

# AMAZONIAN AGRO – BIODIVERSITY IN BOLIVIA

PROINPA FOUNDATION  
SCIENCE AND TECHNOLOGY FOR THE DEVELOPMENT OF  
ANDEAN AGRICULTURE



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# BOLIVIAN AMAZONIC FRUIT



**ARAZA**



**CAMU CAMU**



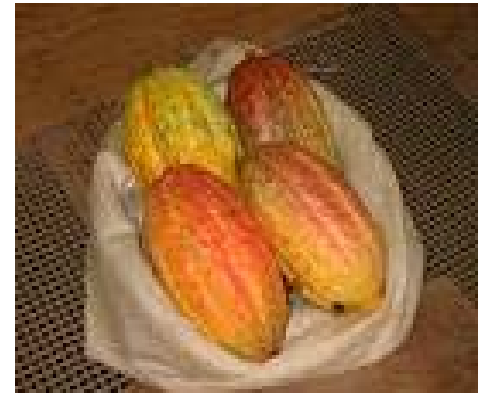
**GRANADILLA**



**PASSION FRUIT**



**CUPUAZÚ**



**CACAO (Theobroma cacao)**

# AMAZONIAN BIODIVERSITY

- Main species:
- **Nuez de castaña (*Bertholea excelsa*)**, **palmito de asai (*Euterpe precatoria*)**, latex de caucho (*Hevea brasiliensis*), hojas de jatata (*Genoma* spp.), cusi oil (*Orbignya phalerata*), copaibo (*Copaifera raticulata*).
- Tropical fruits: cedrillo (*Spondias mambin*), cayú (*Anacardium occidentale*), achachairú (*Rehedia* spp.), guapurú (*Leonia cymosa*), bí (*Genipa americana*), paquió (*Hymenaea coubaril*), urucú (*Bixa orellana*)

# BOLIVIAN AMAZONIC FRUIT

Geographic Distribution:

It is distributed in Riberalta – BENI in communities of the north Bolivian amazonia



CUPUAZÚ

ASAÍ

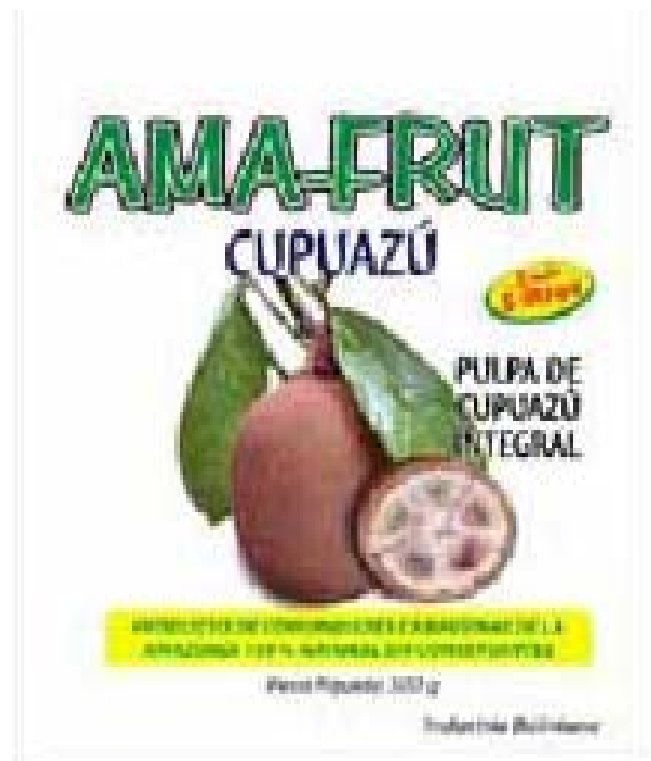
MAJO

GUANÁBANA

TAPEREBÁ

# Products in the market

- Enterprise Madre Tierra Amazonia S.R.L. offers Cupuazú pulp among others.
- It works with 300 families of farmers.
- It follows Biotrade and Fair trade principles. Products with social and environmental compromise.
- Local market and opening MERCOSUR countries market.

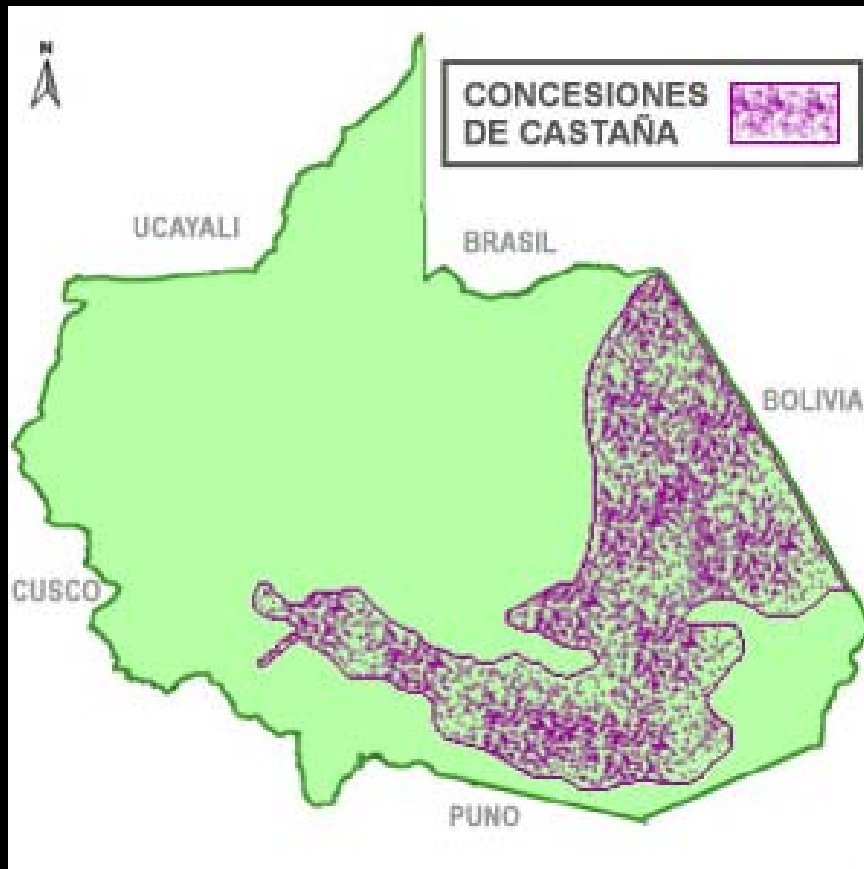


# Brazilnut (*Bertholletia excelsa* Bonpl.)



# Geographic Distribution

It is distributed in Pando, north of La Paz, north and east of Beni cities



# NUTRITIONAL VALUE

## Aminoacid content

Chemical	Part	Lo ppm	Hi ppm	Reference
<a href="#">ALANINE</a>	Seed	5700	5897	<a href="#">USA</a>
<a href="#">ARGININE</a>	Seed	23900	24727	<a href="#">USA BRI:22</a>
<a href="#">ASPARTIC-ACID</a>	Seed	13550	14019	<a href="#">USA BRI:22</a>
<a href="#">CYSTINE</a>	Seed	3490	3611	<a href="#">USA</a>
<a href="#">GLYCINE</a>	Seed	6570	6797	<a href="#">USA</a>
<a href="#">HISTIDINE</a>	Seed	4020	4159	<a href="#">USA</a>
<a href="#">ISOLEUCINE</a>	Seed	6010	6218	<a href="#">USA</a>
<a href="#">LEUCINE</a>	Seed	11870	12281	<a href="#">USA BRI:22</a>
<a href="#">LYSINE</a>	Seed	5410	5597	<a href="#">USA</a>
<a href="#">METHIONINE</a>	Seed	10140	10346	<a href="#">USA BRI:22</a>
<a href="#">NIACIN</a>	Seed	2	17	<a href="#">USA JAD1</a>
<a href="#">PHENYLALANINE</a>	Seed	7460	7718	<a href="#">USA</a>
<a href="#">PROLINE</a>	Seed	7620	7884	<a href="#">USA</a>
<a href="#">SERINE</a>	Seed	7460	7718	<a href="#">USA</a>
<a href="#">THREONINE</a>	Seed	4600	4759	<a href="#">USA</a>
<a href="#">TRYPTOPHAN</a>	Seed	2600	2690	<a href="#">USA</a>
<a href="#">TYROSINE</a>	Seed	4570	4728	<a href="#">USA</a>
<a href="#">VALINE</a>	Seed	9110	9425	<a href="#">USA</a>



**BRAZILNUT (Bertholletia excelsa)**

# NUTRITIONAL VALUE

Chemical	Part	Lo ppm	Hi ppm	Reference
<a href="#">ASH</a>	Seed	31840	35342	<a href="#">USA</a>
<a href="#">BARIUM</a>	Seed	1764	2600	<a href="#">FUR HHB</a>
<a href="#">CALCIUM</a>	Seed	1300	1820	<a href="#">USA FUR 5 JAD1</a>
<a href="#">CARBOHYDRATES</a>	Seed	128000	132429	<a href="#">USA</a>
<a href="#">FAT</a>	Seed	649190	700000	<a href="#">HHB USA</a>
<a href="#">FIBER</a>	Seed	21160	25492	<a href="#">USA</a>
<a href="#">IRON</a>	Seed	30	93	<a href="#">USA FUR 5 JAD1</a>
<a href="#">KILOCALORIES</a>	Seed	6560	6787	<a href="#">USA</a>
<a href="#">LECITHIN</a>	Seed	60000	105000	<a href="#">EST JAD</a>
<a href="#">MAGNESIUM</a>	Seed	1600	3370	<a href="#">USA FUR 5 JAD1</a>
<a href="#">PHOSPHORUS</a>	Seed	6000	6750	<a href="#">USA JAD1</a>
<a href="#">PHYTATE</a>	Seed	17990	19660	<a href="#">PHY</a>
<a href="#">POTASSIUM</a>	Seed	5405	6450	<a href="#">USA FUR 5 JAD1</a>
<a href="#">PROTEIN</a>	Seed	138820	153100	<a href="#">USA BRI:22</a>
<a href="#">RIBOFLAVIN</a>	Seed	0.35	1	<a href="#">USA</a>
<a href="#">SODIUM</a>	Seed	7	20	<a href="#">USA FUR 5</a>
<a href="#">SELENIUM</a>	Seed	3	497	<a href="#">FUR JFS47:1595</a>

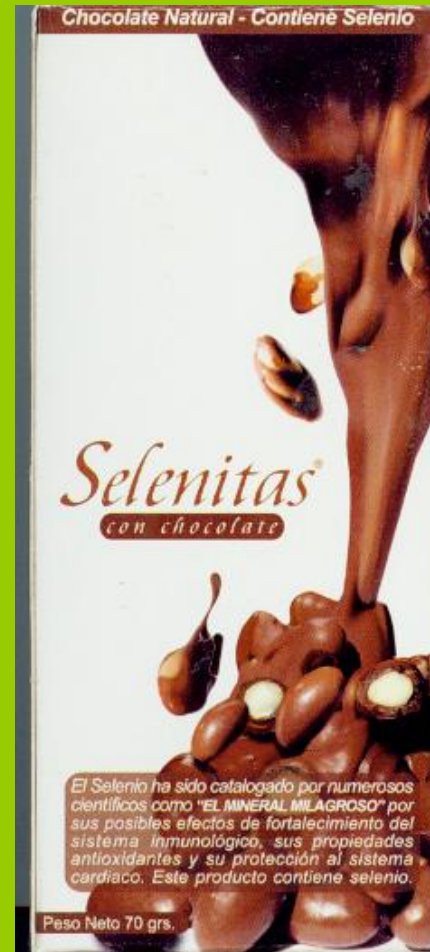


**BRAZILNUT (*Bertholletia excelsa*)**

Chemical	Part	Lo ppm	Hi ppm	Reference
<a href="#">ALPHA-LINOLENIC-ACID</a>	Seed	620	641	<a href="#">USA</a>
<a href="#">GADOLEIC-ACID</a>	Seed	620	641	<a href="#">USA</a>
<a href="#">GLUTAMIC-ACID</a>	Seed	31510	32600	<a href="#">USA BRI:22</a>
<a href="#">LINOLEIC-ACID</a>	Seed	140225	314300	<a href="#">HHB USA</a>
<a href="#">MYRISTIC-ACID</a>	Seed	6200	12600	<a href="#">HHB USA</a>
<a href="#">OLEIC-ACID</a>	Seed	198000	408100	<a href="#">CRC HHB USA</a>
<a href="#">PALMITIC-ACID</a>	Seed	87630	113400	<a href="#">CRC HHB USA</a>
<a href="#">PALMITOLEIC-ACID</a>	Seed	3240	3352	<a href="#">USA</a>
<a href="#">STEARIC-ACID</a>	Seed	16228	72800	<a href="#">HHB USA</a>

# Products in the market

- The R&B enterprise is exporting almond remarking its selenium content (8%), due to this mineral has antioxidant properties and it can protect the heart system.



0% Colesterol

Información Nutricional	
Porción (17,5 g)	4
Calorías 104	
	% valor diario*
Total grasas 8,6 g	13%
Grasas saturadas 2,85	14%
Colesterol 0g	0%
Sodio 8,15 mg	0%
Total Carbohidratos 5g	1,5%
Fibra 1,3g	5%
Azúcar 3,7g	
Proteínas 2g	4%
Vitamina B1 0,1mg	0%
Vitamina B2 0,0425mg	2%
Vitamina B3 0,32 mg	2%
Vitamina E 1,5 UI	0%
Calcio 33mg	3%
Fósforo 80mg	8%
Hierro 0,43 mg	2%
Cobre 0,4 mg	20%
Magnesio 85 ug	21%
Selenio 5,75 ug	8%

\*Los porcentajes de los valores nutricionales diarios se basan en una dieta de consumo de 2000 calorías. Sus valores nutricionales diarios pueden ser mayores o menores dependiendo de sus necesidades o requerimientos calóricos.

**INGREDIENTES:**  
Almendra Amazónica, Cacao (pasta de cacao), Manteca de cacao, Azúcar refinada, Leche entera en polvo, Esencia de vainilla, Lecitina.

**ELABORADO EN BOLIVIA POR:**  
G&B Enterprises  
Import - Export S.A.  
NIT.126277024  
R.S. Senasag  
040403070002  
Telf.: 591-3-345-3805  
Santa Cruz - Bolivia

# BOLIVIAN AMAZONIAN BIODIVERSITY

- National Program of Sustainable Bio-Commerce (PNBS). Sustainability: ecological, social and economical.
- Caiman sclerops (meat packed)



# MICROBIAL BIODIVERSITY

- Bacterias halofilas (salt lake – Bolivian altiplan) producers of exopolisacharides (EPS) useful for food and pharmaceutical industry and bio degradation.
- MO. Halofilos live in environmental with content of salt more or = to 8% w/v of ClNa
- They are useful for: food fermentated, soja sauce, colorants, enzymes (amyloses, proteasas) cosmetic aditives, plastics biodegradable and EPS.

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# GRACIAS

[www.proinpa.org](http://www.proinpa.org)

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