The Cattle Realm - A new phase in the livestock colonization of Brazilian Amazonia
Original Title in Portuguese: O Reino do Gado - Uma nova fase na pecuarização da Amazônia Brasileira


The full report in Portuguese is available on the web at http://www.amazonia.org.br/arquivos/259381.pdf

**Authors:** Roberto Smeraldi, Peter H. May
**Review:** Judson Ferreira Valentim
**Collaboration:** Mario Menezes, Luciane Simões, Alessandra Caires
**Front page picture:** Amigos da Terra/Amauri Moreira

We acknowledge the kind contribution to research provided by prof. Samuel Giordano from the University of São Paulo and Alcides Torres from Scot Consultoria.

Research and surveys related to this document were financially supported by:

forum syd

União Européia

This document has been produced with the financial assistance of the European Union. The contents of this document are the sole responsibility of Amigos da Terra - Amazônia Brasileira - and can under no circumstances be regarded as reflecting the position of the European Union.

the David & Lucile Packard FOUNDATION

**Amigos da Terra Amazônia Brasileira**
Rua Bento de Andrade, 85
04503-010 São Paulo SP
Tel 11 3887-9369
Fax 11 3884-2795
Web www.amigosdaterra.org.br

# The Cattle Realm
## *highlights*

**Sugarcane expansion, resurgence of soybean prices and the corn explosion were among the most controversial themes last year in Brazil, reflecting domestic and external trends. The advance of the agricultural frontier into forests, particularly in the Amazon, stimulated international discussion, especially in the light of climate change negotiations. But in reality, whatever other factors may be involved in the transformation and displacement of agricultural activities, land use change in the Amazon is first and foremost a product of ranching. It is on the hooves of cattle, out on the forest fringe, where the repercussions of investments and alterations in food or energy consumption are felt. The principal indirect impacts around large infrastructure investments are also generally associated with cattle expansion. Ranching in the Amazon spread at an unprecedented rate over the past five years, and now requires additional and undivided attention on the part of government authorities, the market chain, financial institutions, scientists and civil society organizations. Today, Brazil still underestimates or is simply unaware of the dimension and dynamics of this phenomenon.**

**♉1.1 In 2007, for the first time, the Legal Amazon[1] passed the historical threshold of 10 million head of cattle slaughtered, with an increase of 46% over the figure in 2004. Slaughterhouses in the Amazon accounted for 41% of all head of cattle processed in Brazil in 2007, compared with 34% in 2004. In 2006, the offtake (% of the total herd slaughtered each year) grew to the point that it exceeded the natural growth of the herd, a rate of growth itself considered relatively high due to the good productivity of areas used for ranching in the Amazon. This occurred due to an expressive growth in slaughter of females. Growth in production in the Amazon was decisive for Brazil to become, since 2004, the second largest global producer of beef, even when the European Union is treated as a single country.**

**♉1.2 The cattle herd in the Legal Amazon reached approximately 74 million head, or 3.3 head per inhabitant, triple the national average. In Mato Grosso, this ratio attained 9.3 head per inhabitant; in Rondônia, 7.7. For every four additional head of cattle in Brazil in the last five years, three were added in the Amazon.**

**♉1.3 Between December 2003 and the same month in 2006 (most recent data regarding the herd size), there was hardly any growth outside of the Legal Amazon; 96% of all growth registered in this period in the country (equivalent to approximately 10 million head) is from the Amazon.**

**♉1.4 The growth in beef production in the Amazon (estimated in approximately 1.5 million tons carcass equivalent during the last five years) outpaced the increase in exports registered over the same period (approximately 1.4 million tons carcass equiv.). It was therefore the increase in Amazon production that permitted Brazil to take the lead as of 2004 in beef**

*[1] The Legal Amazon includes the states of Mato Grosso, Rondônia, Acre, Amazonas, Roraima, Amapá, Pará, Tocantins and Maranhão*

exports, well out in front of its competitors. In 2007, Brazil exported more beef than the second and third place countries taken together.

♉1.5 One third of Brazilian fresh beef exports in 2007 came from direct exports from the Amazon, notably from the states of Mato Grosso, Pará, Rondônia and Tocantins. Since 2004, Pará increased its direct exports (by weight) by 7,800%, Rondônia by 1,350%, Tocantins by 150% and Mato Grosso by 360%. These data do not include exports of live cattle by Pará that exceeded 200,000 head in 2007. Mato Grosso mainly exported to Russia, Egypt, China (via Hong Kong), United Kingdom, Italy, Germany and the United States. Rondônia's principal importers included Russia, Egypt, China and the United Kingdom. Pará, whose exports boomed since mid-2007, has Israel, Egypt, China, Saudi Arabia, Ivory Coast, Lebanon and Angola as main importers.

♉1.6 The removal of restrictions against the Amazon region for control of hoof-and-mouth disease not only placed it in the same phyto-sanitary category as other regions of the country, but made it a zone of preference for some importers. The new phenomenon is that the south and southeast regions were once again threatened by this disease, owing to their greater contact and integration with infected areas. The substitution of ranching by other, more profitable uses of land (grain, sugarcane, urbanization, etc.) in the south and southeast regions, and the facility of land access in the Amazon, may have contributed to a progressive transference of the herd to the North. Ranchers who transferred their herds to the Amazon now participate, with lesser restrictions, in the growing export market. In this sense, recent commercial restrictions imposed by the European Union and other countries may actually be contributing to the pace of ranch expansion in the Amazon.

♉1.7 The growth in industrial capacity, with the proliferation of new slaughterhouses and the arrival in the region of the five largest exporters contributed, at least in some poles, to the expansion of ranching during the last few years. The majority of the nearly 200 slaughterhouses in operation in the region should be considered illegal, including the industrial segment. Those that held a Federal Inspection Service (SIF) registry grew from 27 in 2004 to 87 by the end of 2007. Even these, however, are supplied by largely illegal ranchers from the point of view of land tenure, labor and environmental legislation. For example, as of January 2007, 62% of enterprises that are on the "dirty list" of slave labor by the Labor Ministry were Amazon ranches. Slaughterhouses responsible for more than 73% of Brazilian exports acquired their products from ranches that operated with slave labor between 2006 and 2007.

♉1.8 There coexist today in the Amazon a range of productivity patterns, in accordance with the profile of ranchers and different regions. The stocking rate varies from 0.4 head to 3.8 head per hectare, varying with soil fertility, previous land use and pasture management, as well as genetic material and management of the herd itself. The average regional rate is 1.4 head per hectare. Pastures recently converted from forests possess greatest fertility, a factor that stimulates expansion of the ranching frontier.

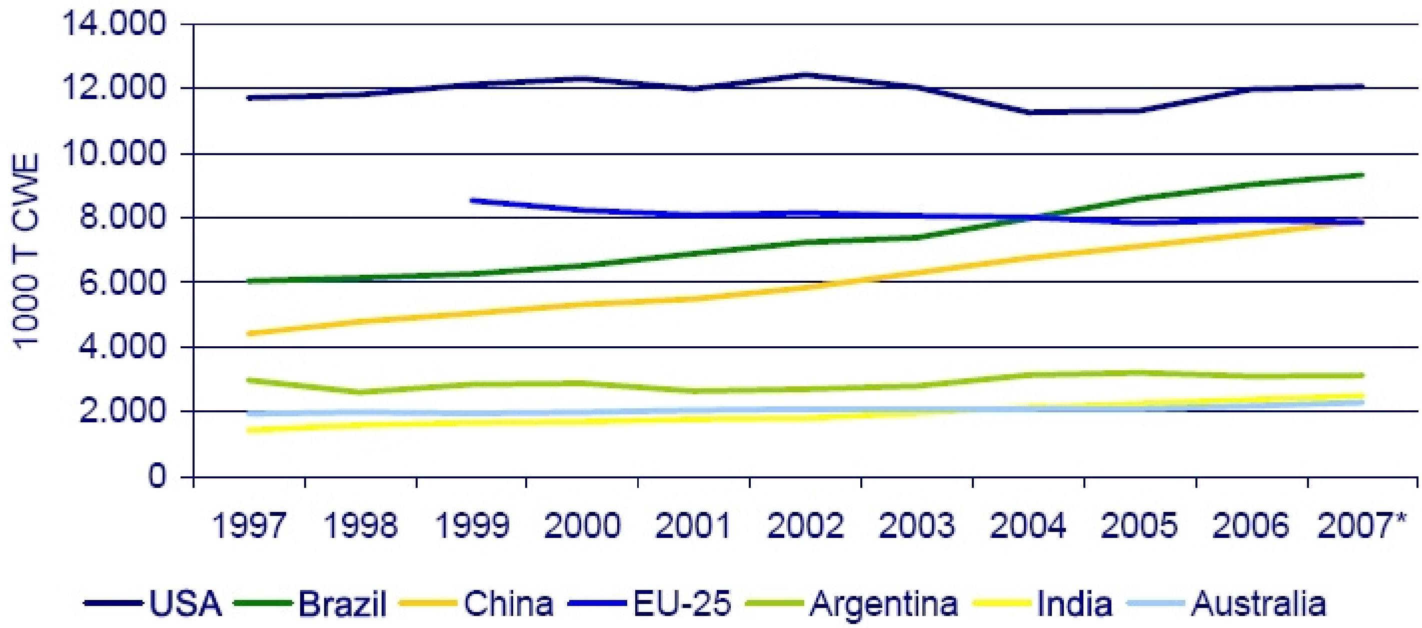
♉1.9 The explosion of ranching in the Amazon over the last decade was responsible for a volume of emissions of greenhouse gases of between 9 and 12 billion tons of $CO_2$-equivalent (including land use change and enteric fermentation of the herd, but without taking processing and transport into account), that is, an order of magnitude comparable in volume to two years of emissions by the United States, the highest emitting country in the world.

♉1.10 Lack of organization and profound asymmetries in the beef supply chain offer the opportunity for actions to improve control, security, transparency and organization in a business undergoing rapid transformation and which is growing at an unprecedented and unpredictable rate. Lack of investment in the recuperation of degraded pastures and the lack of a focus on small production impede the dissemination of sustainable practices.

♉1.11 The establishment of criteria and standards, whether specific to the productive unit or of wider coverage and related to regional land use, can contribute to the transparency and structuring of the chain, but its implementation tends to depend on the effective establishment of a reference system for verification and certification over the entire agricultural and livestock sector.

**Figure 1**

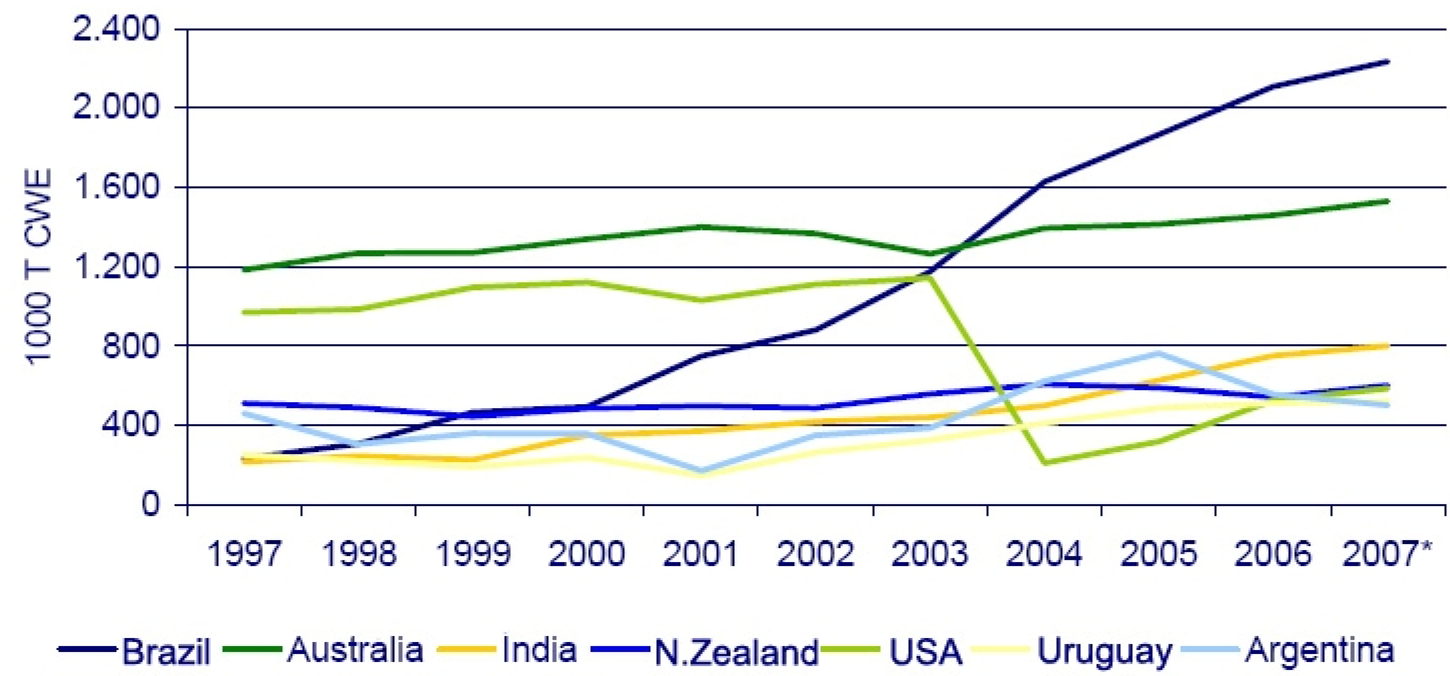
## World Beef Production




*Source: ABIEC with data from USDA*
** Projection*

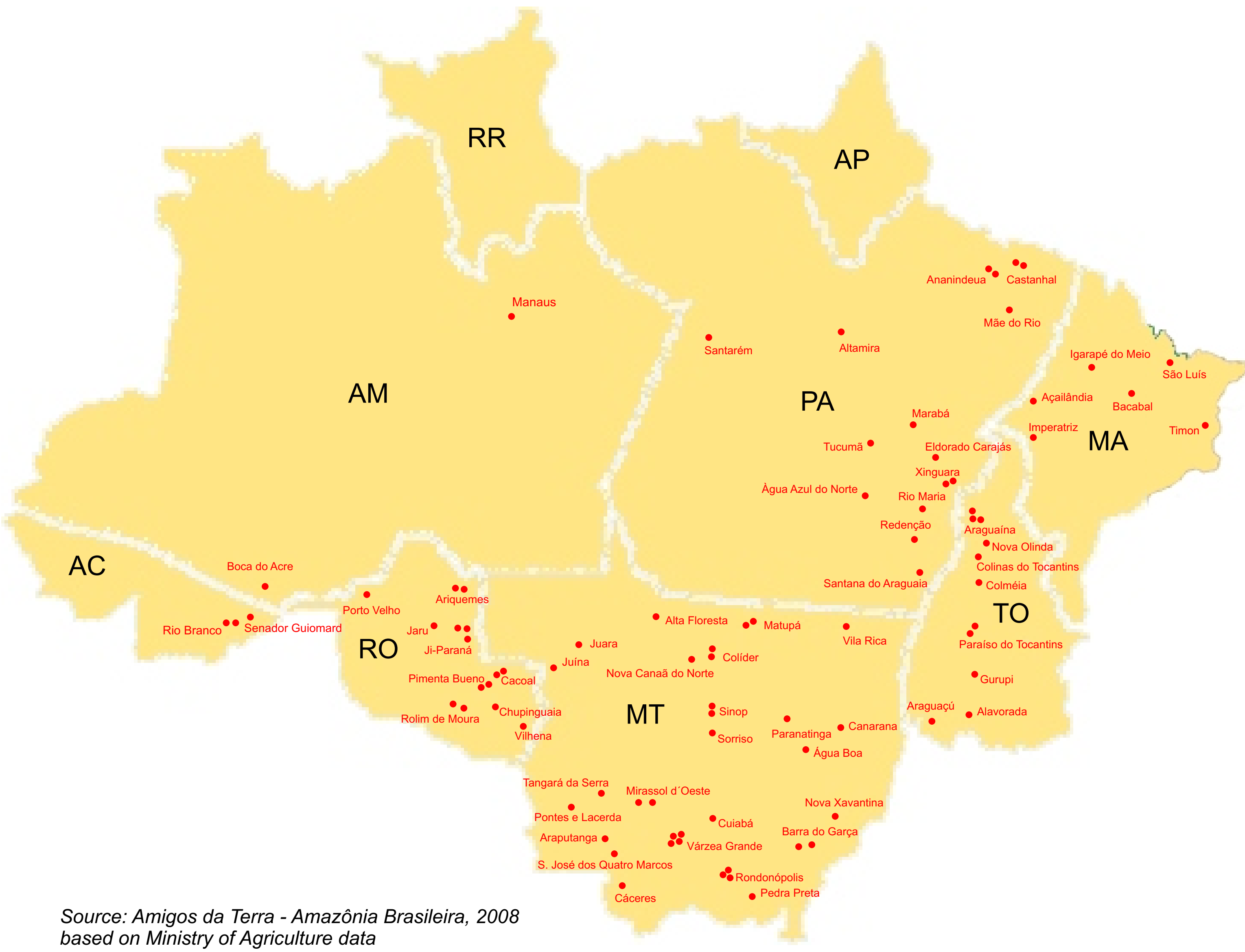
**Figure 2**

## World Beef Exports




*Source: ABIEC with data from USDA.*
** Projection*

# Figure 3
# Slaughterhouses with Federal Registry in the Legal Amazon - December 2007




*Source: Amigos da Terra - Amazônia Brasileira, 2008 based on Ministry of Agriculture data*

## Table 1

# Principal Importers of Brazilian Beef (Jan-Nov 2007)

| Country | Weight in tons | Value in US$ (000) |
|---|---|---|
| Russia | 428,877 | 907,484 |
| The Netherlands | 59,846 | 331,826 |
| Egypt | 176,571 | 331,234 |
| USA | 62,353 | 306,054 |
| Italy | 59,414 | 275,391 |
| United Kingdom | 80,496 | 261,963 |
| China incl. Hong Kong | 86,846 | 171,964 |
| Germany | 22,472 | 135,387 |
| Iran | 56,841 | 132,733 |

***Source:*** *Amigos da Terra - Amazônia Brasileira, 2008 based on Ministry of Development data*

## Table 2

# Cattle Herd Size in the Legal Amazon and in Brazil (1994-2006)

| Brazil and States | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|
| Brazil | 158,243,229 | 161,227,938 | 158,288,540 | 161,416,157 | 163,154,357 | 164,621,038 |
| Rondônia | 3,469,519 | 3,928,027 | 3,937,291 | 4,330,932 | 5,104,233 | 5,441,734 |
| Acre | 464,523 | 471,434 | 853,264 | 862,534 | 906,881 | 929,999 |
| Amazonas | 746,638 | 805,804 | 733,910 | 770,805 | 809,302 | 826,025 |
| Roraima | 285,596 | 282,049 | 400,334 | 377,546 | 424,700 | 480,500 |
| Pará | 7,539,452 | 8,058,029 | 6,751,480 | 7,539,154 | 8,337,181 | 8,862,649 |
| Amapá | 86,221 | 93,349 | 63,648 | 65,953 | 74,508 | 76,734 |
| Tocantins | 5,374,168 | 5,544,400 | 5,242,655 | 5,350,885 | 5,441,860 | 5,813,170 |
| Maranhão | 4,101,939 | 4,162,059 | 3,935,754 | 3,905,311 | 3,936,949 | 3,966,430 |
| Mato Grosso | 12,653,943 | 14,153,541 | 15,573,094 | 16,337,986 | 16,751,508 | 17,242,935 |
| Amazônia Legal | 34,721,999 | 37,498,692 | 37,491,430 | 39,541,106 | 41,787,122 | 43,640,176 |

| Brazil and States | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
|---|---|---|---|---|---|---|
| Brazil | 176,388,726 | 185,348,838 | 195,551,576 | 204,512,737 | 207,156,696 | 205,886,244 |
| Rondônia | 6,605,034 | 8,039,890 | 9,392,354 | 10,671,440 | 11,349,000 | 11,484,162 |
| Acre | 1,672,598 | 1,817,467 | 1,874,804 | 2,062,690 | 2,313,185 | 2,452,915 |
| Amazonas | 863,736 | 894,856 | 1,121,009 | 1,156,723 | 1,197,171 | 1,243,358 |
| Roraima | 438,000 | 423,000 | 423,400 | 459,000 | 507,000 | 508,600 |
| Pará | 11,046,992 | 12,190,597 | 13,376,606 | 17,430,496 | 18,063,669 | 17,501,678 |
| Amapá | 87,197 | 83,901 | 81,674 | 82,243 | 96,599 | 109,081 |
| Tocantins | 6,570,653 | 6,979,102 | 7,659,743 | 7,924,546 | 7,961,926 | 7,760,590 |
| Maranhão | 4,483,209 | 4,776,278 | 5,514,167 | 5,928,131 | 6,448,948 | 6,613,270 |
| Mato Grosso | 19,921,615 | 22,183,695 | 24,613,718 | 25,918,998 | 26,651,500 | 26,064,332 |

Source: Amigos da Terra - Amazônia Brasileira, 2008 based on Brazillian Institute of Geografy and Statistics data

Table 3

## Change in Cattle Slaughter in the Legal Amazon (in units)

| State | 2004 | | 2005 | |
|---|---|---|---|---|
| | *Nº Head Slaughtered* | *% of National Slaughter* | *Nº Head Slaughtered* | *% of National Slaughter* |
| **Acre** | 121,768 | 0.6 | 126,498 | 0.6 |
| **Amapá*** | 7,380 | 0.04 | 8,730 | 0.04 |
| **Amazonas** | 0 | | 30,315 | 0.1 |
| **Maranhão** | 369,577 | 1.8 | 349,341 | 1.5 |
| **Mato Grosso** | 3,340,452 | 16.3 | 3,992,697 | 17.6 |
| **Pará** | 1,388,827 | 6.8 | 1,503,696 | 6.6 |
| **Rondônia** | 1,123,470 | 5.5 | 1,272,068 | 5.6 |
| **Roraima** | 21,799 | 0.1 | 41,473 | 0.2 |
| **Tocantins** | 659,557 | 3.2 | 815,392 | 3.6 |
| **Amazônia Legal** | **7,032,830** | **34** | **8,140,210** | **36** |
| **Brazil** | **20,508,448** | **100** | **22,623,602** | **100** |

| State | 2006 | | 2007 | | |
|---|---|---|---|---|---|
| | *Nº Head Slaughtered* | *% of National Slaughter* | *Nº Head Slaughtered (through Sept.)* | *** nº Head Slaughtered (projection 2007)* | *% of National Slaughter (projection 2007)* |
| **Acre** | 150,672 | 0.6 | 203,105 | 270,807 | 1.1 |
| **Amapá*** | 9,810 | 0.04 | 0 | 9,810 | 0.04 |
| **Amazonas** | 57,877 | 0.2 | 14,476 | 19,301 | 0.1 |
| **Maranhão** | 522,450 | 2.1 | 328,929 | 438,572 | 1.7 |
| **Mato Grosso** | 4,597,675 | 18.6 | 3,448,666 | 4,598,221 | 18.2 |
| **Pará** | 1,702,274 | 6.9 | 1,458,708 | 1,944,944 | 7.7 |
| **Rondônia** | 1,648,987 | 6.7 | 1,464,353 | 1,952,471 | 7.7 |
| **Roraima** | 45,676 | 0.2 | 29,353 | 39,137 | 0.2 |
| **Tocantins** | 1,061,732 | 4.3 | 831,814 | 1,109,085 | 4.4 |
| **Amazônia Legal** | **9,797,153** | **40** | **7,779,404** | **10,382,349** | **41** |
| **Brazil** | **24,669,907** | **100** | **18,938,869** | **25,251,825** | **100** |

* Estimate based on projection of 9% over the herd size, due to insufficient SIPA/DFA-AP data.

** Projection through December 2007 based on average of period Jan-Sept. 2007.

Source: Amigos da Terra - Amazônia Brasileira, 2008

Based on data from Ministry of Agriculture, Livestock Management and Supply; SIPA (Inspection Service for Products of Animal Origin); DFA (Federal Agricultural Delegation)

Table 4

## Exports of Fresh Beef from the Legal Amazon

| State | 2004 Value US$ FOB | 2004 Net Weight (tons) | 2005 Value US$ FOB | 2005 Net Weight (tons) |
|---|---|---|---|---|
| Mato Grosso | 132,599,558 | 92,068.396 | 249,135,250 | 146,093.456 |
| Pará | 248,837 | 189.055 | 963,295 | 565.133 |
| Rondônia | 12,362,022 | 8,172.085 | 36,793,979 | 20,707.376 |
| Tocantins | 10,210,584 | 6,893.626 | 12,697,170 | 8,272.277 |
| **TOTAL** | **155,421,001** | **107,323.162** | **299,589,694** | **175,638.242** |

| State | 2006 Value US$ FOB | 2006 Net Weight (tons) | 2007 (Jan-Oct) Value US$ FOB | 2007 (Jan-Oct) Net Weight (tons) | 2007 (Projection Jan-Dec)* Value US$ FOB | 2007 (Projection Jan-Dec)* Net Weight (tons) |
|---|---|---|---|---|---|---|
| Mato Grosso | 587,347,673 | 260,732.232 | 592,723,721 | 265,825.913 | 790,298,295 | 354,434.551 |
| Pará | 21,008,148 | 9,739.170 | 23,668,157 | 11,750.224 | 31,557,543 | 15,666.965 |
| Rondônia | 124,894,227 | 50,982.921 | 165,745,288 | 80,209.939 | 220,993,717 | 106,946.585 |
| Tocantins | 53,521,918 | 24,348.791 | 23,958,004 | 12,604.108 | 31,944,005 | 16,805.477 |
| **TOTAL** | **786,771,966** | **345,803.114** | **806,095,170** | **370,390.184** | **1,074,793,560** | **493,853.579** |

*Source: Amigos da Terra- Amazônia Brasileira, 2008 based on Ministry of Development data*
**projection until December, 2007 based on average of the period between January and October, 2007*