



ON ROUTE TO SUSTAINABILITY  
朝着可持续发展的目标前进



## TITLE PAGE 扉页

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## Aprosoja

The Mato Grosso Soy and Corn Producers Association (Aprosoja) was established in 2005 as a non-profit entity representative association. Its members are farmers linked to soybean and corn production in Mato Grosso. Its main objective is to unify and add value to the production class. With a multi-focused and professional setup, the association fosters the organization of producers as well as the creation and dissemination of tools to encourage sustainability of food production.

Currently, the association has 22 regional offices and about 5,000 members.

马托格罗索州大豆和玉米生产者协会 (Aprosoja) 成立于2005年，是一个非营利性实体代表协会。会员是马托格罗索州从事大豆和玉米生产的农民。主要目标是团结生产阶层，为其增加价值。协会关注多个重点，机构设置专业，促进生产者的组织，开发并传播各种工具，以鼓励粮食生产的可持续发展。

目前，协会设立22个区域性办事处，拥有约5,000名会员。



# SOYBEANS: DIVERSIFIED USAGE

## 大豆：多元化的用途

Do you know all the uses that soy offers? From animal feed to raw materials for the medical industry, soy has become a multi-faceted product. Check out some of its uses:

您知道大豆的所有用途吗？从动物饲料到医药行业的原料，大豆已经成为一种多用途产品。发现大豆的一些用途：



### OIL 油

Making up 32.2% of the soybean grain, soybean oil is used in the food, cosmetics, pharmaceutical and veterinary industries. It is also a raw material in the production of varnishes, paints and plastics.

大豆油占大豆颗粒的32.2%，用于食品、化妆品、医药和兽医行业。大豆油还是生产油漆、涂料和塑料的原料。



### BIODIESEL 生物柴油

Renewable fuel that contributes to reducing greenhouse gas emissions. Thanks to strong supply, soybean oil makes up 79.64% of the production of biodiesel in Brazil. In the Midwest, about 89.29% of biodiesel is composed of soybean oil.

可再生燃料有助于减少温室气体排放。在巴西，由于大豆油供应充足，79.64%的生物柴油由大豆油制成。在中西部，89.29%的生物柴油由大豆油制成。



### HEALTH 健康

Soybeans are also an important food and medical supplement because its derivatives are suitable for people with lactose intolerance. Soybeans reduce the risk of cardiovascular disease, heart attack and stroke. They also help in gaining lean mass and slowing the aging process.

大豆还是一种重要的食品和医疗补充物，因为大豆衍生品适合乳糖不耐受人群食用。大豆能降低患心血管疾病、心脏病和中风的风险，还有助于肌肉生长，延缓衰老。



### ANIMAL FEED 动物饲料

Soybean meal and corn make up 90% of all animal feed, which means that anyone who eats chicken meat, pork, fish and beef are also consuming soy. It is the transformation of plant protein into animal protein.

豆粕与玉米占有所有动物饲料的90%，这意味着吃鸡肉、猪肉、鱼肉与牛肉的人也在消费大豆。这是将植物蛋白转化成动物蛋白。



# THE IMPORTANCE OF AGRIBUSINESS

## 农业综合经营的重要性

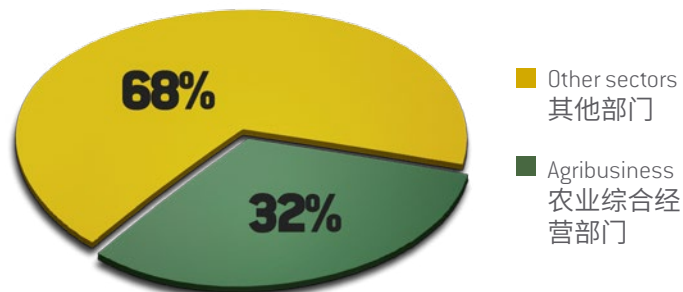


### EMPLOYMENT AND INCOME

Mato Grosso accounts for 32% of formal jobs created in the country, with a significant contribution from the soy production chain.

### 就业与收入

马托格罗索州的正式工作占巴西全国的32%，其中很大一部分来自大豆生产链。



Source: Labor Ministry. Elaboration: IMEA 2013:  
来源: 劳工部; 制作: 马托格罗索州农业经济研究所 (IMEA), 2013

### GROSS DOMESTIC PRODUCT (GDP)

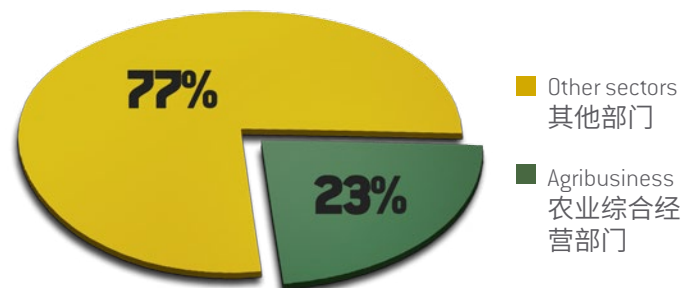
A respeito do PIB, o setor do agronegócio nacional contribui com 23% do total, o que correspondeu a R\$ 1,26 trilhão em 2014. Estimativas oficiais indicam que a produção de soja é o mais importante setor do agronegócio brasileiro.

### 国内生产总值 (GDP)

2014年, 巴西的农业综合经营部门对GDP的贡献率为23%, 总额达1.26万亿雷亚尔。官方数据显示, 大豆产品是巴西农业综合经营部门最重要的产品。

### BRAZILIAN GDP | 巴西GDP

R\$:5.52 Tri | 5.52万亿雷亚尔



### AGRIBUSINESS GDP | 农业综合经营部门的GDP

R\$1.26 Tri | 1.26万亿雷亚尔

### MORE INFO | 更多信息

100 kg of soy, when processed, becomes 19 kg of soybean oil and 79 kg of soybean meal.

100公斤大豆可加工成19公斤大豆油和79公斤豆粕。



## THE IMPORTANCE OF AGRIBUSINESS 农业综合经营的重要性

### 2015 EXPORT DATA FOR BRAZIL

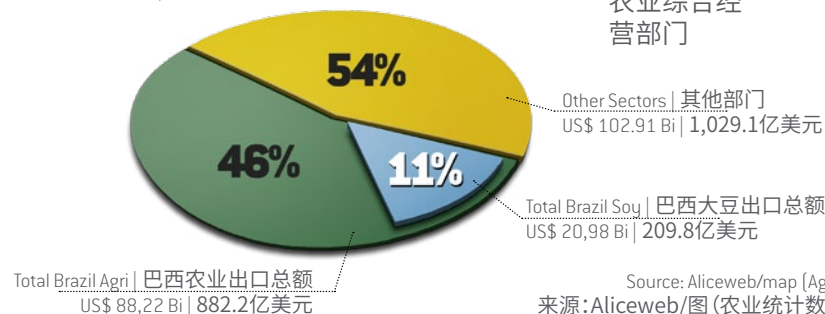
Brazilian agribusiness contributes 46% to national exports, and the soy complex alone accounted for 11% of total revenue of US\$191 billion in 2015.

### 2015年巴西的出口数据

2015年, 巴西农业综合经营部门占全国出口的46%, 仅大豆复合物就占1,910亿美元总收入的11%

### TOTAL BRAZIL | 巴西出口总额

US\$ 191 Bi | 1,910亿美元



### 2015 EXPORT DATA FOR MATO GROSSO

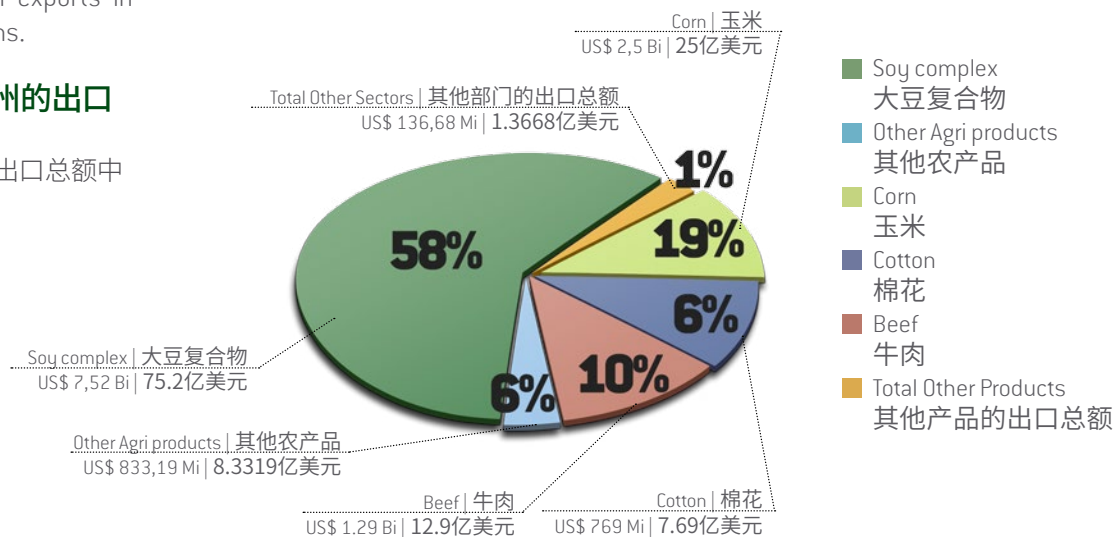
58% of the state's total exports in 2015 were from soybeans.

### 2015年马托格罗索州的出口数据

2015年, 马托格罗索州出口总额中的58%来自大豆出口。

### TOTAL MATO GROSSO | 马托格罗索州的出口总额

US\$ 13,07 Bi | 130.7亿美元



# SOYBEAN PRODUCTION IN BRAZIL

## 巴西的大豆生产

Brazil increased soybean planted area by 143% over the last 17 years.

在过去17年间, 巴西的大豆种植面积增加了143%。

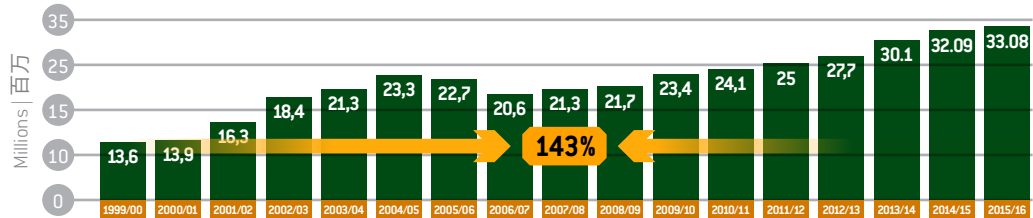
Brazilian soybean production increased by 195% during the same period.

巴西大豆产量同期增加195%。

What explains this increase in production above the levels of the planted area is increased productivity. In the specific case of Mato Grosso, productivity levels, as well as being high, are well above the

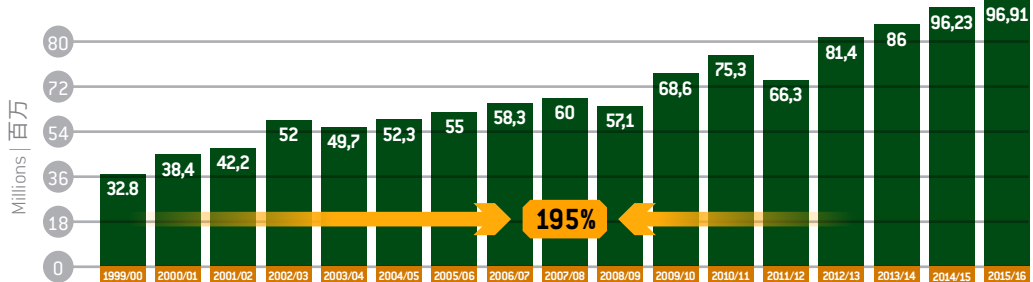
Brazilian average. 产量的增加快于种植面积的增加是因为生产效率提高。马托格罗索州的生产效率水平很高, 而且远高于巴西的平均水平。

PLANTED AREA (HEC) | 种植面积 (公顷)



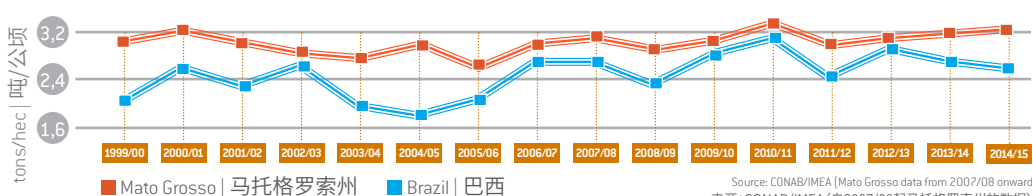
Source: Conab | 来源: 国家商品供应公司 (Conab)

BRAZILIAN SOY PRODUCTION (T) | 巴西大豆产量 (吨)



Source: Conab | 来源: 国家商品供应公司 (Conab)

SOY PRODUCTIVITY (TONS/HEC) | 大豆生产效率 (吨/公顷)



Source: CONAB/IMEA (Mato Grosso data from 2007/08 onward  
来源: CONAB/IMEA (自2007/08起马托格罗索州的数据))



# LARGEST SOYBEAN PRODUCING STATES

## 大豆产量最高的几个州

MATO GROSSO: LARGEST SOYBEAN PRODUCER IN BRAZIL (2014/15)

马托格罗索州: 巴西大豆产量最高的州 (2014/15)

**28,62** Millions of tons of Soy

**30%** of Brazilian soy

**9%** of World soy

**2,862** 万吨大豆

巴西大豆的**30%**

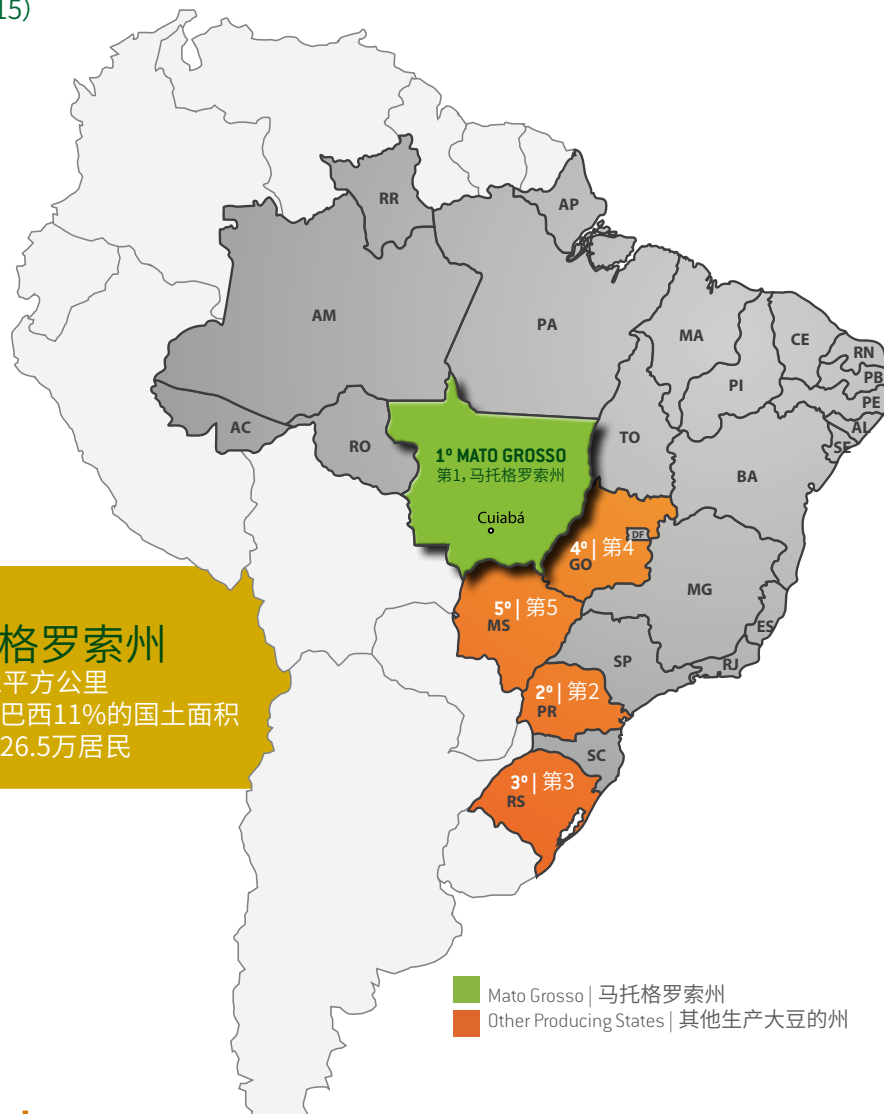
世界大豆的**9%**

### MATO GROSSO | 马托格罗索州

903,378,292 KM² | 903,378.292平方公里

- 11% OF BRAZILIAN TERRITORY | 巴西11%的国土面积
- 3.265 MILLION INHABITANTS | 326.5万居民

IBGE Estimate | 巴西地理统计局(IBGE)估计





# LAND USE AND PRESERVATION IN MATO GROSSO

## 马托格罗索州的土地利用与保护



### MATO GROSSO USES ONLY 10% OF ITS AREA FOR SOYBEAN PRODUCTION

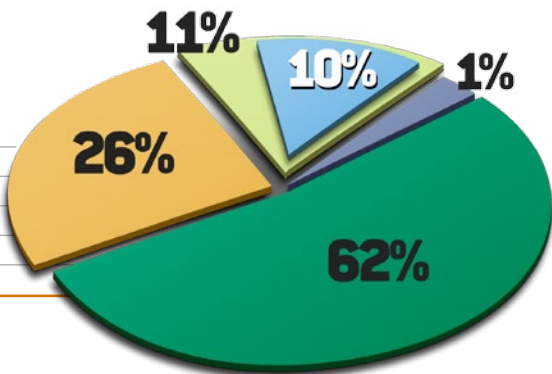
The conservation areas in Mato Grosso account for 62% of its territory and agricultural activities occupy 37%. Soybean production uses only 10% of the state's total area.

### 马托格罗索州将仅10%的面积用于大豆生产。

马托格罗索州的保护区占其领土的62%，农业活动占37%。用于大豆生产的土地仅占马托格罗索州总面积的10%。

LAND USE AND PRESERVATION IN MATO GROSSO (HEC)  
马托格罗索州的土地利用与保护 (公顷)

|                         |                  |     |
|-------------------------|------------------|-----|
| Preservation Area   保护区 | 55,6 Mi   5,560万 | 62% |
| Grazing   牧草            | 23.8 Mi   2,380万 | 26% |
| Crops   作物              | 9.7 Mi   970万    | 11% |
| Soybeans   大豆           | 9 Mi   900万      | 10% |
| Other uses   其他用途       | 1.1 Mi   110万    | 1%  |



Source: IMEA | 来源: IMEA

PRESERVED AREA IN MATO GROSSO CORRESPONDS TO  
马托格罗索州的保护区面积等于



France plus Belgium  
法国和比利时的总和

Or  
或



Four times the size of Illinois state in the US  
美国伊利诺伊州面积的四倍



# SOYBEAN AND QUALITY OF LIFE IN THE COUNTRY AND IN CITIES

## 大豆与城乡生活品质

LARGEST PRODUCERS (MATO GROSSO) | 产量最高的州 (马托格罗索州)

### CITY | 城市

### ECONOMY | 经济



1°

Cuiaba | 库亚巴  
Founded in 1719 | 成立于1719年

Business and Services: 商业与服务



2°

Lucas do Rio Verde | 韦尔德河畔卢卡斯  
Founded in 1988 | 成立于1988年

Agribusiness: 农业综合经营



3°

Nova Mutum | 新穆通  
Founded in 1988 | 成立于1988年

Agribusiness: 农业综合经营



4°

Rondonopolis | 龙多诺波利斯  
Founded in 1915 | 成立于1915年

Agribusiness: 农业综合经营



5°

Sinop | 锡诺普  
Founded in 1974 | 成立于1974年

Agribusiness: 农业综合经营



6°

Primavera do Leste | 东普里马韦拉  
Founded in 1986 | 成立于1986年

Agribusiness: 农业综合经营



7°

Campo Verde | 坎普佛得  
Founded in 1988 | 成立于1988年

Agribusiness: 农业综合经营



8°

Barra do Garcas | 巴拉-杜加萨斯  
Founded in 1948 | 成立于1948年

Agribusiness: 农业综合经营



9°

Campos do Julio | 坎波斯杜胡里奥  
Founded in 1994 | 成立于1994年

Agribusiness: 农业综合经营



10°

Sorriso | 索里苏  
Founded in 1986 | 成立于1986年

Agribusiness: 农业综合经营

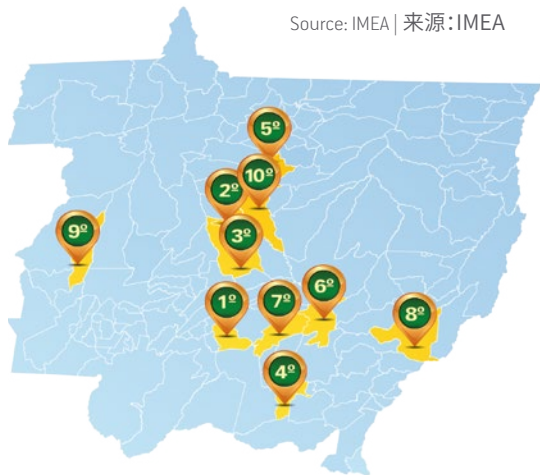
### MATO GROSSO'S TEN LARGEST HDIS: AGRIBUSINESS BRINGS DEVELOPMENT

There is a strong correlation between the production of soybeans and environmental macro indicators, such as the Human Development Index (HDI). The ten regions in Mato Grosso with the largest soybean production also have higher HDIs than the state and national averages.

### 马托格罗索州的十大人类发展指数: 农业综合经营带动发展

大豆产量与人类发展指数 (HDI) 等环境宏观指标之间存在紧密联系。马托格罗索州有10个区域大豆产量最高，其人类发展指数也高于州和国家的平均水平。

Source: IMEA | 来源: IMEA





On the farm, welfare of workers is one of the most important things, which means the use of safety equipment, training courses, investment in housing, health, education and good wages.

在农场上，工人福利是最重要的事情之一，这意味着使用安全设备、提供培训课程、投资住房、健康、教育和不错的工资。







## SOYBEAN AND QUALITY OF LIFE IN THE COUNTRY AND IN CITIES 大豆与城乡生活品质

For every two jobs created by soybeans, another 9.5 indirect jobs are created in cities. This is the main reason why the cities whose economy are mainly based on soybean production are well developed.

大豆每创造2个工作岗位，就在城市间接创造9.5个工作岗位。经济主要依赖大豆生产的城市发展情况都不错，主要原因就在于此。





Mato Grosso soybean producers contribute to the State Fund for Transport and Housing (Fethab), which raises funds for the realization of direct investments in improvements in road transport and deployment of affordable housing. The amount collected through Fethab in 2015 was approximately R\$ 241 million.

马托格罗索州的大豆生产者向巴西国家交通与住房基金（Fethab）缴费。该基金募集资金，开展直接投资，改善道路交通、提供廉价住房。2015年，通过Fethab筹集的资金约为2.41亿雷亚尔。



Source: Sinfra / MT | 来源: Sinfra / MT







# BRAZILIAN ENVIRONMENTAL PRESERVATION POLICY

## 巴西的环保政策

### 1

#### PUBLIC AND PRIVATE PROTECTED AREAS 公共与私人保护区

Brazil is recognized as one of the countries with the most stringent environmental policies in the world. The environmental preservation plan is based on the items below:

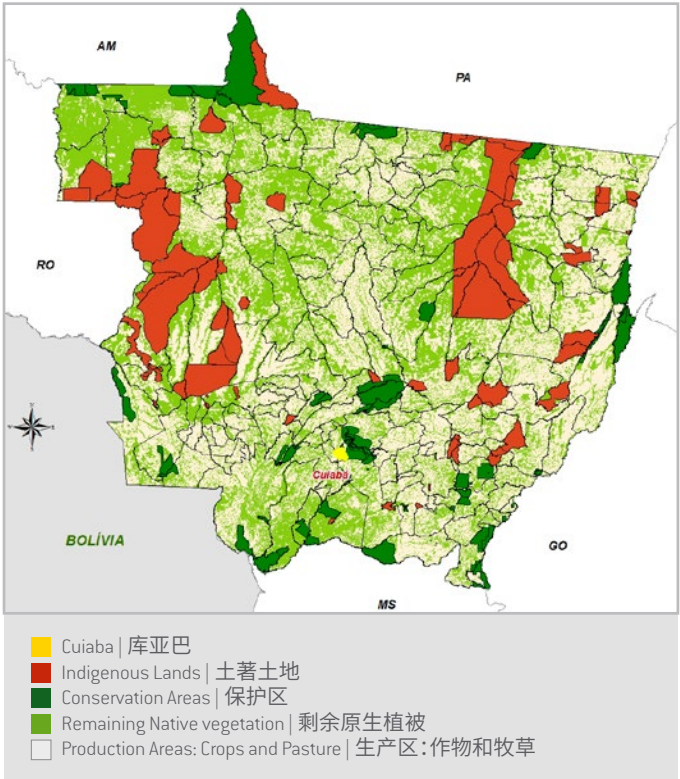
1. Creation of Conservation Units, known as UC's;
2. Creation of Indigenous Lands;
3. Legal Reserve Institutions (ARLs) and Permanent Preservation Areas (APPs) within rural properties;
4. Private Natural Heritage Reserve Institutions (RPPN) within rural properties.

巴西被认为是世界上环保政策最严厉的国家之一。

环保计划包括以下内容：

1. 设立保护单元（称为“UC”）；
2. 设立土著土地；
3. 农村地区设立法定保护机构（ARL）和永久保护区（APP）；
4. 农村地区设立私人自然遗产保护机构（RPPN）。

Source: IMEA 2013 | 来源:IMEA, 2013



#### PRESERVED AREAS IN BRAZIL | 巴西的保护区

|  | Preserved Areas in Brazil<br>巴西的保护区 | Remaining Area (native vegetation)<br>剩余面积(原生植被) |
|--|-------------------------------------|--|
| Amazon Biome   亚马逊生态区                  | 419,7   419.7                       | 82,4%   82.4%                                    |
| Cerrado (Savannah) Biome   塞拉多(萨凡纳)生态区 | 203,8: 203.8                        | 51,2%: 51.2%                                     |
| Pantanal (Wetland) Biome   潘塔纳尔(湿地)生态区 | 15,1: 15.1                          | 83,1%: 83.1%                                     |

Source: Biomas Project | 来源:生态区项目 · [www.projeto biomas.com.br](http://www.projeto biomas.com.br)



## 2

### LEGAL RESERVES 法定保护区

This is an area of environmental protection required by law, located inside the farm, which has the function of preserving biodiversity, provide shelter and protection for wildlife and native flora. The Legal Reserve area is complementary to Permanent Preservation Areas (PPAs).

The size of the Legal Reserve depends on the farm location, as shown below. The area is part of the farmer's property, but he does not receive any financial aid to preserve it.

Mandatory Legal Reserves do not exist in any other country, everywhere else farmers are allowed to produce on 100% of their property.

这是依法设立的环保区，位于农场内，其功能是保护生态多样性，为野生动物和原生植物提供栖息地和保护。法定保护区式是对永久保护区的补充。

如下图所示，法定保护区的规模取决于农场的位置。保护区是农民土地的一部分，但农民并不因为保护区而获得经济资助。

强制性法定保护区在其他任何国家都不存在，在其他地方，农民可在自己土地的任何地方进行农业生产。

#### LEGAL RESERVE (AS A % OF TOTAL PROPERTY AREA) | 法定保护区 (占土地总面积的百分比)

Other Countries  
其他国家

States Outside the Legal Amazon region  
法定亚马逊保护区以外的州

States in the Legal Amazon region  
法定亚马逊保护区内的州

Cerrado | 塞拉多

Forest | 森林



0%



20%



35%



80%

Source: APROSQJAMT | 来源: Aprosoja/ MT



## BRAZILIAN ENVIRONMENTAL PRESERVATION POLICY 巴西的环保政策

### 3

#### PERMANENT PRESERVATION AREAS - APPS 永久保护区

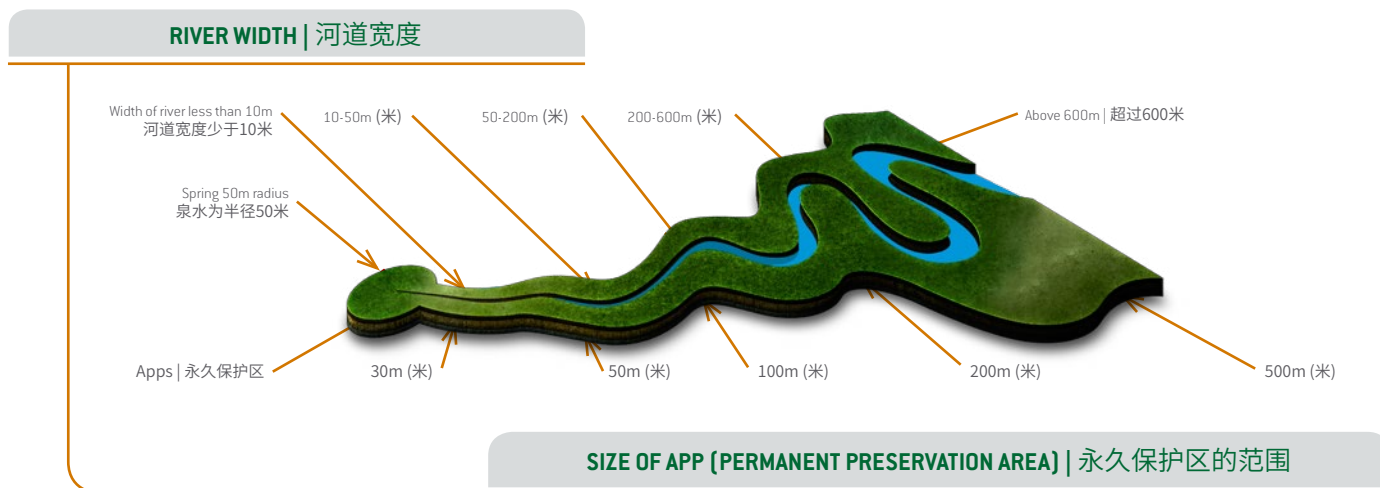
An important part of Brazil's environmental policy is the Permanent Preservation Area, known as APP or riparian areas. These areas are of great ecological importance, covered with native vegetation, with the function to protect the soil, protect waterways, landscapes, geological stability, biodiversity, flora and fauna and ensure quality of life for the general population.

A Federal law defines the size of the permanent preservation areas, being 50 meters in radius for springs and for riverbanks it ranges from 30 to 500 meters depending on the river's width, as shown in the figure below.

The legislation also includes as permanent preservation areas, slopes, edges of valleys or plateaus, hill tops and mangrove paths.

巴西环境政策的重要组成部分是永久保护区，被称为“APP”或河岸地区。这些地区具有重要的生态意义，覆盖原生植被，功能是保护土壤、保护航道、景观、地质稳定性、生物多样性、动植物，确保普通民众的生活品质。联邦法律界定永久保护区的范围，如下图所示，泉水为半径50米的范围，河岸则为半径30-500米的范围，具体取决于河道宽度。

法律还包括坡地、山谷或高原边缘、山顶与红树林小径等永久保护区。



# ENVIRONMENTAL ADJUSTMENT

## 环境调整



### RURAL ENVIRONMENTAL REGISTRATION – CAR

The Rural Environmental Registry (CAR) is the electronic public record of environmental information of rural properties. It is an important instrument to generate and integrate environmental information related to rural properties, making the database for control, monitoring, environmental and economic planning and to fight deforestation.

It was established by Law No. 12,651, on May 25, 2012 and regulated in Mato Grosso through Decree 420/2016, being compulsory for all rural properties nationwide.

CAR is the gateway to become compliant with regulations. If the property presents as deficit of legal reserve and permanent preservation areas, the landowner must adhere to the Environmental Adjustment Program (PRA) in order to comply with environmental legislation.

### 农村环境登记

农村环境登记 (CAR) 是农村土地环境信息的公开电子记录, 是产生并融合农村土地相关环境信息的重要工具, 建立用于控制、监测、环境与经济规划的数据库, 打击森林砍伐。

2012年5月25日, 第12651号法律确立了农村环境登记制度, 在马托格罗索州由第420/2016号法令规定, 巴西全国范围内的所有农村土地都必须强制执行该制度。

农村环境登记是符合规定的一种途径。如果土地不足以符合法定保护区和永久保护区的要求, 土地所有者必须实施环境调整项目 (PRA), 从而遵守环境法律。





# TO BETTER UNDERSTAND 更好地理解



## AMAZON RAINFOREST 亚马逊雨林

It is “the” forest. The Amazon forest is the largest forest on the planet, conditioned by the humid equatorial climate. Equivalent to 35% of the planet’s forest area. It occupies 3.8 million square kilometers or 44.7% of Brazil’s territory. In Mato Grosso, the Amazon forest covers 171,600 square kilometers in the north, or 19% of the state’s total area. It is characterized by being heterogeneous, with a high quantity of different species, about 2500 types of trees and over 30,000 kinds of plants. Moreover, it is perennial, or remains green throughout the year, not losing leaves in autumn. It has a high density, which is conducive to a large number of trees per square meter.

这是独一无二的森林。亚马逊森林是地球上最大的森林，位于潮湿的赤道气候范围内，占全球森林面积的35%。亚马逊森林占地面积为380万平方公里，占巴西国土面积的44.7%。亚马逊森林有171,600平方公里位于马托格罗索州北部，占州总面积的19%。森林具有高度异质性，拥有大量不同的物种，包括约2,500种树木和30,000余种植物。此外，森林常年生长，四季常绿，秋天也无落叶。森林密度高，有利于在每平方米面积内生长大量树木。



Source: IBGE | 来源: IBGE

### SUMMARY OF BIOMES | 生态区概述

|                         | Area (million Km²)<br>面积 (百万平方公里) | Brazil %<br>巴西, % |
|-------------------------|-----------------------------------|-------------------|
| Amazon Forest   亚马逊森林   | 3,8                               | 44,7%             |
| Amazon Biome   亚马逊生态区   | 4,2                               | 49,3%             |
| Legal Amazon   法定亚马逊保护区 | 5,2                               | 61,2%             |

Source: IBGE, 2011; EMBRAPA, 2011 | 来源: 巴西地理统计局 (IBGE), 2011; 巴西农业研究公司 (EMBRAPA), 2011

### MAKE NO MISTAKE! 千真万确!

It is important not to confuse the Amazon biome with the Amazon Forest. The first term refers to the general characteristics involving the forest, animals, rivers, soil and flora, the second is limited to forest itself.

重要的是，不要混淆亚马逊生态区与亚马逊森林。前者是指涉及森林、动物、河流、土壤和植物的一般特征，后者限于森林本身。





## THE AMAZON BIOME 亚马逊生态区

The Amazon biome is a set of interconnected ecosystems between the Amazon rainforest and the Amazon River Basin, the densest on the planet. It is characterized by its elevated extension, occupying nearly half of Brazil's territory, and going beyond the territorial border areas. The biome contains some features that are similar to the forest. It's bigger than the Amazon rainforest itself, occupying an area of 4.2 million square kilometers, or 49.3% of the territory of Brazil. In Mato Grosso, the Amazon biome covers 487,800 square kilometers, or 54% of the state.

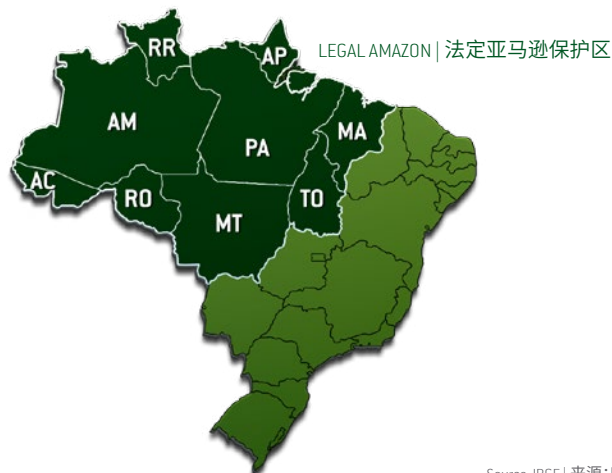
亚马逊生态区是位于亚马逊热带雨林和亚马逊河流域之间一系列相互连接的生态系统，是地球上树木最茂盛的地区。生态区广袤无垠，占巴西近一半的国土面积，跨越了领土边境地区。生态区的一些特征类似于森林。生态区大于亚马逊热带雨林本身，占地面积为420万平方公里，为巴西国土面积的49.3%。在马托格罗索州，亚马逊生态区面积为487,800平方公里，占州总面积的54%。



## LEGAL AMAZON 法定亚马逊保护区

The Legal Amazon is a political designation created by the Brazilian government in 1953 to allow the country's northern states receive financial incentives to help them develop. The Legal Amazon is made up of nine states, including 100% of Mato Grosso. The "Legal Amazon" is often confused with the Amazon forest, leading to the mistaken belief that the whole state was composed of rainforest.

法定亚马逊保护区由巴西政府于1953年创立的具有政治意义的保护区，给予巴西北部各州财政激励，以帮助其发展。法定亚马逊保护区由9个州组成，马托格罗索州全部纳入其中。人们经常将“法定亚马逊保护区”与亚马逊森林混淆，从而错误地认为，马托格罗索州都是热带雨林。



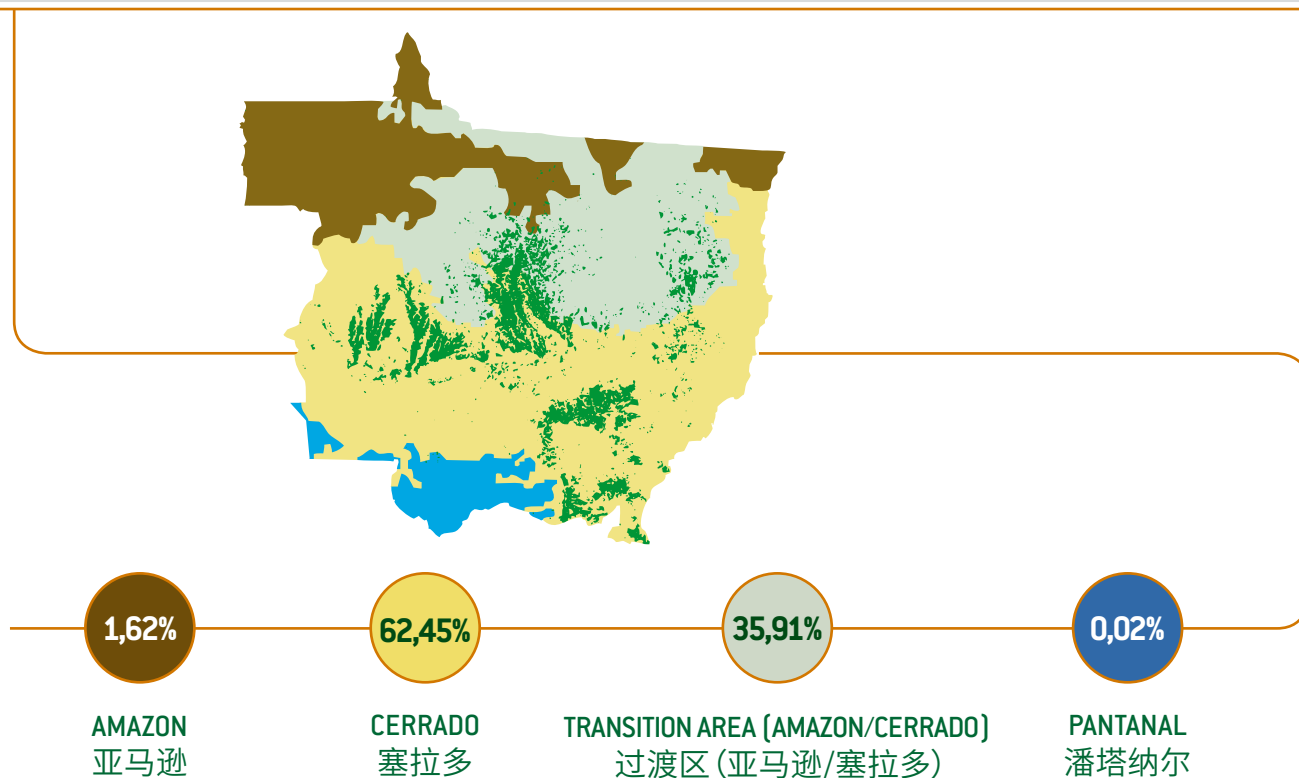
Source: IBGE | 来源: IBGE



Mato Grosso's soybean production is predominantly located in the Savannah or "Cerrado" region

马托格罗索州的大豆生产主要位于萨凡纳或“塞拉多”地区。

PERCENTAGE OF SOY PLANTED IN EACH VEGETATIVE ZONE | 每个植物区种植大豆的百分比



Source: Soy Environmental Analysis 2013 | 来源:大豆环境分析, 2013

# Agriculture and environment coexist in harmony in Mato Grosso

## 在马托格罗索州农业与环境和谐共存



### NEW SUSTAINABLE AGRICULTURE:

- No-Till
- Terrace System
- Elevated Planting
- Riparian Forest
- Legal Reserves
- Biodiverse Corridors
- Agrochemicals Package Recycling
- Rural Environmental Registry – CAR
- Environmental Regularization Program – PRA

### 新型可持续农业：

免耕  
梯田系统  
高架栽培  
河岸林  
法定保护区  
生物多样性走廊  
农药包装回收  
农村环境登记 (CAR)  
环境调整项目 (PRA)

### NEW PARADIGM 新范式

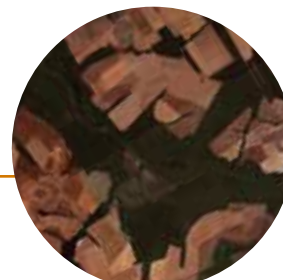
These new concepts of sustainability should have SOME VALUE on the market!  
这些可持续发展的新理念应该在市场上具有一些价值！

### MATO GROSSO AGRICULTURAL PRODUCTION: SUSTAINABLE LANDSCAPE

马托格罗索州农业生产：可持续格局



Primavera do Leste | 东普里马韦拉



Sinop | 锡诺普

### AGRICULTURE + CONSERVATION AREAS | 农业+保护区

### TRADITIONAL AGRICULTURAL LANDSCAPES IN OTHER COUNTRIES

其他国家的传统农业格局



### ONLY TRADITIONAL AGRICULTURE, WITH NO CONSERVATION AREAS | 只有传统农业，没有保护区



# Technology: An ally for sustainability

## 技术: 可持续发展的助手

In Mato Grosso, soy is synonymous with technology. The state's farmers are known for using modern technologies from planting to harvest, always seeking greater productivity. As a result, the soybean complex is the leading economic sector in exports.

Mato Grosso has one of the highest average soybean yields in the world. Thirty percent of the soybean area is used to plant second-crop corn, optimizing the use of land, machinery and labor, recycling nutrients from the soil, with positive and sustainable results.

在马托格罗索州,大豆与技术齐名。马托格罗索州的农民声名远扬,从播种到收割均采用现代化技术,始终寻求提高劳动生产率。为此,大豆复合系统是出口的主导产品。

马托格罗索州是世界上平均大豆产量最高的地方之一。30%的大豆种植面积用于种植第二茬作物玉米,优化土地、机械和劳动力的使用,循环利用土壤中的营养物质,实现积极的可持续种植。

FAVORABLE CLIMATE  
有利的气候条件

TECHNOLOGY  
技术

DEDICATION BY PRODUCERS  
生产者的奉献

HIGH YIELDS  
产量高



+



+



=





# Tillage Technology

## 耕作技术

### CONCEPT

Planting without turning over the soil

### 理念

无需翻土即可播种

### ADVANTAGES

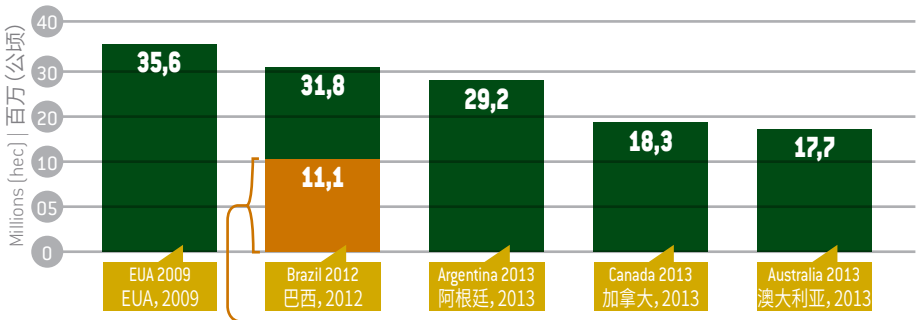
- Prevents erosion
- Allows savings of fossil fuels  
[50% less than conventional farming]
- Reduces greenhouse gas emissions
- Reduces global warming
- Increases soil fertility
- Protects the biodiversity of soil organisms



### 优势

防止水土流失  
节约化石燃料  
(比传统耕作节约50%)  
减少温室气体排放  
减缓全球变暖  
提高土壤肥力  
保护土壤有机质的生物多样性

RANKING OF COUNTRIES WITH LARGEST AREA OF NO-TILL FARMING(HEC) | 免耕种植面积 (公顷) 最大的国家排名



Source: FAO | 来源: 联合国粮农组织







# Crop-Livestock Integration Technology (ILP)

## 种植养殖一体化技术 (ILP)

Crop-Livestock Integration is an agricultural technique that combines several activities on the same stretch of land, using different systems, such as consortium, rotation or succession. Commonly used to improve grazing areas, ILP also optimizes land use, resulting in increased grain production. Meat production also increases due to residual fertilization from the grain harvest. The technique is considered by experts as an economic and sustainable alternative to improve degraded areas, such as pastures with low growth rate, and crops with low yield. One way that ILP is being adopted by a larger number of soybean producers is by planting short cycle soy in October, which is harvested in January. Farmers then plant corn mixed with grass seed. When the corn is harvested in May-June, cattle graze the remaining grass until October, when the cycle starts again, with no-till soybeans.

种植养殖一体化是指通过混作、轮作或连作等不同方式，整合同一块土地上开展的各项活动的农业技术。种植养殖一体化技术常用于改善牧区，还优化土地利用，提高粮食产量。由于粮食收割产生的残留物对土地的施肥作用，肉类产量也有所增加。该技术被专家视为经济、可持续的替代技术，能改善退化土地，比如：生长率低的牧场、产量低的作物等。大量大豆生产者采用种植养殖一体化技术的一种方式是在10月份种植短季大豆，1月份收获。然后，农民播种混有牧草种子的玉米。玉米在5-6月份收获，牛吃剩下的牧草，直到10月份，循环再次开始，种植免耕大豆。

### A WAY TO INTEGRATE: THREE CROP ON THE SAME AREA, DURING THE SAME CROP YEAR

一体化的方式：同一作物年在同一块土地上种植3种作物





# High technology = 2 high productivity crops = less deforestation = environmental economics

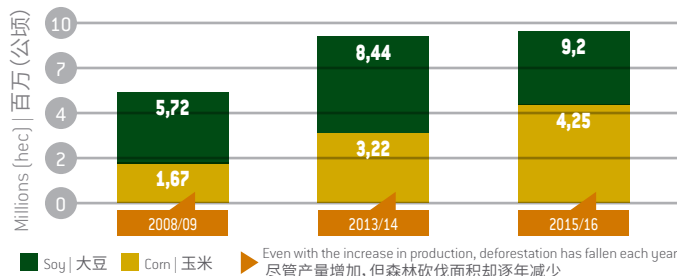
## 高科技=2种高产作物=减少森林砍伐=环境经济学

The increase in soybean yield, plus the production of second corn crop in the same area that produced soybeans has allowed an environmental savings of 4.25 million hectares. This area is equivalent to 907.5 million tons of CO<sub>2</sub> that was not emitted by new deforestation.

大豆产量增加。此外，在同一块土地上，除了生产大豆，还种植第二茬玉米作物。从环境的角度而言，节约了425万公顷土地。该土地等于减少了森林砍伐排放的9.075亿吨二氧化碳。

### MATO GROSSO SOYBEAN PLANTED AREA | 马托格罗索州大豆种植面积

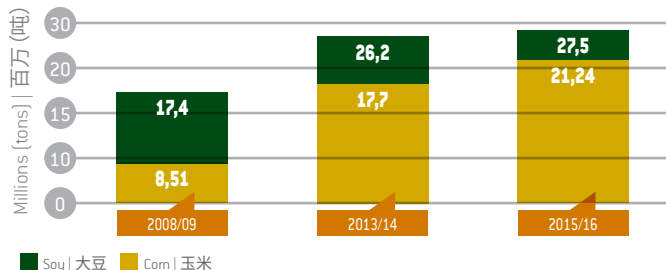
Increase in Area +81.65% Corn and Soy | 玉米与大豆种植面积增加81.65%



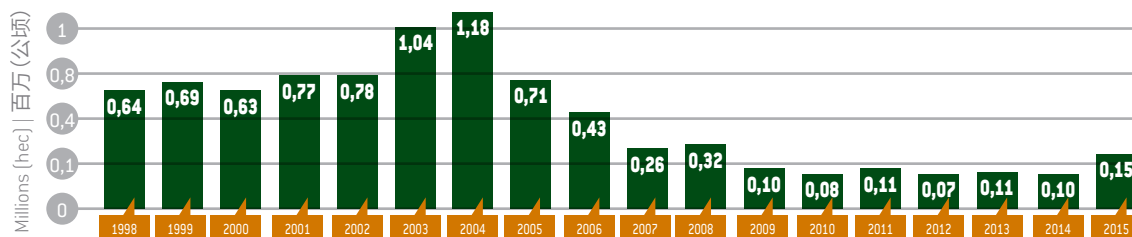
Source: IMEA 2016 | 来源: IMEA, 2016

### PRODUCTION (TONS) | 产量 (吨)

Growth in Production +88.09% Corn and Soy | 玉米与大豆产量增加88.09%



### MATO GROSSO DEFORESTATION (HEC) | 马托格罗索州森林砍伐面积 (公顷)



► Brazil has already reached the goal of reducing deforestation by 80% in 2009. The target was initially for 2020. 2009年，巴西已经实现了减少80%森林砍伐的目标。最初计划到2020年才能实现上述目标。

Source: Science, Technology and Innovation Ministry (MCTI) - Proders | 来源: 巴西科技与创新部 (MCTI) - Proders



## Sustainable initiatives 可持续性倡议



AGROSOLIDARITY  
农业团结

The AgroSolidarity Program is a social program run by Aprosoja since 2009. Today, it serves more than 10,000 people per month in Mato Grosso. The focus of the program is to spread the benefits of soy and corn, promoting the adoption of these products in everyday diet. There are three lines: the project “Soy is Life”, which distributes soy drinks to entities that assist children, the elderly and infirm; the project “Soy is Culture”, which encourages cultural activities; and the project “Soy is Sport”, which provides soy drinks to amateur sports institutions.

“农业团结”项目是一个由马托格罗索州大豆和玉米生产者协会经营的社会项目，于2009年启动。如今，该项目每月为马托格罗索州超过1万人提供服务。项目聚焦宣传大豆和玉米的益处，推动在日常膳食中纳入这些产品。有三句话：“大豆是生活”项目向帮助儿童、老年人和体弱者的实体分发大豆饮料；“大豆是文化”项目鼓励开展各种文化活动；“大豆是运动”项目为业余运动机构提供大豆饮料。





## SOY PLUS 大豆+

Soy Plus is an economic management, social and environmental Brazilian farm program. The initiative has been carried out in partnership between Aprosoja, ABIOVE and Senar-MT since 2011, and includes management tools that assist farmers in their day to day activities. Participating producers receive guidance from site visits carried out by Aprosoja supervisors and then deploy these tools on their property. The goal is continuous improvement of the property, at no cost to the producer.

The program prepares farmers to produce in a more sustainable way from an economic, social and environmental point of view. The program has reached more than 1,000 producers in Mato Grosso and expects to reach thousands more in the coming years throughout Brazil.

“大豆+”是巴西农场的经济、社会与环境管理项目。该倡议于2011年启动，由马托格罗索州大豆和玉米生产者协会、巴西植物油行业协会（ABIOVE）和马托格罗索州巴西全国农业学习服务技术学校（Senar）共同实施，包括协助农民开展日常活动的管理工具。

参加项目的生产者获得马托格罗索州大豆和玉米生产者协会导师在现场走访时提供的指导，然后在自身土地上部署这些工具。目标是实现土地的持续改进，生产者无需支付任何费用。

通过该项目，农民以经济、社会与环境更可持续的方式生产大豆。项目吸引了马托格罗索州1,000余名生产者的参加，预计在未来几年内，巴西全国数千农民将参与其中。





## SUSTAINABLE INITIATIVES 可持续性倡议



### GREEN ACTION 绿色行动

The Green Action Institute aims to develop actions that promote balance between the environment, social welfare and productive activity in Mato Grosso, acting in the development, implementation and certification of environmental actions in the productive sector.

One of the prominent projects is the Green River Project, which aims to restore and preserve 100% of riparian areas along Mato Grosso's major rivers by the year 2020. The Carbon Core Project is carrying out an inventory of carbon emissions, direct and indirect, quantifying CO<sub>2</sub> emissions or credits generated. In addition to these projects, there are environmental education initiatives, with solid waste collection and educational workshops. Green Action was created in 2007 and as well as Aprosoja, it consists of entities like Fiemt, Famato, Acrimat, Sindalcool, Citem, Sindenergia and Sicredi.

绿色行动协会旨在制定行动，促进马托格罗索州环境、社会福利和生产活动之间达成平衡，在生产部门中参与制定、实施和认证环境行动。

其中一个重要项目是“绿色江河项目”，旨在到2020年恢复和保护马托格罗索州主要河流100%的河岸地区。“碳核项目”正在实施直接和间接碳排放清单，量化二氧化碳排放或产生的信用。除了上述这些项目，还有环境教育倡议，包括固体废物收集和教育研讨会。

绿色行动于2007年创立，与马托格罗索州大豆和玉米生产者协会类似，绿色行动协会由马托格罗索州企业联合会（Fiemt）、马托格罗索州农业联盟（Famato）、马托格罗索州养牛协会（Acrimat）、Sindalcool、Citem、Sindenergia和Sicredi等实体组成。

INSTITUTO  
**Ação Verde**



Pequi (Caryocar brasiliense) | Pequi (油桃木)



Recover process for the margin of the Cuiaba river in the municipal of Santo Antonio do Leverger – Mato Grosso | 马托格罗索州圣安东尼奥勒贝尔格市库亚巴河河岸恢复过程

Source: Green Action Institute | 来源:绿色行动协会





## DISPOSE OF EMPTY CONTAINERS 空容器处置

Mato Grosso is the state that collects and recycles the most agrochemical packages in Brazil. This result is a combination of specific legislation, environmental awareness of producers and a network of package collection locations, used and maintained by private initiatives.

马托科罗索州收集并回收利用巴西大部分农药包装。这是特定法律、生产者环境意识和私营包装收集网络共同作用的结果。

98%



MATO GROSSO | 马托格罗索州

Mato Grosso is the national champion for recycling, with 98% of packaging properly discarded.  
马托格罗索州是巴西全国空容器回收利用率最高的州, 98%的包装材料得到合理处置

95%



BRAZIL | 巴西

Brazil is the world champion  
巴西是世界上空容器回收利用率最高的国家

30%



EUA | EUA

NO DATA | 无数据



EUROPA | 欧洲

Source: Inpev/MAPA | 来源: 国家空容器处理研究所 (Inpev) / 巴西农业部 (MAPA)



# How to foster sustainability of domestic production – What we support:

## 如何促进国内生产的可持续发展——我们支持什么：

1

### PAYMENTS FOR ENVIRONMENTAL SERVICES 环境服务补偿

One of the ideas supported by Aprosoja is that producers who choose to maintain conservation areas rather than convert them to agricultural production, should receive financial compensation for this. Financial compensation can function as an efficient alternative to promote environmental preservation.

马托格罗索州大豆和玉米生产者协会支持的一种观点是生产者只要选择保留保护区，而不是将其用于农业生产，就应该获得经济补偿。经济补偿可以作为一种高效的替代方案，推动环境保护。





2

**PRODUCTION TECHNOLOGY**  
生产技术

One of the best ways to encourage the sustainability of agricultural production in Brazil is to invest in technology. The higher the investment in research and new solutions for the production process, the higher the crop yield. As a result of higher production per cultivated area, the lower the pressure for the incorporation of new areas, preserving native vegetation and biodiversity.

在巴西，鼓励农业生产实现可持续发展的最佳方式之一是投资于技术。对生产工艺的研究和新解决方案投资越多，作物产量就越高。单位种植面积产量越高，开辟新种植土地、保护原生植被和生物多样性的压力就越小。





## HOW TO FOSTER SUSTAINABILITY OF DOMESTIC PRODUCTION – WHAT WE SUPPORT: 如何促进国内生产的可持续发展——我们支持什么：

### 3

#### ADAPTATION OF LEGISLATION TO SUIT RURAL ENVIRONMENT 调整立法, 以适应农村环境

Another key aspect to improve the sustainability of Brazilian agriculture is to foster public policies to improve legislation, both for the environment and for rural workers, including property rights. Policies to ensure the efficient use of land, respecting environmental and economic aspects, land tenure, and the peculiarities of each state still need to be consolidated.

改善巴西农业可持续发展的另一个关键问题是促进公共政策, 改善针对环境和农村工人的立法, 包括产权。确保土地高效利用, 同时保护环境、获得经济效益、尊重土地权属、考虑每个州具体情况的政策依然需要巩固。





4

**GUARANTEE MARKET ACCESS**  
保证市场准入

The opening of markets to Brazilian products, especially meat, is essential to support the sustainability of Brazilian agriculture. This is to ensure free trade of these products and the necessary investments in infrastructure projects, to ensure higher income for producers. The result will be more revenue for local communities and lower volumes of greenhouse gas emission into the atmosphere.

开放市场给巴西产品，尤其是肉类产品，对于支持巴西农业的可持续发展至关重要。这能确保这些产品的自由贸易和对基础设施项目的必要投资，确保生产者获得更高收入。从而给地方社区带来更多收入，减少温室气体对大气的排放。









MATO GROSSO SOY AND CORN PRODUCERS ASSOCIATION  
马托格罗索州大豆和玉米生产者协会

RUA ENGENHEIRO EDGARD PRADO ARZE, N°1.777. EDIFÍCIO CLOVES  
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