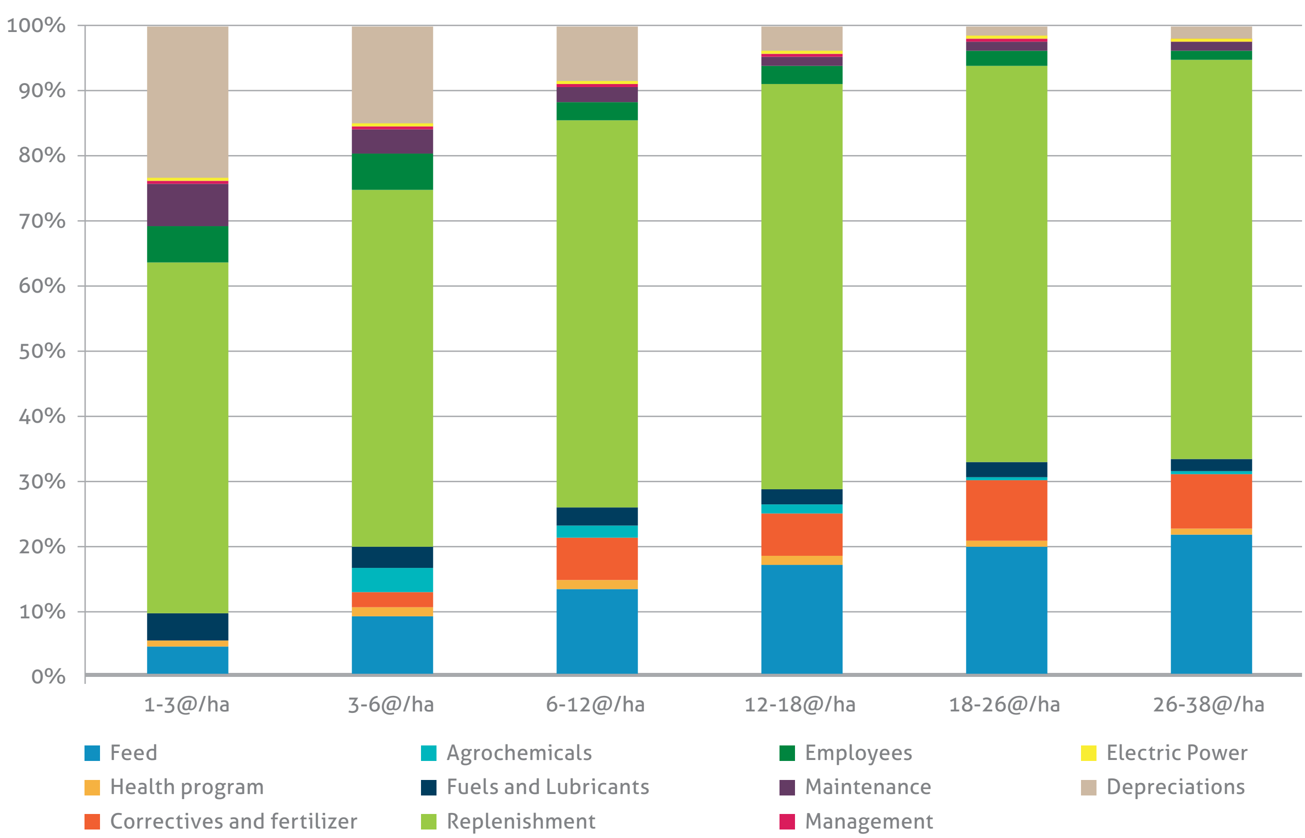


Source: Agroconsult

Graph 10

Production cost in rearing and finishing farms for six technology levels - rearing and finishing - 2015 Average.

Rearing and finishing - R$/@	Extractivism	Low Tech	Medium Tech	Proper	High Tech	Intensive
RESULT COMPONENTS	1 - 3 @/ha	3 - 6@/ha	6-12@/ha	12-18@/ha	18-26@/ha	26-38@/ha
Feed	9.61	19.22	26.01	31.66	37.62	41.03
Health program	2.05	2.76	2.88	2.13	2.10	2.11
Correctives and Fertilizers	0.00	4.71	12.31	12.63	17.39	16.29
Agrochemicals	0.00	8.77	3.90	2.64	1.31	0.69
Fuels and Lubricants	8.56	6.47	5.17	3.89	3.88	3.63
Replenishment	118.08	118.08	118.08	118.08	118.08	118.08
Employees	12.60	11.89	6.07	4.50	4.21	3.39
Maintenance	14.14	7.90	4.27	3.32	2.85	2.39
Management	1.26	1.19	0.61	0.45	0.42	0.34
Electric Power	0.43	0.32	0.26	0.19	0.19	0.18
Depreciations	51.11	32.44	17.09	7.40	3.37	3.51
Total Operating Costs	217.83	213.74	196.64	186.89	191.41	191.63



Source: Agroconsult

3.4 Worldwide Livestock Maps

Table 6

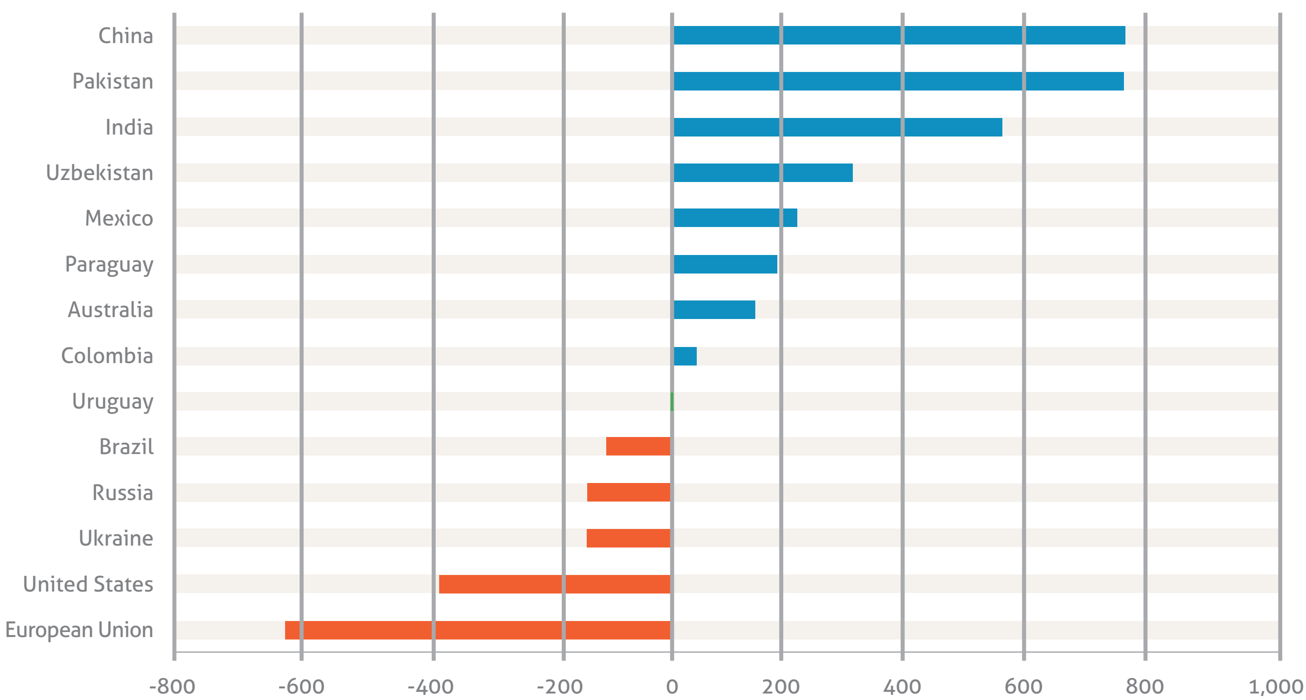
Largest herds and beef producers in the world in 2015.

Country	Cattle (million heads)	Bubalus (million heads)	Total (million heads)	World %	Beef production (thousand t CWE)	World %
Brazil	209.1	1.3	210.5	12.8%	9,561.1	14.0%
India	187.3	110.9	298.2	18.1%	2,881.7	4.2%
China	116.8	24.0	140.8	8.6%	6,443.1	9.4%
USA	88.7	0.0	88.7	5.4%	10,818.5	15.8%
Ethiopia	57.0	0.0	57.0	3.5%	328.9	0.5%
Argentina	52.0	0.0	52.0	3.2%	2,822.0	4.1%
Pakistan	39.9	34.9	74.8	4.5%	1,741.9	2.6%
Mexico	31.8	0.0	31.8	1.9%	1,763.8	2.6%
Australia	28.8	0.0	28.8	1.7%	2,299.1	3.4%
Tanzania	25.1	0.0	25.1	1.5%	315.0	0.5%
European Union	89.9	0.4	90.3	5.5%	7,462.9	10.9%
Others	520.9	25.2	546.1	33.2%	21,835.4	32.0%
Global	**1,447.4**	**196.7**	**1,644.1**	**100.0%**	**68,273.3**	**100.0%**

Source: Agroconsult / USDA / FAO - Prepared by ABIEC
** cattle, bubalus and total herds. Beef production includes bubalus meat*

Graph 11

Development of cattle and bubalus meat production between 2005 and 2015 - thousand t cwe



Source: Agroconsult / FAO / USDA / OCDE - Prepared by ABIEC

Table 7

Largest beef exporters in 2015.

Country	Tons Carcass-Weight Equivalent Exports (thousand t CWE)*	Exports % over production	Tons Carcass-Weight Equivalent Production (thousand t CWE)
India	1,722.4	59.77%	2,881.7
Brazil	1,882.0	19.68%	9,561.1
Australia	1,498.7	65.19%	2,299.1
USA	1,060.1	9.80%	10,818.5
New Zealand	524.4	88.73%	591.0
Uruguay	396.0	66.66%	594.0
Canada	320.5	31.53%	1,016.6
Paraguay	285.4	67.68%	421.7
Argentina	222.3	7.88%	2,822.0
Belarus	183.5	52.21%	351.4
European Union	2,991.3	40.08%	7,462.9
Others	720.4	2.45%	29,453.2
Global	**11,807.0**	**17.29%**	**68,273.3**

** cattle and bubalus meat*
Source: FAO / USDA / FAPRI / IBGE / Agroconsult - Prepared by ABIEC

Table 8

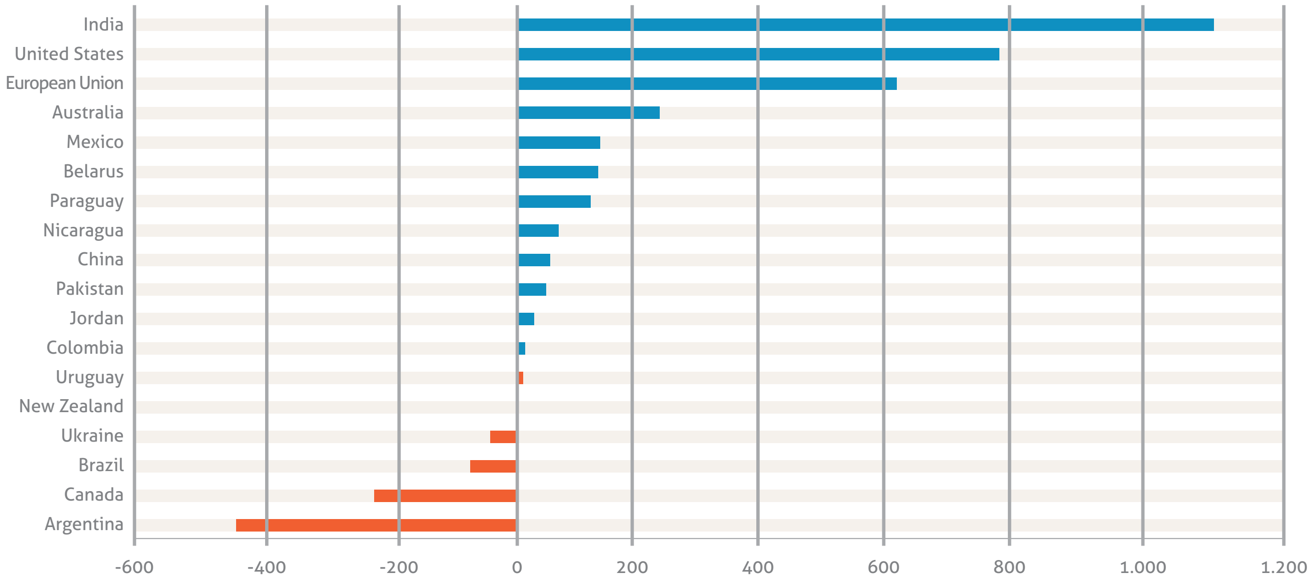
Largest beef importers worldwide and Brazil's representation in those markets in 2015.

Countries	2015 (Thousand T CWE)	Brazilian Imports (Thousand T CWE)	Brazilian % in each market
USA	1,163.9	75.9	7%
China	971.4	126.8	13%
Hong Kong	844.9	347.7	41%
Japan	686.0	0.3	0%
Russian Federation	676.6	230.0	34%
Vietnam	615.9	19.7	3%
Italy	478.5	47.7	10%
The Netherlands	435.8	32.3	7%
United Kingdom	420.2	67.9	16%
France	393.8	3.5	1%
Germany	387.3	12.1	3%
South Korea	353.0	0.6	0%
Egypt	314.1	254.0	81%
Canada	274.1	4.5	2%
Venezuela	270.1	121.2	45%
Chile	217.9	72.3	33%
Mexico	212.5	4.7	2%
Saudi Arabia	194.4	0.0	0%
Malaysia	192.4	40.4	21%
Spain	144.6	13.5	9%
Taiwan	134.3	0.0	0%
Denmark	129.8	0.4	0%
Sweden	127.3	5.1	4%
Others	1,252.6	401.5	32%
Global	**10,891.4**	**1,882.0**	**17.3%**

Source: OECD / USDA / Agroconsult - Prepared by ABIEC

Graph 12

Development of cattle and bubalus meat exports between 2005 and 2015 - thousand t cwe.



Source: Agroconsult, FAO, USDA, OCDE

Table 9

Largest beef consumers in 2015.

Ranking	Total beef consumption (thousand t CWE)	Consumption per capita (kg/person/year)	Population (Millions)
USA	10,971.4	34.1	321.8
Brazil	7,681.9	38.6	201.6
China	6,390.9	4.5	1,407.3
Argentina	2,803.1	64.6	43.4
Australia	2,116.9	88.3	24.0
Mexico	1,710.1	13.5	127.0
Russian Federation	1,602.4	11.2	143.5
France	1,348.3	20.9	64.4
India	1,092.4	0.8	1,311.1
Germany	1,081.1	13.4	80.7
Italy	1,064.3	17.8	59.8
Turkey	1,016.7	12.9	78.7
Canada	968.3	26.9	35.9
South Africa	856.0	15.7	54.5
United Kingdom	855.6	13.2	64.7
Colombia	846.8	17.6	48.2
Pakistan	818.3	4.3	188.9
Uzbekistan	803.7	26.9	29.9
Indonesia	563.0	2.2	257.6
Egypt	552.9	6.0	91.5
Spain	540.3	11.7	46.1
Others	18,838.7	4.6	4,076.0
Global	**64,523.0**	**7.4**	**8,756.6**

Source: FAO / USDA / FMI / Agroconsult - Prepared by ABIEC

04.

Industries

Map 3

Location of slaughterhouses with Federal Inspection Service (SIF).

Table 10

Slaughtering capacity in Brazilian States, considering federal, state and municipal surveillance services (SIF, SIE, and SIM respectively).

Ranking	State	Slaughter capacity	SIF slaughter %	SIE slaughter %	SIM slaughter %
1st	Mato Grosso	35,466	91.32%	8.19%	0.49%
2nd	São Paulo	24,308	85.38%	13.74%	0.88%
3rd	Mato Grosso do Sul	23,213	94.71%	4.82%	0.46%
4th	Goiás	20,354	83.87%	15.46%	0.67%
5th	Minas Gerais	15,541	80.44%	12.71%	6.84%
6th	Rondônia	13,424	96.21%	2.69%	0.43%
7th	Paraná	12,975	67.72%	28.66%	3.62%
8th	Rio Grande do Sul	10,248	36.17%	52.44%	11.39%
9th	Pará	9,750	73.71%	18.84%	7.45%
10th	Bahia	9,620	36.91%	61.14%	1.95%
11th	Tocantins	6,249	92.28%	6.24%	1.48%
12th	Santa Catarina	4,692	24.41%	71.07%	4.52%
13th	Espírito Santo	3,170	62.11%	-	-
14th	Rio de Janeiro	3,026		94.92%	-
15th	Maranhão	2,600	58.94%		41.06%
16th	Amazonas	1,233		68.69%	-
17th	Acre	1,180		33.95%	-
18th	Alagoas	680		38.62%	61.38%
19th	Sergipe	400	-	-	-
20th	Roraima	400	-	-	-
	TOTAL	**198,529**	**74.39%**	**18.78%**	**6.84%**

Source: Agroconsult / IBGE/ MAPA, CODESAV, IDARON, DIAGRO, ADAPEC, AGED, ADAPI, IDIARN, ADAGRO, ADEAL, SEAGRI, ADAB, IMA, IDAF, SEAPEC, SISP, ESEB, CIDASC, SEAPA, IAGRO/GIPOA, AGRODEFESA, INDEA

4.1 Exports

Table 11

Exports, imports and total balances per sector.

Net exports	US$ billion		
Sectors	Exports	Imports	Balance
Other Sectors	102.91	158.38	-55.47
Agribusiness	88.22	13.07	75.15
Brazil Total	191.13	171.45	19.69

Source: Agroconsult, MAPA, Secex/MDIC

Table 12

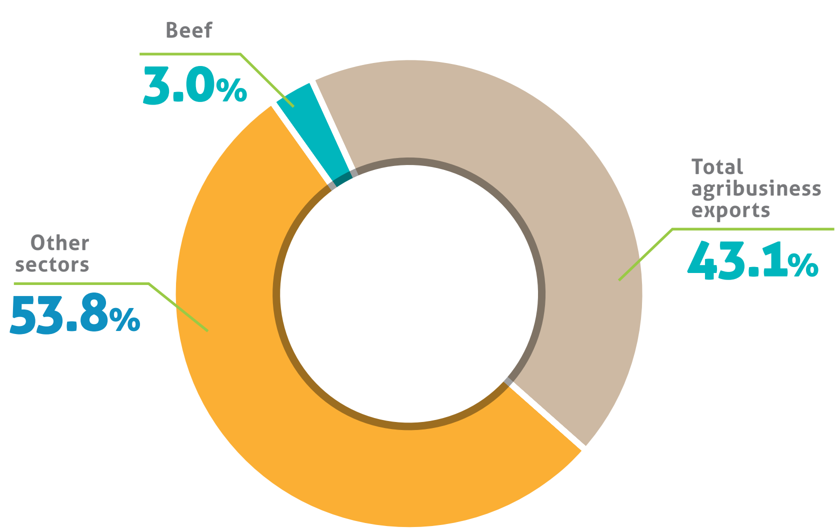
Brazilian beef exports per product - 2014 and 2015.

CATEGORY	2014 Thousand US$	2015 Thousand US$	US$ Variation	2014 Tons	2015 Tons	Tons Variation	2014 US$/t	2015 US$/t	Average Price Variation
In natura	5,789,124.84	4,658,815.84	-19.52%	1,227,120.54	1,078,182.94	-12.14%	4,717.65	4,320.99	-8.41%
Processed	646,296.25	659,281.99	2.01%	102,807.83	106,216.56	3.32%	6,286.45	6,206.96	-1.26%
Offals	604,866.57	535,803.95	-11.42%	186,928.77	189,234.90	1.23%	3,235.81	2,831.42	-12.50%
Casing	102,827.99	62,232.68	-39.48%	24,320.30	21,521.17	-11.51%	4,228.07	2,891.70	-31.61%
Salted	26,981.29	22,786.58	-15.55%	4,711.80	4,103.20	-12.92%	5,726.33	5,553.37	-3.02%
Total	7,170,096.94	5,938,921.05	-17.17%	1,545,889.23	1,399,258.77	-9.49%	4,638.17	4,244.33	-8.49%

Source: MDIC / Secex / Abiec

Graph 13

Importance of beef exports in Brazil's total exports and agribusiness exports in 2015.



Source: Agroconsult, MAPA, Secex/MDIC, AgroStat

Agribusiness Exports 2015

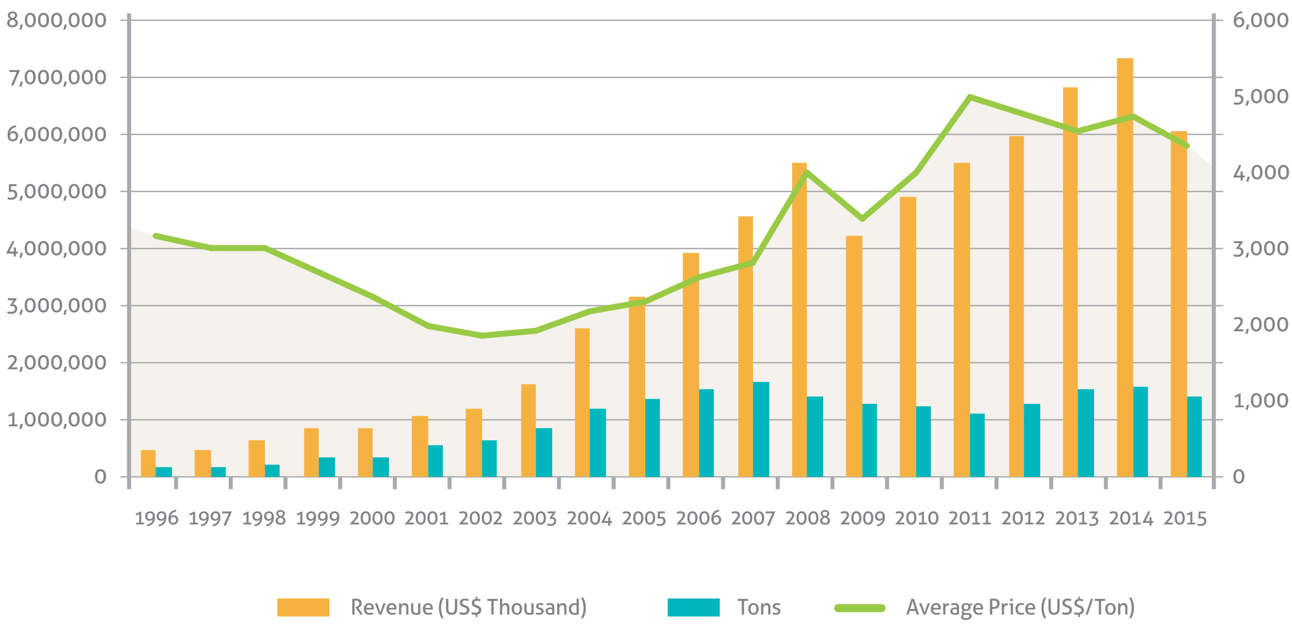
Meats	US$ Million 14,724.20	Thousand Tons 6,445	% US$ 16.69%
Chicken meat	**7,130.97**	**4,225.85**	**8.08%**
in natura	2,270.67	1,402.99	2.57%
Processed	399.69	157.41	0.45%
Beef	**5,795.41**	**1,361**	**6.57%**
in natura	4,642.74	1,070.64	5.26%
Processed	633.58	104.41	0.72%
Pork	**1,263.89**	**542.13**	**1.43%**
in natura	1,121.98	446.04	1.27%
Turkey meat	**288.26**	**133**	**0.33%**
in natura	140.58	84	0.16%
Processed	147.67	49	0.17%
Leather and leather goods	**2,713.21**	**473**	**3.08%**
Other livestock farming products	**817.50**	**212**	**0.93%**
Live animals	**278.16**	**101**	**0.32%**
Live cattle	**210.60**	**100**	**0.24%**
Fishes	**220.16**	**35**	**0.25%**
Dairy products	**319.19**	**77**	**0.36%**
Total livestock farming exports	**18,254.91**	**7,130**	**20.69%**
Total other sectors (excluding cattle products)	**79,504.90**		**90.12%**
Total other sectors (excluding livestock farming)	**69,969.21**		**79.31%**
Total agribusiness exports	**88,224.12**		**100.00%**

Meats	16.69%
Leather and leather goods	3.08%
Other livestock farming products	0.93%
Total other sectors (excluding livestock farming)	79.31%
Beef	6.57%
Leather and leather goods	3.08%
Live cattle	0.24%
Total other sectors (excluding cattle products)	**90.12%**

Source: Agroconsult, MAPA, Secex/MDIC, AgroStat

Graph 14

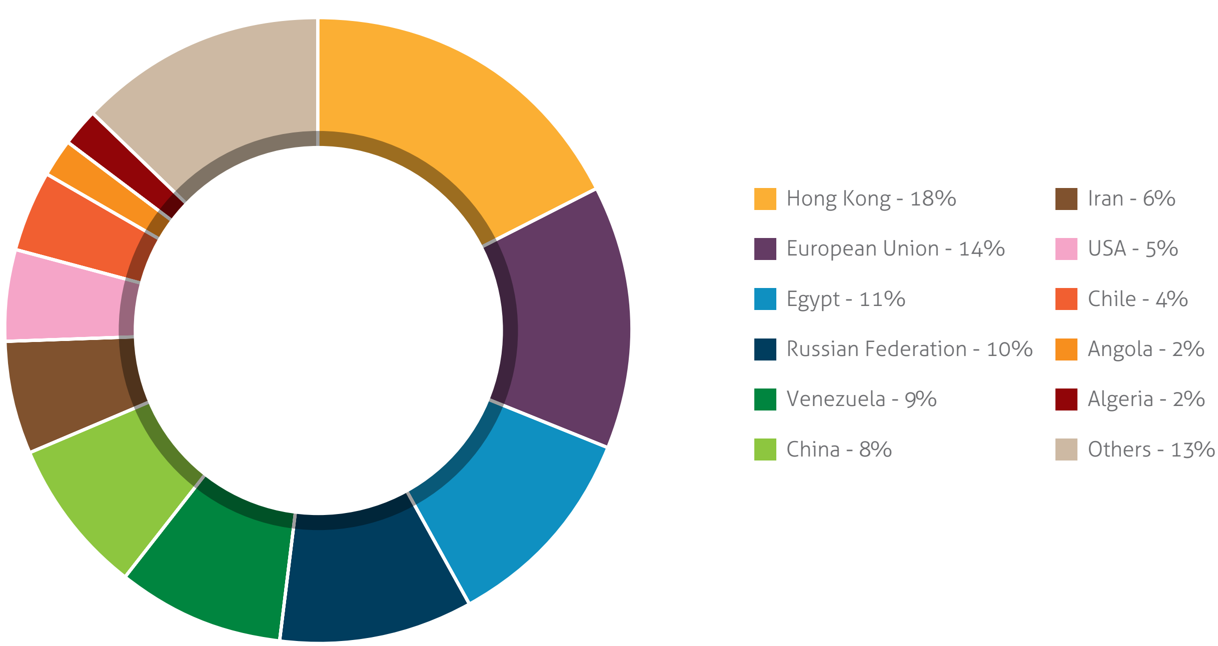
Development of Brazilian beef exports.



Source: MDIC / SECEX - Prepared by ABIEC

Graph 15

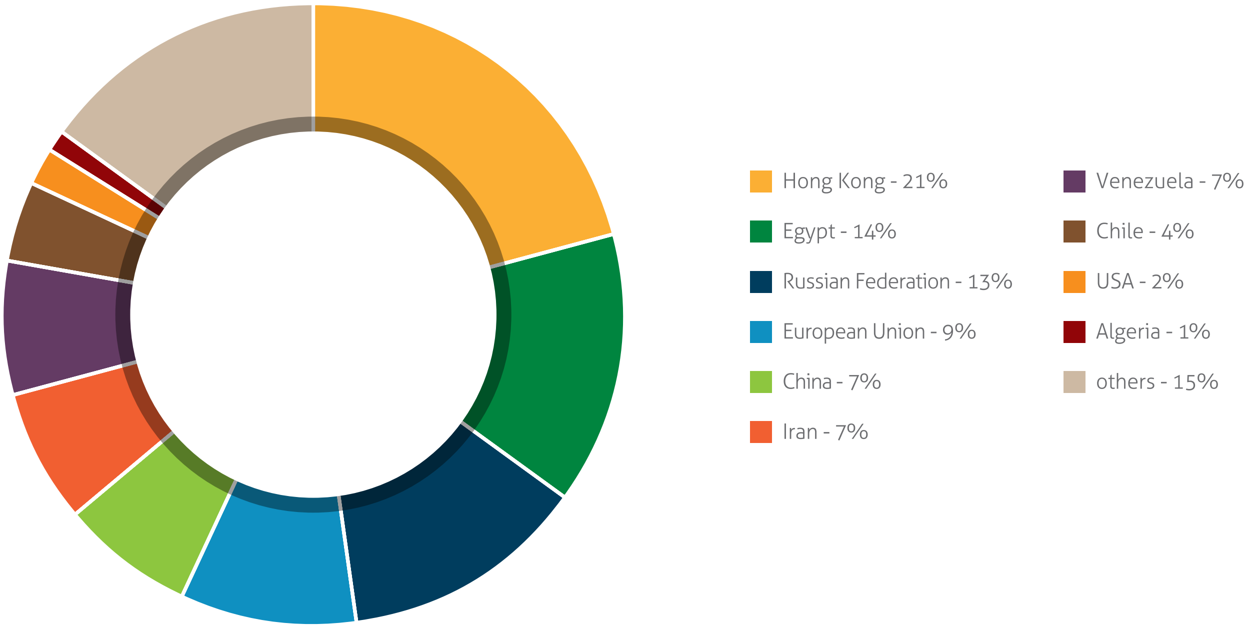
Main destination of Brazilian beef exports in 2015 - by revenue



Source: MDIC / SECEX - Prepared by ABIEC

Graph 16

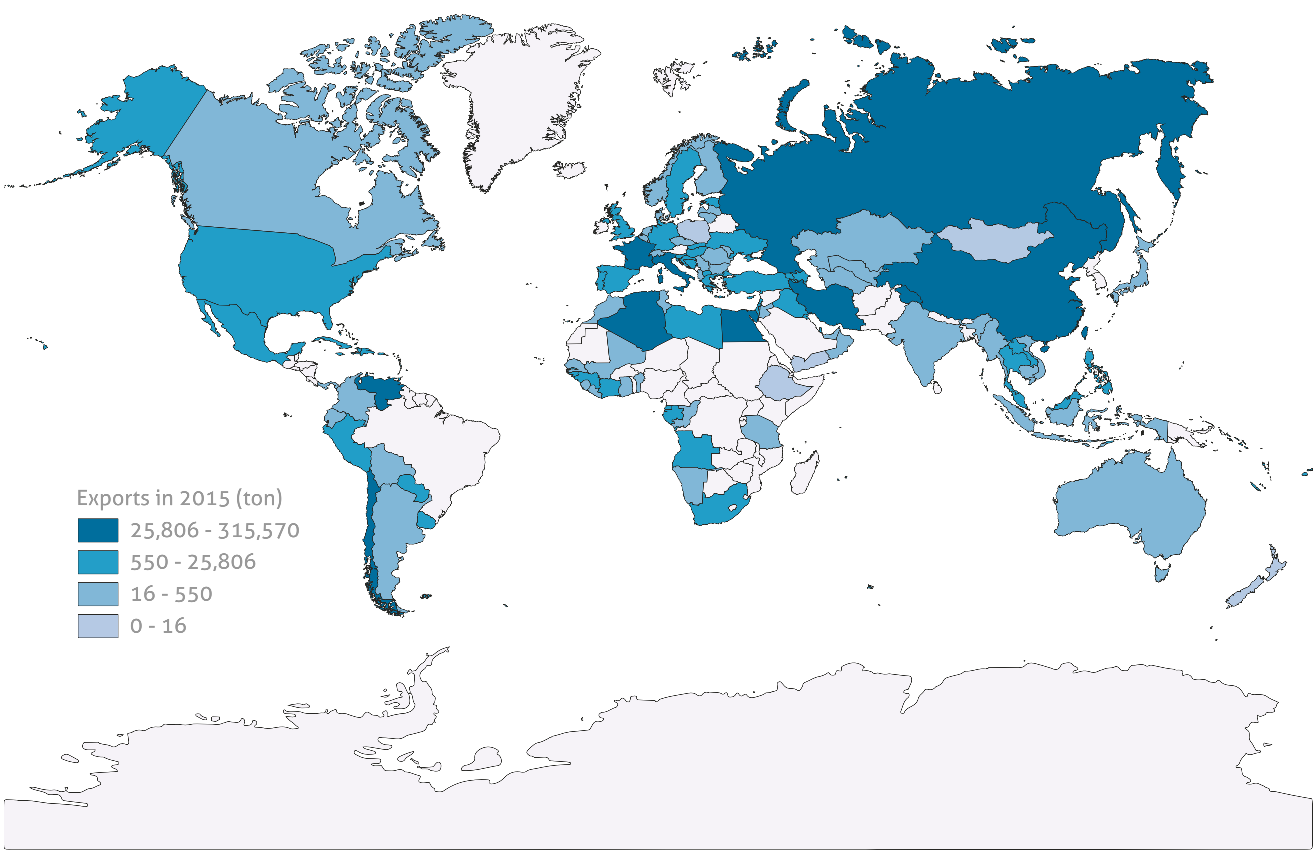
Main destination of Brazilian beef exports in 2015 - by volume.



Source: MDIC / SECEX - Prepared by ABIEC

Map 4

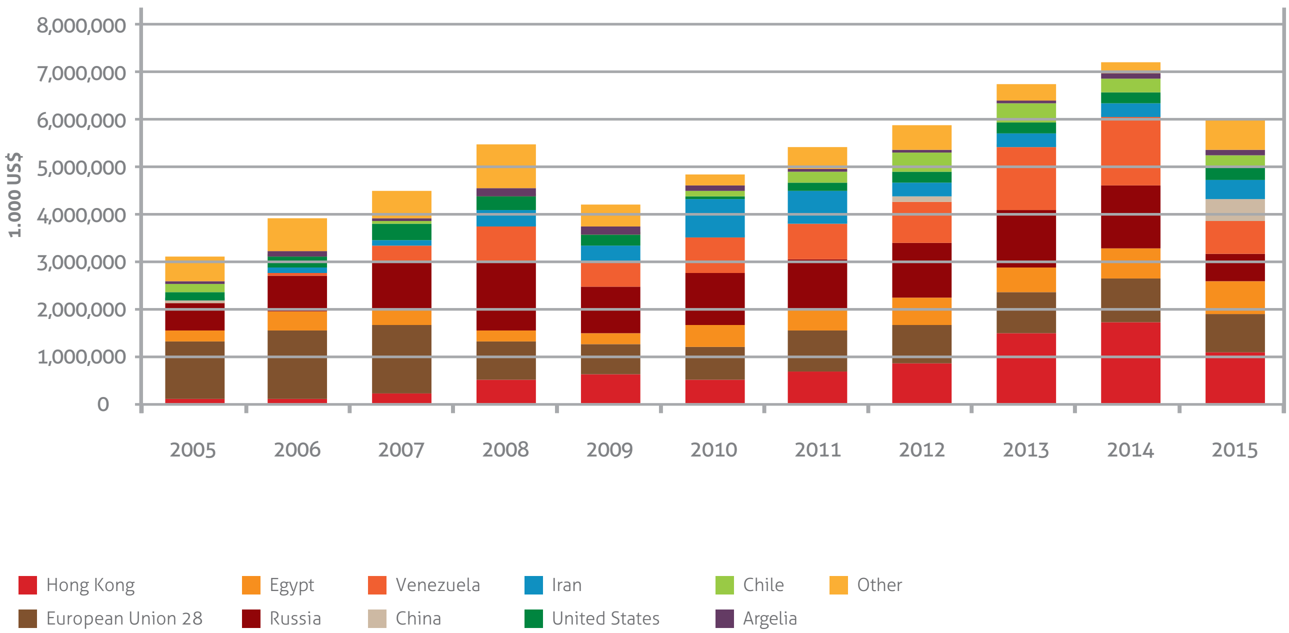
Brazilian beef exports in 2015.



Source: Agrosatélite/Agroconsult /Secex/MDIC - Assembled by ABIEC

Graph 17

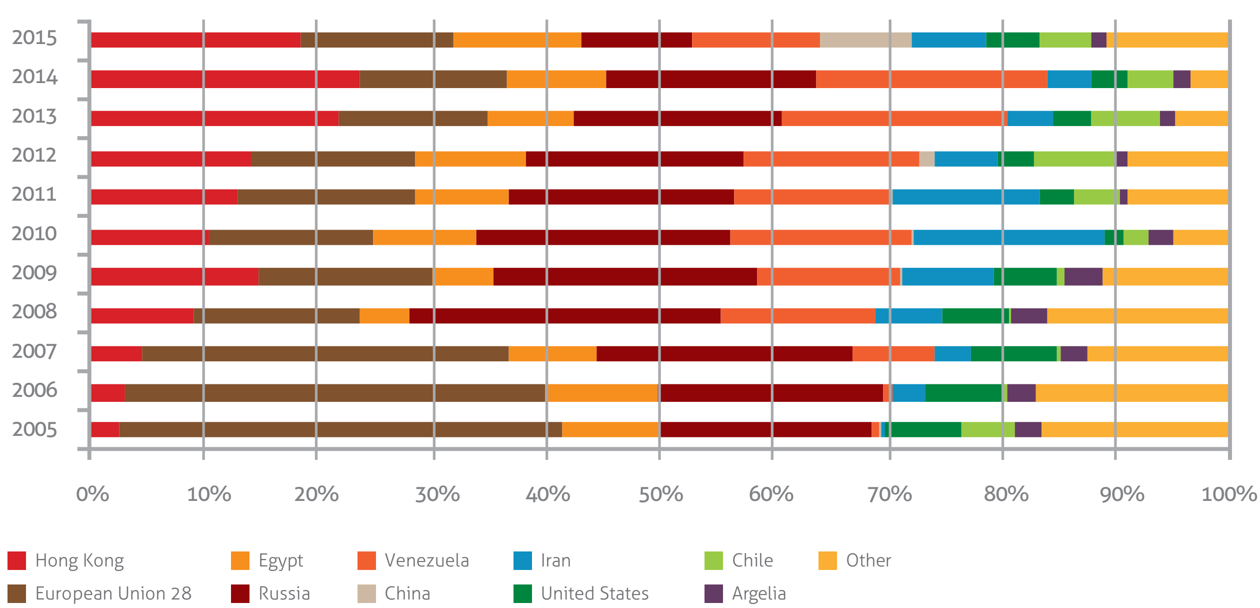
Largest Brazilian beef markets, by revenue.



Source: MDIC / SECEX - Prepared by ABIEC

Graph 18

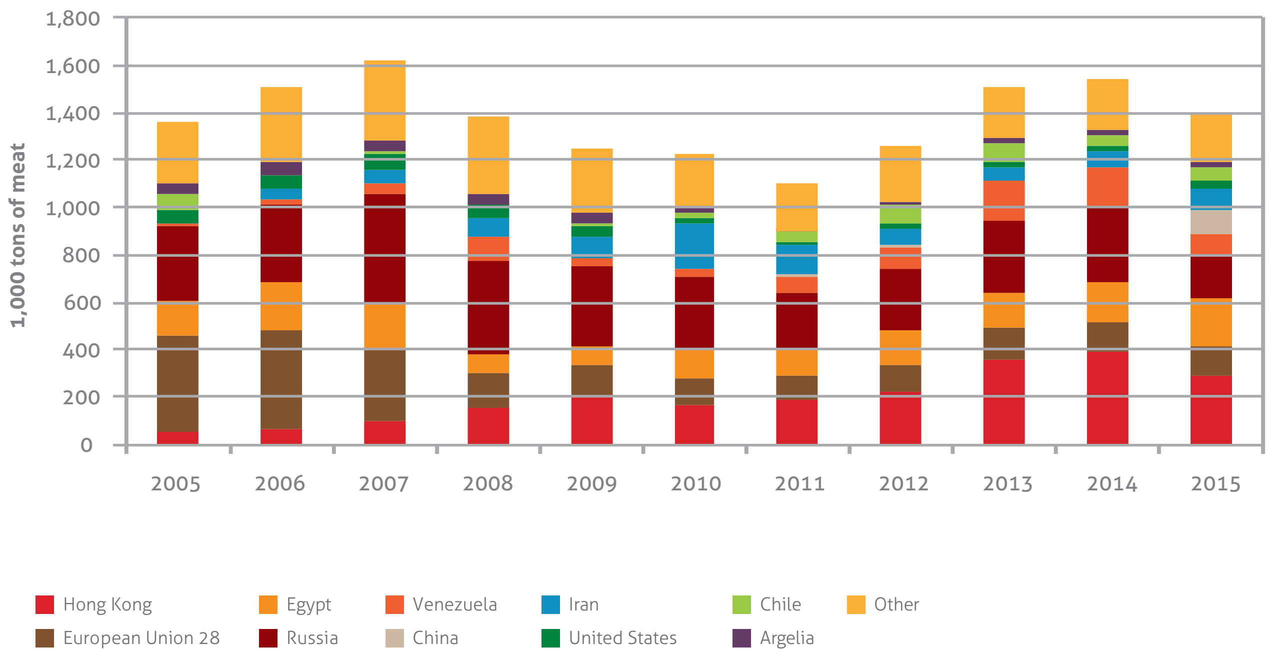
Largest Brazilian beef markets, by revenue - %.



Source: MDIC / SECEX - Prepared by ABIEC

Graph 19

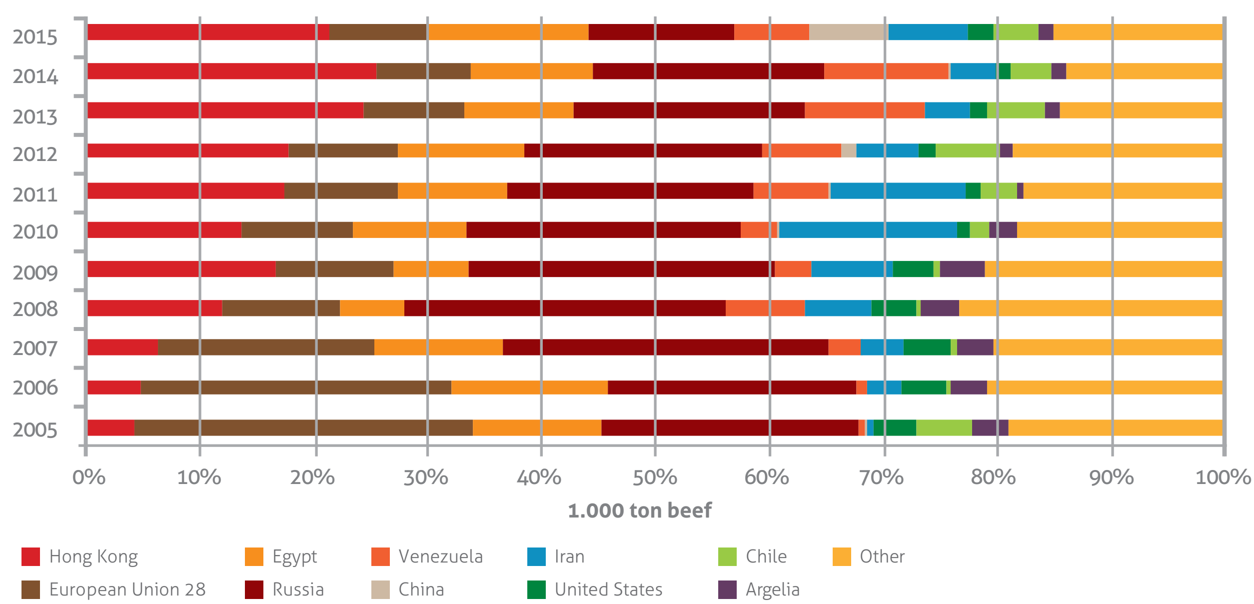
Largest Brazilian beef markets, by volume.



Source: MDIC / SECEX - Prepared by ABIEC

Graph 20

Largest Brazilian beef markets, by volume - %.



Source: MDIC / SECEX - Prepared by ABIEC

05.

Livestock Retrospective and Projections

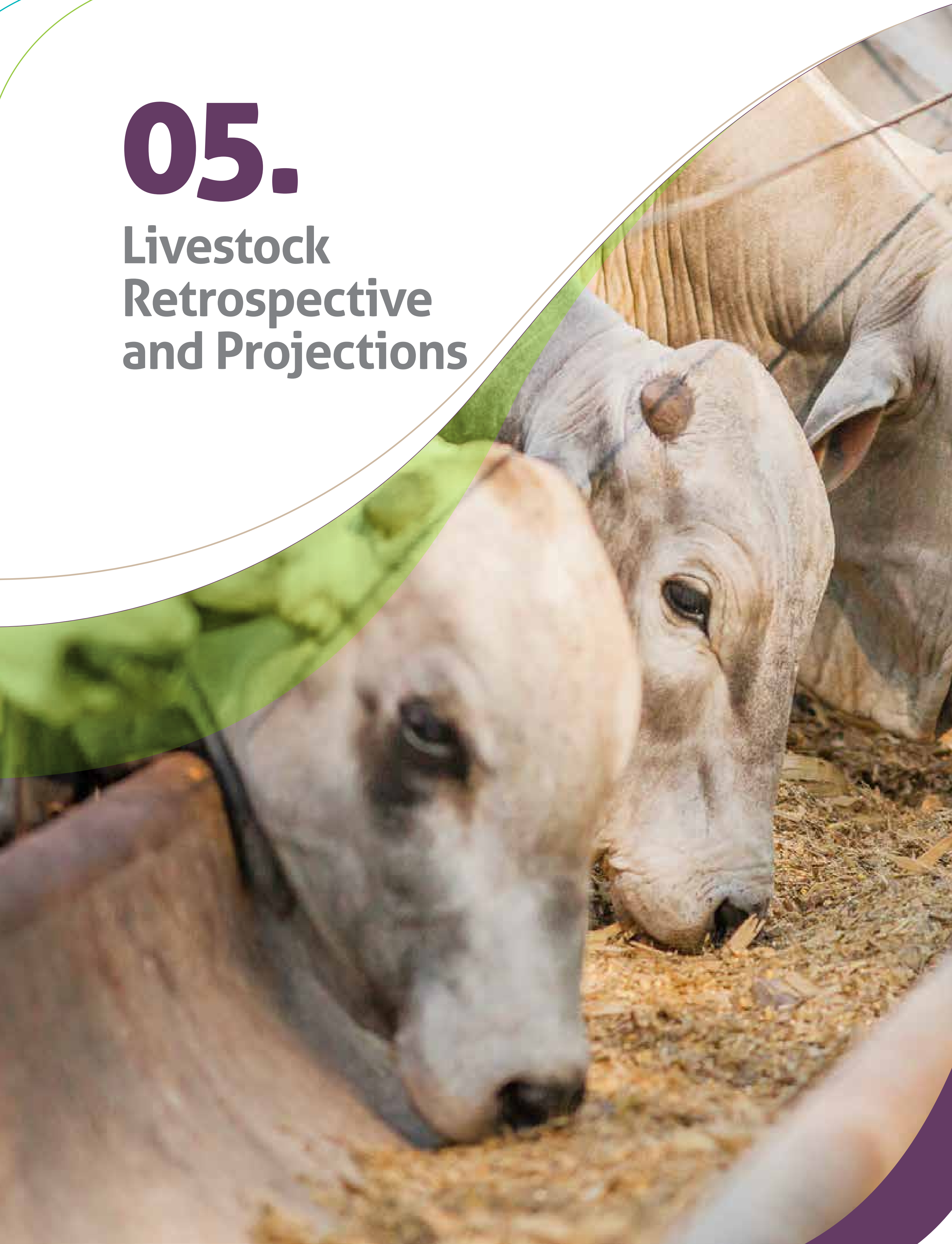


Table 13

Brazilian herd, meat production, exports, imports, consumption, and consumption per capita in the last 10 years.

	Unit	2005	2006	2007	2008	2009
Cattle Herd	Million heads	207.2	205.9	199.8	202.3	205.3
Beef production	Thousand T CWE	9,666.2	10,749.7	10,644.3	9,325.4	9,180.0
Exports	Thousand T CWE	1,956.9	2,204.3	2,324.4	1,989.7	1,767.0
Imports	Thousand T CWE	n/a	n/a	n/a	29,7	39,5
Consumption	Thousand T CWE	7,709.3	8,545.4	8,319.9	7,365.4	7,452.5
Per capita consumption	kg/person/ year	41.86	46.05	44.34	38.86	38.93

	Unit	2010	2011	2012	2013	2014	2015
Cattle Herd	Million heads	209.5	212.8	211.3	211.8	207.4	209.1
Beef production	Thousand T CWE	9,364.5	9,102.3	9,703.6	10,227.1	10,101.2	9,561.9
Exports	Thousand T CWE	1,701.5	1,495.0	1,684.7	2,007.3	2,057.6	1,882.0
Imports	Thousand T CWE	38.5	44.6	59.7	56.4	76.5	59.2
Consumption	Thousand T CWE	7,701.5	7,651.9	8,078.6	8,276.2	8,120.1	7,681.9
Consumption per capita	kg/person/ year	39.86	39.25	41.11	41.79	40.64	38.59

Source: Agroconsult, Secex/MDIC, IBGE - Prepared by ABIEC

Table 14

Livestock Farming History data and Forecasts by 2025.

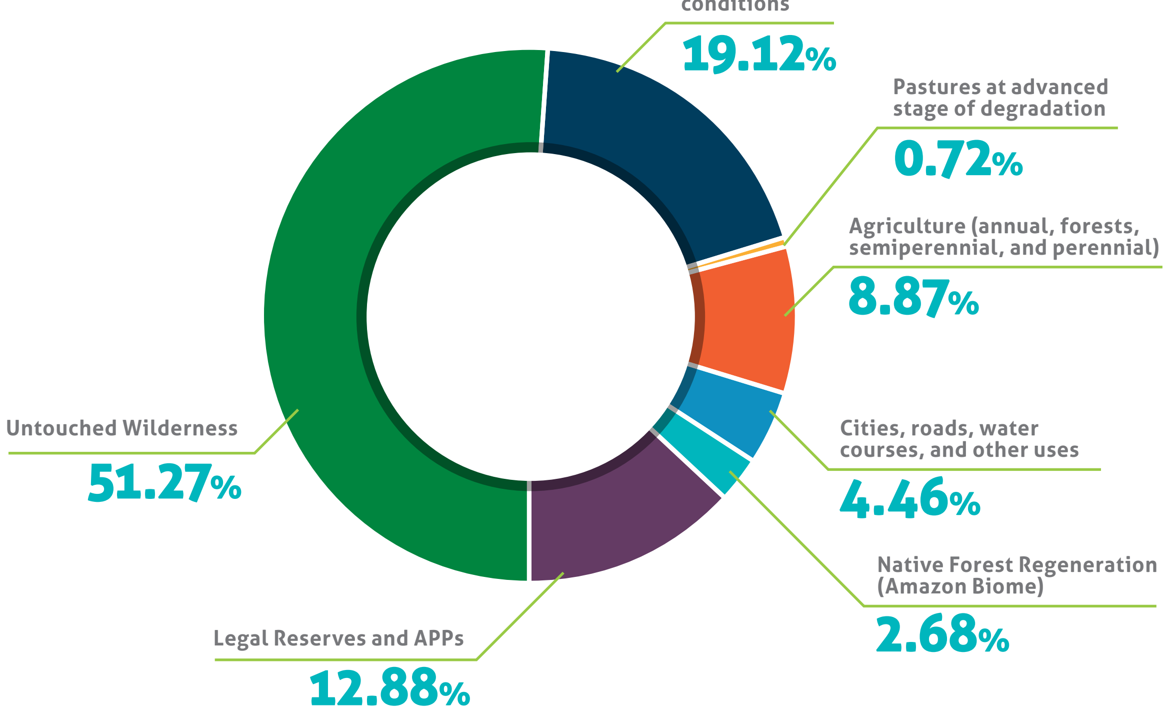
<table>
<tr><th>Variable</th><th>Unit</th><th>1995</th><th>2000</th><th>2005</th><th>2010</th><th>2015</th><th>2020</th><th>2025</th></tr>
<tr><td>Pasture area</td><td>Thousand Hectares</td><td>187,024</td><td>177,520</td><td>175,785</td><td>171,138</td><td>167,488</td><td>162,211</td><td>158,019</td></tr>
<tr><td>Production</td><td rowspan="3">TT CWE</td><td>5,251</td><td>6,289</td><td>9,666</td><td>9,365</td><td>9,562</td><td>10,706</td><td>11,407</td></tr>
<tr><td>Domestic Consumption</td><td>5,251</td><td>5,684</td><td>7,709</td><td>7,701</td><td>7,682</td><td>7,823</td><td>7,855</td></tr>
<tr><td>Net Exports</td><td>0</td><td>604</td><td>1,957</td><td>1,702</td><td>1,882</td><td>2,883</td><td>3,552</td></tr>
<tr><td>Total Herd</td><td rowspan="2">Thousand Heads</td><td>161,228</td><td>169,876</td><td>207,157</td><td>209,541</td><td>209,130</td><td>215,138</td><td>221,326</td></tr>
<tr><td>Slaughter</td><td>24,300</td><td>27,552</td><td>42,697</td><td>39,277</td><td>39,156</td><td>43,487</td><td>45,958</td></tr>
<tr><td>Stocking rate</td><td>head/ha</td><td>0.86</td><td>0.96</td><td>1.18</td><td>1.22</td><td>1.25</td><td>1.33</td><td>1.40</td></tr>
<tr><td>Offtake</td><td>Percentage</td><td>17.08%</td><td>19.62%</td><td>22.03%</td><td>20.98%</td><td>20%</td><td>21%</td><td>21%</td></tr>
</table>

Source: Agroconsult, IBGE, Secex/MDIC - Prepared by ABIEC

06.
Sustainability

Graph 21

Land use in Brazil.

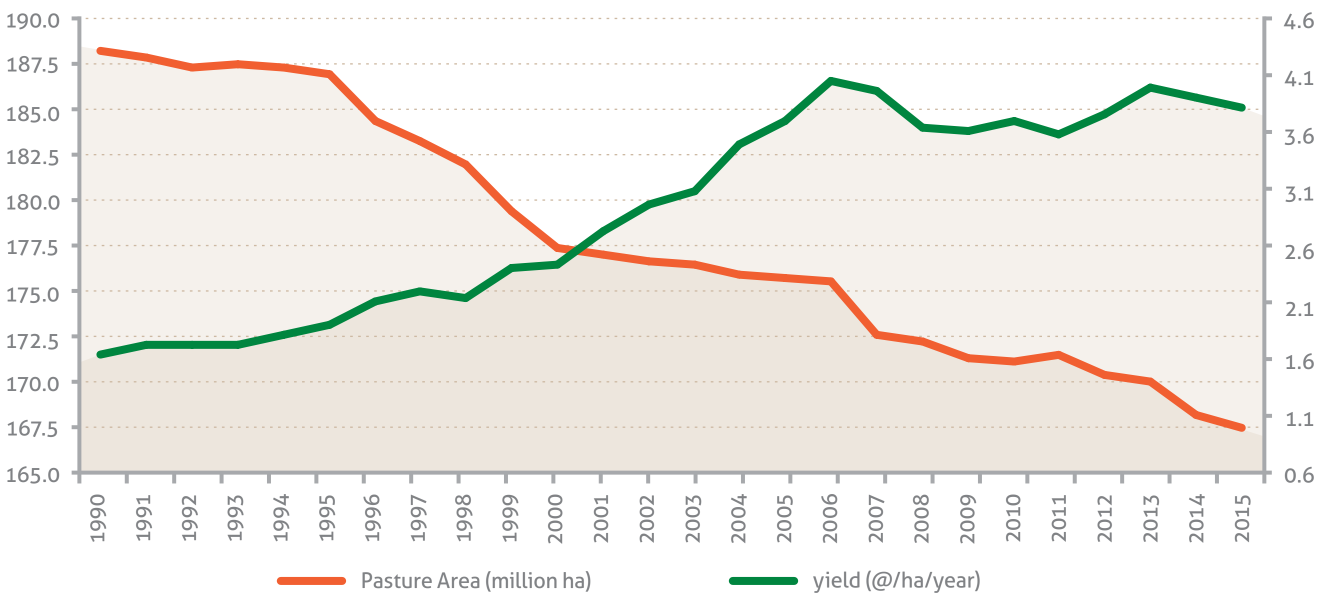


Land use in Brazil	Total area (million ha)	%
Pastures in working conditions	162.8	19.12%
Pastures at advanced stage of degradation	6.1	0.72%
Agriculture (annual, forests, semiperennial, and perennial)	75.5	8.87%
Cities, roads, water courses, and other uses	38	4.46%
Native Forest Regeneration (Amazon Biome)	22.8	2.68%
Legal reserves and APPs	109.7	12.88%
Untouched Wilderness	436.6	51.27%
Brazil	851.5	100.00%

Source: Agroconsult, Agrosatélite, IBGE, Inpe, Mapa

Graph 22

Development of pasture areas and yield in Brazil .



Source: Agroconsult, IBGE

6.1 Forest Code

Legal Reserve (RL)

Rural property area that, covered by natural vegetation, can be exploited for sustainable forest management, within the limits established by law for the biome in which it is located.

- 80% of rural properties situated in Forest formations, in Legal Amazon;
- 35% of rural properties situated in Savana formations, in Legal Amazon;
- 20% of rural properties situated in Campos Gerais areas, in Legal Amazon;
- 20% os rural properties in other regions.

Permanent Preservation Area (APP)

Untouchable natural areas, with strict limits on exploitation where direct economic exploitation is not permitted.

- Protection of river banks (30 to 500 meters);
- Protection of lakes (30-100 meters);
- Springs (50 meters);
- Hills with an incline of over 45°;
- Others.

Environmental Regulation Program (PRA) and Rural Environmental Registry (CAR)

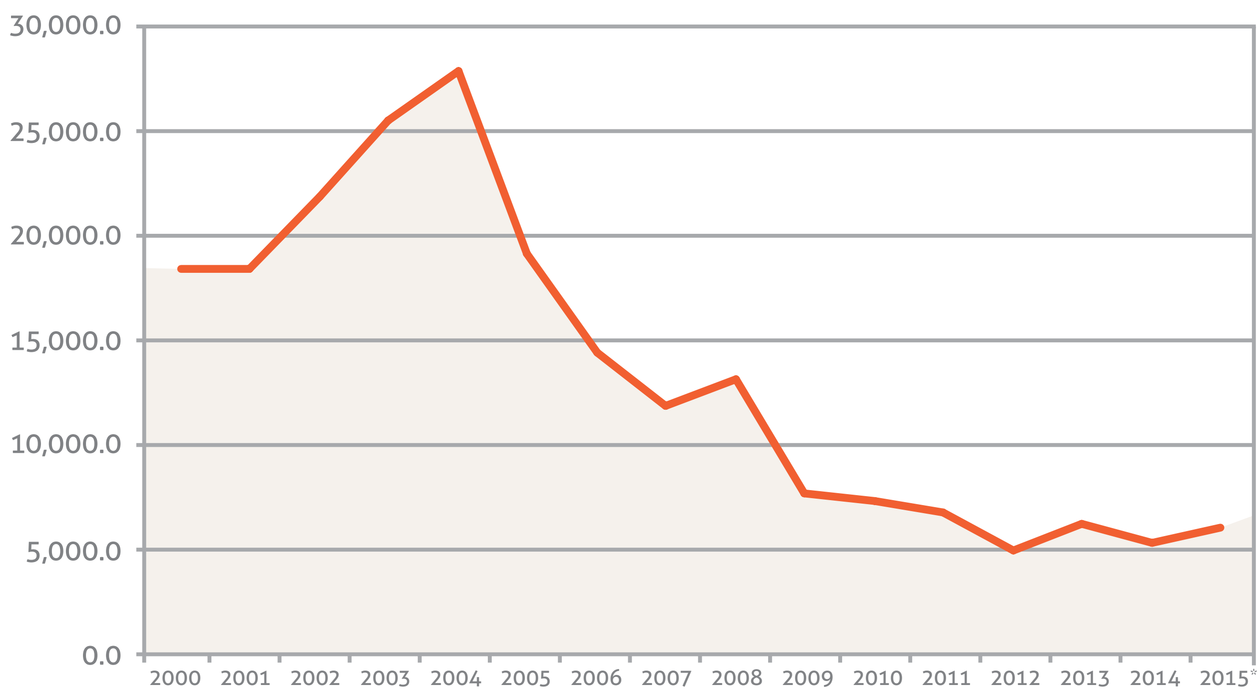
Environmental Regulation Program (PRA): a set of actions to be developed by rural landowners and squatters to adapt and promote environmental compliance.

Rural Environmental Registry (CAR): a set of geo-referenced property information, with division of APPs, RLs, remnants of native vegetation and others in order to draw a digital map from which the values of the areas for environmental diagnosis are calculated.

6.2 Deforestation and Monitoring

Graph 23

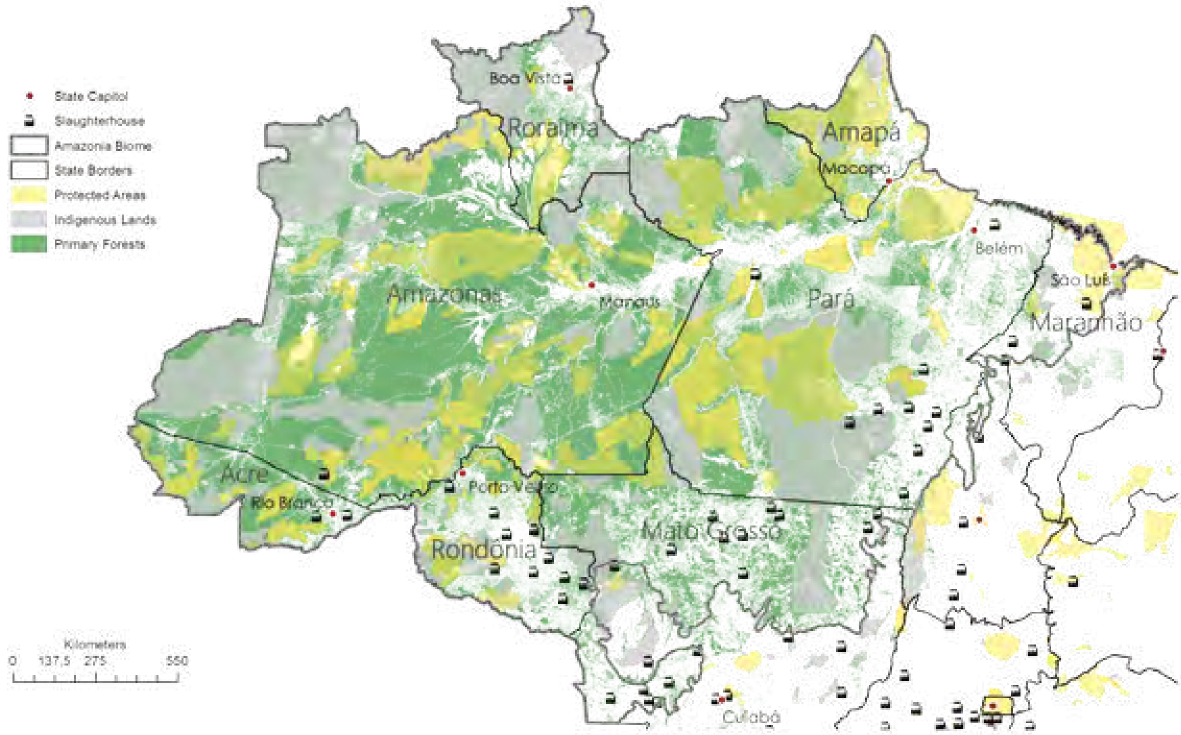
Annual deforestation rates in the Legal Amazon in km².



**Estimate Rate*
Source: PRODES/Instituto Nacional de Pesquisas Espaciais (National Institute for Spacial Research)

Map 5

Amazon Biome with details of protected areas and indigenous areas.



The largest industries in Brazil maintain agreements with the public and private sector to control their network of suppliers.

Our monitoring system uses geotechnology to ensure that cattle is not received from:

- protected areas such as indigenous reserves and conservation areas

- areas with illegal logging

- suppliers listed by the Ministry of Labor as associated with slave labor

6.3 GTPS – Round Table

www.pecuariasustentavel.org.br

GTPS Grupo de Trabalho da Pecuária Sustentável

Sustainable Farming Group (GTPS), the Brazilian round table for sustainable meat was established in late 2007.

The Group debates and formulates principles, standards and common practices for the development of sustainable beef production.

GTPS is committed to zero deforestation, with the creation of conditions and forms of compensation for this practice to become viable.

GTPS Members

- Producers
- Industries
- Companies from the retail and services sectors
- Financial institutions
- NGO´s

GTPS pillars

- Continuous improvement of sustainability
- Transparency and ethics
- Best practices in crop and livestock production
- Legal compliance

6.4 Green Municipalities Program (PMV)

The Green Municipalities Program (PMV) is a program in which the municipalities of the state of Pará gathered and outlined a number of common objectives, including to get 80% of the territory capable of registering with the Rural Environmental Registry (CAR) and reducing deforestation.

PMV Numbers	Current
PMV participants (municipalities)	107
Deforestation (km2):	1,887
CAR (Rural Environmental Registry) in the state (%):	69.4%

Participants

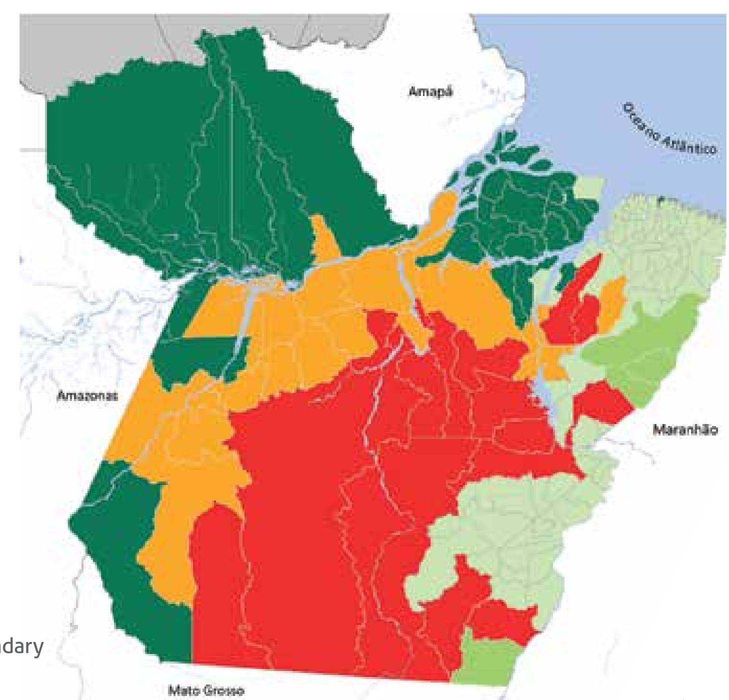
In addition to the six municipalites considered "Green": Brasil Novo, Dom Eliseu, Paragominas, Santana do Araguaina, Tailândia and Ulianópolis – 98 more municipalities are in the process of acheiving the objectives.

Municipalities that:

- completed the pact against deforestation and/or are in favor of sustainable development;
- creation of a working group to control deforestation and achieve the objective, including 80% of the territory being capable to register with the CAR;
- reached the deforestation limit for its territory;
- observed the focal points of deforestation detected by the Deforestation Alert System (SAD)

Municipalities that:

- are on the list of municipalities with the largest areas of deforestation in the Amazon region;
- have the minimum structure required to implement municipal environmental management.



Benefits of the Green Municipality Program (PMV)

The commitment to common goals brings benefits such as suspending environmental embargoes, tax incentives and prioritization in the allocation of public resources.

6.5 ABC Plan

What is it?

Public policy that details the actions to mitigate and adapt to climate change for the agricultural sector.

Objective

To promote the reduction of Greenhouse Gas Emissions (GHG)

Technologies focused on livestock

Recovery of Degraded Pastures;

Crop-Livestock-Forest integration;

Validity: 2020

Scope: national

Beneficiaries: rural producers, individuals or legal entities and their cooperatives

Financiable value: Up to R$ 1 million per beneficiary per harvest. Funding limit: up to 100% of the investment value

Charges: 5% per year

6.6 ABC Program

What is it?

Rural credit line that enables the implementation of the ABC Plan

Who provides funding?

The funds come from the BNDES System, Handbook of Rural Savings and constitutional Funds.

Livestock-related projects

ABC Pastures Recovery

ABC Crop-Livestock-Forest Integration

Principal eligible items

- Acquisition of inputs and payment services intended for the implementation and maintenance of the financed projects;
- Acquisition, transport, application and incorporation of agricultural correctives (limestone and others);
- Marking and construction of terraces and implementation of soil conservation practices.

Federal Government has pledged to reduce the emission of greenhouse gases at COP 15

National Policy on climate change

ABC Plan
Public Policy to encourage the reduction of climate change and the adoption of measures for the agriculture and livestock industry.

ABC Program
Credit lines to promote low-carbon agriculture technologies and investments.

Funded investments

- Pasture recovery
- Crop-Livestock-Forest integration systems
- No-till systems
- Biological nitrogen fixation
- Forest planting
- Animal waste treatment
- Adaptation to climate change

6.7 Animal Health

Foot and Mouth Disease

Map 6

FMD situation in South America.

Bovine Spongiform Encephalopathy - BSE

Table 15

Risky situation with respect to BSE, according to the 82nd General Session of the World Organisation for Animal Health (OIE).

Member countries known to pose a **negligable** risk of BSE according to Chapter 11.4 of the Land Code.

Argentina	Hungary	Norway
Australia	Iceland	Panama
Austria	India	Paraguay
Belgium	Israel	Peru
Brazil	Italy	Portugal
Bulgaria	Japan	Romania
Chile	Korea (Rep. of)	Singapore
Colombia	Latvia	Slovakia
Croatia	Luxembourg	Slovenia
Denmark	Malta	Sweden
Estonia	Netherland	United States of America
Finland	New Zealand	Uruguay

Source: OIE (http://www.oie.int/?id=495) abiec.com.br

brazilianbeef.org.br

apexbrasil.com.br

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