



USDA Foreign Agricultural Service

GAIN Report

Global Agriculture Information Network

Template Version 2.09

Required Report - Public distribution

Date: 8/17/2007

GAIN Report Number: BR7012

Brazil

Bio-Fuels

Annual - Biodiesel

2007

Approved by:

Morgan Perkins, ATO Director
U.S. Agricultural Trade Office, Sao Paulo

Prepared by:

Sergio Barros, Agricultural Specialist
U.S. Agricultural Trade Office, Sao Paulo

Report Highlights:

This reports updates BR6008 providing a general overview of the Brazilian biodiesel production, supply and demand.

Includes PSD Changes: No
Includes Trade Matrix: No
Annual Report
Sao Paulo ATO [BR3]
[BR]

Table of Contents

Production, Supply and Demand Table (PS&D) 3
Brazil’s Political Division 3
Production 4
“Social Fuel Stamp” Auction System 7
Biodiesel Production Costs and Price 8
Consumption 9
Trade 9
Policy 10
Exchange Rate 12

Production, Supply and Demand Table (PS&D)

The table below shows the Brazilian Biodiesel PS&D for Calendar Years (CY) 2003 through 2007.

Brazilian Biodiesel Production, Supply and Demand (January-December, 000 Liters)					
	2003	2004	2005	2006	2007
Beginning Stocks	0	0	0	0	0
Production	0	0	700	155,000	730,000
Imports	1,193	4,484	4,770	3,868	4,000
Total Supply	1,193	4,484	5,470	158,868	734,000
Domestic Demand	43	3,047	3,735	155,331	730,000
Exports	1,150	1,437	1,735	3,537	4,000
Ending Stocks	0	0	0	0	0
Total Utilization	1,193	4,484	5,470	158,868	734,000

Source: USDA/FAS/ATO/Sao Paulo.
 Note: biodiesel density estimated at 0.875 g/cm3

Brazil's Political Division

The map below shows the Brazilian political division in regions and states.

Brazil: Regions and States



Production

In 2004 the Brazilian Government created the National Biodiesel Production Program (PNPB) in order to promote domestic biodiesel production, generate jobs and income and alleviate regional economic disparities through inclusion of family farmers, especially those in North and Northeastern Brazil. The program should aims to reduce oil import dependency, and pollutant emissions.

Federal Law # 11.097 (enacted on January 13, 2005) defined and established a legal mandate for use of biodiesel as a fuel. Biodiesel includes any "renewable and biodegradable fuel for compression-ignition internal combustion piston engines, derived from vegetable oils or animal fats, which can partially or fully replace diesel oil of fossil origin". The PNPB is non-restrictive, allowing the use of several production technologies (ethanol, methanol).

Current legislation authorizes blenders to market a maximum of 2 percent biodiesel in mineral diesel (B2) until January of 2008 when marketing of B2 will become compulsory nationwide. In 2013, the required blend will rise to five percent (B5).

A number of raw materials are being used for biodiesel production, including soybeans, castor seed (*Ricinus communis*), African palm oil (dende), "pinhao manso" (*Jatropha curcas*), sunflower, peanut, animal fat, fried oil or others. The following table shows harvested area and production for major agricultural crops, as reported by CONAB.

Quantity of Feedstock Availability for Biodiesel Production (000 hectares, 000 metric tons)										
Region	2002/03	2003/04	2004/05	2005/06	2006/07	2002/03	2003/04	2004/05	2005/06	2006/07
	AREA					PRODUCTION				
SOYBEANS										
North	209.7	352.4	521.9	507.5	410.6	557.5	913.7	1,419.9	1,255.2	1,079.9
Northeast	1,240.7	1,323.3	1,442.1	1,487.1	1,454.9	2,519.3	3,538.9	3,953.1	3,560.9	3,867.2
Center-West	8,048.4	9,659.3	10,857.0	10,742.6	9,105.6	23,532.5	24,613.1	28,973.5	27,824.7	26,496.6
Southeast	1,488.9	1,826.9	1,891.6	1,717.5	1,468.8	4,067.6	4,474.4	4,752.0	4,137.1	4,033.3
South	7,487.1	8,213.9	8,588.5	8,294.7	8,247.4	21,340.6	16,252.6	13,206.2	18,249.2	22,944.5
Total Brazil	18,474.8	21,375.8	23,301.1	22,749.4	20,687.3	52,017.5	49,792.7	52,304.6	55,027.1	58,421.5
COTTONSEED										
North	2.4	3.8	1.4	0.0	0.7	5.6	12.0	4.8	0.0	2.6
Northeast	167.0	296.2	330.9	300.5	353.0	347.5	762.5	853.2	872.3	1,215.7
Center-West	441.3	632.1	658.4	465.6	659.9	1,542.6	2,232.0	2,159.4	1,628.2	2,458.9
Southeast	95.1	121.8	132.5	74.2	67.6	247.2	310.1	301.2	193.1	205.1
South	29.3	46.1	56.2	15.9	12.7	69.4	92.0	78.4	30.1	27.9
Total Brazil	735.1	1,100.0	1,179.4	856.2	1,093.9	2,212.3	3,408.6	3,397.0	2,723.6	3,910.2
PEANUTS										
North	0.0	7.6	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.5
Northeast	7.7	9.7	9.2	11.1	10.6	10.0	14.5	11.0	12.7	11.5
Center-West	0.0	0.0	11.8	10.2	6.7	0.0	0.0	33.2	27.9	16.0
Southeast	68.2	79.9	99.4	82.1	75.0	150.6	188.8	245.7	211.8	179.3
South	8.6	8.6	9.1	9.7	10.4	14.3	14.0	11.8	15.3	19.4
Total Brazil	84.5	98.2	129.5	113.1	103.0	174.9	217.3	301.6	267.7	226.8
CASTOR BEAN										
North	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Northeast	126.3	163.8	209.8	142.2	160.9	83.8	104.5	202.0	95.7	99.3
Center-West	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Southeast	2.0	2.4	4.3	5.2	4.3	2.5	2.8	6.7	7.5	6.6
South	0.0	0.0	1.0	0.5	0.1	0.0	0.0	1.1	0.7	0.2
Total Brazil	128.3	166.2	215.1	147.9	165.3	86.3	107.3	209.8	103.9	106.1
SUN FLOWER										
North	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Northeast	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	1.1
Center-West	35.5	45.8	36.5	43.5	49.1	47.3	72.4	49.2	58.7	69.0
Southeast	2.0	2.0	2.3	2.2	2.2	3.0	3.0	3.8	3.3	3.3
South	5.7	7.3	11.3	21.2	23.0	6.1	10.4	15.1	31.6	32.5
Total Brazil	43.2	55.1	50.1	66.9	75.3	56.4	85.8	68.1	93.6	105.9

Source: MAPA/CONAB

In spite of tax incentives for biodiesel production from castor seed and African oil palm (see Policy Section), soybeans (followed by cottonseed), are the most viable options for large-scale production given current infrastructure and production volumes.

Post contacts estimate that soybeans currently represent over 90 percent of the raw material used for biodiesel production. In the long term, the industry projects that soy oil will contribute 80 percent, whereas cottonseed will represent 12 to 15 percent of the raw material used to produce biodiesel. Other vegetable oils such as castor seed, African oil palm, sunflower and peanuts, and animal fat should provide the additional sources of raw material for biodiesel production.

The tables below show official USDA data for soy and cotton oil production for marketing years (MY) 2002/03 through 2006/07, as well as a projection for MY 2007/08. Note that CONAB'S figures for soybeans and seed cotton (previous table) differ from USDA's official numbers and were included only for comparison basis (given that they provide a regional production breakdown).

Brazilian Soybeans and Products Production (000 hectares, 000 metric tons)						
	2002/2003	2003/2004	2004/2005	2005/2006	2006/2007	2007/2008 *
Area harvested	18,448	21,476	22,800	22,229	20,700	21,500
Soybeans	52,000	51,000	53,000	57,000	59,000	61,000
Soybeans for crushing	27,796	28,914	29,728	28,756	29,300	29,300
Meal, Soybean	21,773	22,330	22,928	22,300	23,175	22,735
Oil, Soybean	5,349	5,579	5,708	5,521	5,740	5,625

Source: USDA/FAS * forecast

Brazilian Cotton and Products Production (000 hectares, 000 metric tons)						
	2002/2003	2003/2004	2004/2005	2005/2006	2006/2007	2007/2008 *
Area Harvested	735	1,100	1,172	850	1,094	1,000
Seed Cotton 1/	2,211	3,409	3,391	2,685	3,918	3,506
Lint Cotton	847	1,310	1,285	1,023	1,524	1,350
CottonSeed	1,275	1,786	1,797	1,507	2,006	1,927
Meal, Cottonseed	600	841	885	740	985	945
Oil, Cottonseed	204	286	305	246	327	314

Source: USDA/FAS 1/ Seed cotton calculated based on average lint yields. * forecast

According to updated information from ANP, Brazil's national agency for petroleum and fuel products, Brazil has 36 plants currently authorized to produce biodiesel. Industrial capacity is estimated at 1.6 billion liters, almost twice the required B2 mandate. However, many plants are still under construction and not all operating plants have installed equipment to operate at full authorized capacity.

The Brazilian Government projects that by the end of 2008, the installed capacity should reach 3.4 billion liters. The tables below show current authorized capacity, by region, as well as projections through December 2008.

Biodiesel Industrial Capacity (Million liters/year)	
Region/State	Authorized Capacity
TO	108.00
PA	24.00
RO	5.10
Total North	137.10
BA	127.50
CE	108.72
MA	108.00
PI	40.50
Total Northeast	384.72
GO	221.49
MT	133.71
Total Center-West	355.20
SP	327.30
RJ	48.00
MG	21.72
Total Southeast	397.02
RS	309.60
PR	45.00
Total South	354.60
Total Brazil	1,628.64
Source: ANP, updated on August 2, 2007.	
Note: Numbers are estimated on a 300 day operation cycle per year	

Biodiesel Industrial Capacity (Million liters/year)		
Region/State	July 2007	December 2008 1/
North	137	137
Northeast	385	656
Center-West	355	1,471
Southeast	395	728
Southeast	355	505
Total Brazil	1,626	3,497
Source: ANP and Rodrigues, Ethanol Summit, 2007. 1/ Projected		

ANP also estimates the total production capacity of biodiesel by region, according to authorized capacity. Approved capacity of more than 2.1 billion liters of biodiesel compares to projected demand of 800 million liters; holding the potential for oversupply and low biodiesel prices. Indeed, the Brazilian Government has been studying the possibility of speeding implementation of the B5 mandate in order to increase demand for biodiesel.

Estimated Biodiesel Supply and Demand to comply with B2 mandate (million liters)						
Region	North	Northeast	Center-West	South	Southeast	Total
Supply	136	507	490	367	638	2138
Demand	72	120	88	160	360	800
Surplus	64	387	402	207	278	1338
Source: ANP. Note: Diesel demand estimated at 40 billion liters						

"Social Fuel Stamp" Auction System

In order to guarantee prior development of production capacity to meet the B2 mandate and to provide an incentive of family farmers, the government required that- beginning January 2006- blending of all "Social Fuel Stamp" biodiesel would be compulsory (up to a limit of 2% of all diesel), with supplies to be sold through a public auction system.

The biodiesel "Social Fuel Stamp" is a mechanism created by the Brazilian Government to provide incentives for poorer farmers (family farmers) in disadvantaged areas. Under the Ministry of Agrarian Development (MDA) auspices, Regulations # 01 and 02 (2005) establishes that biodiesel producers must comply with the following requirements to obtain the stamp:

- Purchase minimum raw material percentages from family farmers. The percentages vary according to region: Northeast Brazil = 50%; South and Southeast = 30%; Center-West and North = 10 %);
- Guarantee the purchase of available quantities;
- Set contracts with farmers, provide technical assistance and training.

According to ANP regulations, Petrobras and Alberto Pasqualini Refap S.A. (the two Brazilian diesel producers) were required to purchase a set amount of biodiesel in each auction. The tables below summarize the results of the five auctions coordinated by ANP, where 885 millions of biodiesel were sold for future delivery.

Biodiesel Auctions					
Auction	1st Auction	2nd Auction	3rd Auction	4th Auction	5th Auction
Date	11/23/2005	3/30/2006	7/11/2006	7/11/2006	2/13/2007
Number of Suppliers	4	10	19	20	6
Offered Quantity (000 liters)	92,500	315,520	125,400	1,141,335	50,000
Purchased Quantity (000 liters)	70,000	170,000	50,000	550,000	45,000
Average Price (R\$/liter) 1/	1.92	1.86	1.75	1.47	1.86
Price Discount (%)	(0.79)	(2.53)	(7.93)	(8.29)	(2.22)
Delivery Date	Jan-Dec/06	Jul/06 - Jun/07	Jan-Dec/07	Jan-Dec/07	up to Dec/07

Source: ANP 1/ Price FOB, including PIS/PASEP and COFINS, excluding icms

Biodiesel Auctions - Expected Production by Region		
Region	Million Liters	Share (%)
North	97.2	11.0%
Northeast	335	37.9%
Center-West	148.7	16.8%
Southeast	147.5	16.7%
Southeast	156.6	17.7%
Total Brazil	885	100.0%

Source: ANP

As reported by MDA, approximately 224 thousand family farmers were contracted in the 5 auctions and production from raw material originated from these producers should result in 310 million liters of biodiesel. The tables below show the expected biodiesel production by region using family farmers raw material (310.6 million liters) as well as type of raw material used by family farmers as of June 2007.

Biodiesel Auctions - Expected Production using Family Farmer's Raw Material			
	Total Production	Production from Family Farmers	
		Million Liters	Share (%)
North	97.2	32.3	33.2%
Northeast	335.0	109.2	32.6%
Center-West	148.7	26.8	18.0%
Southeast	147.5	53.1	36.0%
Southeast	156.6	89.2	57.0%
Total Brazil	885.0	310.6	35.1%

Source: Ministry of Agrarian Development (MDA).

Raw Material used by Family Farmers for Biodiesel Production		
	Million liters	Share (%)
Castor seed	57	56.2%
Soybeans	25.1	24.7%
African Oil Palm	15.5	15.3%
Sunflower	3.4	3.3%
Peanuts	0.5	0.5%
Total	101.5	100.0%

Source: Rodrigues, Ethanol Summit, 2007

Note: numbers are based in contracts signed up to June 2007 between biodiesel plants and family farmers.

Biodiesel Production Costs and Price

According to the Brazilian Association of Vegetable Oil Industries (ABIOVE), the raw material used for biodiesel production represents, on average, 80 percent of the production cost, regardless of the type of vegetal oil used. Ethanol or methanol, products used in the transesterification process, represent 10 percent of the production cost, whereas industrial costs contribute to the remaining 10 percent. The following table shows the estimated cost of production- with and without federal taxes- for different prices of raw materials, as reported by ABIOVE.

Biodiesel Cost of Production - Sensitivity Analysis						
Vegetable Oil Price (US\$/metric ton)	450	500	550	600	650	700
Biodiesel Cost with taxes (R\$/liter)	1.22	1.31	1.40	1.49	1.58	1.67
Biodiesel Cost without taxes (R\$/liter)	1.00	1.09	1.18	1.27	1.36	1.45

Source: elaborated by ABIOVE based on ABIOVE and ANP data.

Note: Biodiesel costs are ex-mill in a 100,000 ton/year plant for production in the Center West, Southeast and South regions; taxes include only federal taxes; Rate of Exchange at R\$ 2.17/US\$ 1

According to this analysis and considering the mineral diesel average price for 2006 at R\$ 1.36/liter, the cost of biodiesel production (with federal taxes) is competitive if the cost of raw material does not exceed US\$ 500/metric ton. If biodiesel production is exempted from federal taxes, the competitiveness of the product increases significantly, allowing for a raw material price of up to US\$ 650/metric ton.

Biodiesel prices are currently set by product auctions coordinated by ANP. Average biodiesel prices vary from R\$ 1.47 to 1.92/liter and the contracts do not contain any mechanism to adjust auction prices. Because contracts allow future delivery of the product (up to December 2007), current high prices for vegetable oil represent an obstacle for biodiesel production. Over 60 percent of biodiesel contracted through ANP auctions had prices set, on average, at R\$ 1.47/liter (in November 2006) for delivery up to December 2007. The average price of crude soy oil at that time was US\$ FOB 649.61/metric ton. The price of soy oil in Paranagua has increased since that date and June 2007 prices reached US\$ FOB 764/metric ton, reducing profitability.

The biodiesel market should be deregulated in 2008 when the B2 mandate becomes effective.

Consumption

Brazil's mineral diesel consumption was estimated at 38.8 billion liters in 2006, with imports accounting for 10 percent of total consumption. The table below shows the Brazilian vehicle fuels consumption matrix from 2003 through 2006, according to ANP.

Brazilian Fuel Consumption Matrix (million liters)

	2003	2004	2005	2006
Diesel	36,853	39,219	39,052	38,854
Gasoline C**	21,791	23,165	23,542	23,979
Hydrated Ethanol	3,245	4,355	4,654	6,010

Source: ANP

** including 20-25 percent anhydrous ethanol

Current biodiesel consumption is set via ANP auctions which recorded total sales of 885 million liters for delivery to Petrobras and Refap (January 2006-December 2007). The following table forecasts the Brazilian biodiesel demand through 2015 based on projections made by Petrobras. Biodiesel demand for 2008 is forecast at 845 million liters. As of July 2007, approximately 5,000 gas stations market B2, representing approximately 14 percent of Brazil's gas stations.

Brazilian Biodiesel Estimated and Projected Demand (million liters)												
Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	
Quantity	0.7	155	730	845	866	888	911	935	2396	2458	2521	
Legislation	ANP Auctions			B2					B5			

Source: Elaborated by ABIOVE, based on ANP Auctions and PETROBRAS - 2015 Strategic Planning

Trade

The following tables show biodiesel imports and exports from 2001 to 2007 (January-July) as well as exports by country of destination and imports by origin for the years 2005, 2006 and 2007 (January-July). To date, no significant exports have occurred. However, Brazil could become a net exporter due to the excess industrial capacity.

Brazilian Biodiesel Trade (NCM 3824.90.29, metric tons)							
	2001	2002	2003	2004	2005	2006	2007 1/
Exports	589	610	1,006	1,258	1,518	3,095	1,780
Imports	1,943	2,422	1,044	3,923	4,174	3,385	1,882

Source: SECEX. 1/ Jan-July

Brazilian Biodiesel Exports by Country of Destination (metric tons, US\$ FOB 000)						
Country	CY 2005		CY 2006		CY 2007 1/	
	Quantity	Value	Quantity	Value	Quantity	Value
Germany	0	0	1,543	1,117	336	598
Singapore	728	1,102	500	808	190	379
Argentina	292	630	456	843	465	1,165
U.S.A.	230	665	204	633	88	249
China	0	0	99	185	147	226
Chile	44	143	74	228	80	208
Peru	12	40	50	158	32	109
Australia	82	127	43	76	27	54
Paraguay	59	217	38	138	52	215
Colombia	21	69	27	89	8	29
Others	49	165	63	253	354	759
Total	1,518	3,158	3,095	4,529	1,780	3,993

Source: Secex. 1/January-July. (NCM 3824.9029)

Brazilian Biodiesel Imports by Country of Origin (metric tons, US\$ FOB 000)						
Country	CY 2005		CY 2006		CY 2007 1/	
	Quantity	Value	Quantity	Value	Quantity	Value
U.S.A.	1,835	3,549	1,134	2,562	622	1,746
Denmark	209	244	545	797	168	288
Mexico	1,115	1,951	503	1,243	316	876
Germany	310	1,206	476	1,623	422	1,452
Netherlands	46	135	203	667	94	324
Italy	118	249	134	284	39	100
United Kingdom	38	126	91	284	46	152
Finland	41	52	82	117	41	59
Spain	26	82	61	181	49	110
Malaysia	57	57	49	114	15	31
Others	379	578	107	394	70	246
Total	4,174	8,229	3,385	8,266	1,882	5,385

Source: Secex. 1/January-July. (NCM 3824.9029)

Policy

The National Biodiesel Production Program (PNPB) was created in 2004 by Federal Law # 11.097 establishing a legal mandate for use of biodiesel as a fuel: the B2 mandate should be effective as of January 1, 2008 whereas the increase of the blend to five percent (B5) should be mandatory as of 2013. In the meantime, all "Social Fuel Stamp" biodiesel has a guaranteed market through the ANP auction system.

The current legislation allows biodiesel sales to be made only via fuel distributors up to the 2 percent mandate (B2). This limits the capacity of biodiesel producers to market excess production. New rules proposed by ANP will allow for direct sales to industrial user (e.g., large farmers, transport companies) for use in blends up to 30 percent.

As of the creation of the program, several bills and resolutions have been enacted by the Brazilian Government in order to promote the production of biodiesel.

Special attention should be taken to the resolutions that set the tax framework.

Major federal taxes on automotive fuels include three main components:

- CIDE: Funds raised via this fuel tax are, in theory, used to finance infrastructure works and maintenance of the transportation system. For regular diesel, CIDE is fixed at R\$ 0.07/liter.
- PIS/COFINS: These two taxes are charged together in one basket. For diesel, a fixed assessment of R\$ 0.148/liter is charged to the manufacturer upon sale to distributors.
- IPI is a tax on all manufactured/processed products.

In order to encourage the production of biofuels and to promote social inclusion, the GOB has set federal tax exemptions and incentives (IPI, CIDE, PIS/COFINS), according to the nature of the raw material, size of producer and region of production.

In addition, to avoid tax distortions among producing states, in October 2006, the Brazilian Government negotiated an important decision with the equalization of the ICMS (the state value-added tax applied on products and services) at 12 percent. Before that date, the ICMS assessed on biodiesel varied from 17 to 18 percent. (Note that ICMS is assessed at four different rates [12, 13, 15 and 17 percent] for mineral diesel). The table below describes the federal and state tax incentive program.

Federal and State Taxes Incentives for Biodiesel Production in Brazil (R\$/liter)					
Tax Incentive	Biodiesel				Regular Diesel
	Subsistence Agriculture in North, Northeast regions w/ castor or palm	Subsistence Agriculture	Medium-Large Farmers in North Northeast regions w/ castor or palm	All others	
IPI	full exemption	full exemption	full exemption	full exemption	full exemption
CIDE	full exemption	full exemption	full exemption	full exemption	0.07
PIS/COFINS	100% reduction (R\$ 0.000)	68% reduction (R\$ 0.070)	32% reduction (R\$ 0.151)	0.218	0.148
Federal Tax sum	100% reduction (R\$ 0.000)	68% reduction (R\$ 0.070)	32% reduction (R\$ 0.151)	0.218	0.218
ICMS (state)	12%	12%	12%	12%	12 to 17 %

Source: Government of Brazil, Executive Orders # 5,297/04, 5,298/04 and 5,457/05, CONFAZ ICMS # 113 and 160 (2006).

The biodiesel industry claims that the tax incentives are too restrictive, benefiting only family farmers and/or biodiesel production in north and northeastern Brazil. The bulk of production will come from soy oil produced in the center-west and other regions, where available raw materials and industrial capacity can be readily diverted to biodiesel production.

ABIOVE completed a study comparing biodiesel costs of production with and without federal taxes and mineral diesel cost of production with federal taxes. The study compares costs beginning in 2000. According to the results, under the current tax and price scenario biodiesel is not competitive with mineral diesel. If tax incentives were applied to soy oil, biodiesel production would have been competitive beginning in 2005.

Biodiesel and Diesel Cost of Production							
	2000	2001	2002	2003	2004	2005	2006
Biodiesel Cost with taxes (R\$/liter)	0.77	0.90	1.31	1.64	1.62	1.24	1.31
Biodiesel Cost without taxes (R\$/liter)	0.55	0.68	1.09	1.42	1.40	1.02	1.09
Diesel Cost with taxes (R\$/liter)	0.50	0.60	0.69	0.99	1.03	1.23	1.36
Soy Refined Oil (US\$/metric ton)	338	339	447	543	566	505	521
Exchange Rate	1.83	2.36	2.92	3.08	2.93	2.30	2.18

Source: elaborated by ABIOVE based on ABIOVE and ANP data.

Note: Biodiesel costs are ex-mill in a 400 ton/day plant for production in the Center West, Southeast and South regions; diesel costs are ex-mill and the average for all Brazilian regions, taxes include only federal taxes, soy oil are Paranaqua FOB Price

Exchange Rate

Exchange Rate (R\$/US\$1.00 - official rate, last day of period)					
Month	2003	2004	2005	2006	2007
January	3.53	2.94	2.62	2.22	2.12
February	3.56	2.91	2.60	2.14	2.12
March	3.35	2.91	2.67	2.17	2.05
April	2.89	2.94	2.53	2.09	2.03
May	2.97	3.13	2.40	2.30	1.93
June	2.87	3.11	2.35	2.16	1.93
July	2.97	3.03	2.39	2.18	1.88
August 1/	2.97	2.93	2.36	2.14	2.04
September	2.92	2.86	2.22	2.17	---
October	2.86	2.86	2.25	2.14	---
November	2.95	2.73	2.21	2.17	---
December	2.89	2.65	2.26	2.14	---

Source: Gazeta Mercantil. And BACEN (as of October 2006).

1/ August 2007 refers to August 17.