

Understanding the **soy moratorium:** responsible production



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GTS – Soybean Working Group

On July 24, 2006, ABIOVE (the Brazilian Vegetable Oil Industry Association) and ANEC (National Cereal Exporters' Association), in conjunction with their members assumed the commitment to not commercialize soybeans planted after October 2006 in areas located in the Amazon Biome that had been deforested since the date of the commitment.

This initiative will last for two years and seeks to reconcile environmental preservation with economic development through the responsible and sustainable use of Brazil's natural resources, in addition to meeting the demand for sustainable products from Brazilian and overseas consumers.

In the understanding of the two bodies, the soybean grower is the main agent in the production process that generates income and employment using land, water, human resources, capital and technology. It is up to the grower to ensure the conservation of his major asset, his farmland and the surrounding area, mitigating environmental impacts.

This booklet and the attached poster are aimed at providing guidance and pertinent information for farmers about best agricultural, environmental and social practices, the legislation relative to the Forestry Code and how the moratorium works. It was prepared upon the initiative of the members of the GTS – Soybean Working Group, with the support of researchers specialized in soybean crop.

We wish you a pleasant read.

ABIOVE - Brazilian Vegetable Oil Industry Association
 ANEC - National Cereal Exporters' Association

The challenges presented by the environment



ZIG KOCH/HIS



Introduction

The rapid growth of soybean production in Brazil has come accompanied by a challenge. How to develop the pace of production, taking into account socio-environmental needs, the globalization of markets and the demands of a population that is increasingly aware of and actively defends its rights? This challenge does not just concern soy, but rather all sectors of the economy. In this particular case, however, there is a special demand because of the expansion of cultivation in the Amazon region, which borders on one of the biomes with the greatest biodiversity on the planet and the consequent concern this arouses in Brazilian society and in the countries that consume our production.

The key to meeting this challenge is to produce good agricultural practices in line with acceptable economic, social and environmental standards. It is fundamental that soybeans be grown respecting nature and local society. The starting point to achieve this is to ensure awareness and compliance with the law, minimizing the environmental and social impacts of soybean growing.



If there is one subject that is able to mobilize people around a common objective worldwide it is the environment. This is why the news that the average temperature on the planet has risen 0.7 degrees Celsius during the last century and should increase from 1.4 to 5.8% during the next 50 to 100 years has caused so much concern.

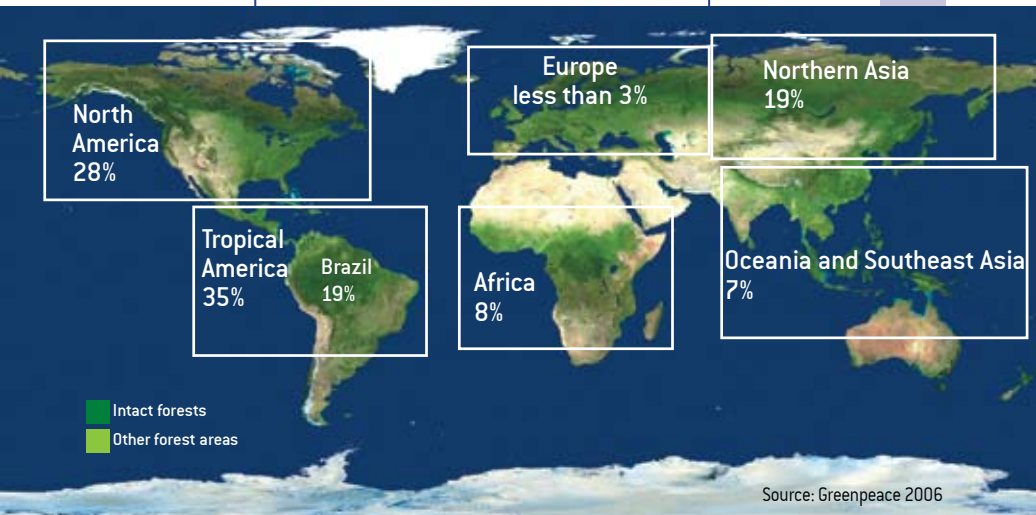
This change may readily be felt in Antarctica, where enormous icebergs have broken loose from the continent, and in the Arctic, where the thaw is increasing year by year. That is not all: 2005 was the hottest year ever since records were started, and 2007 may be even hotter, according to forecasts by some English scientists. In Brazil, studies by the National Space Research Institute (INPE) show that these temperature increases will affect rainfall and agricultural production in a number of regions. All over the world, people are asking: what is happening to the climate?



It is known that the main cause of the increase in global warming is the current development model, which is highly dependent on fossil fuels. But deforestation also makes a significant contribution to the problem. In the past, the world had large stretches of forestland, both in the underdeveloped and developed countries. Industrial expansion from the 18th century on helped destroy a large part of these forests (see the map of what is left over below).

INTACT FORESTS IN THE WORLD

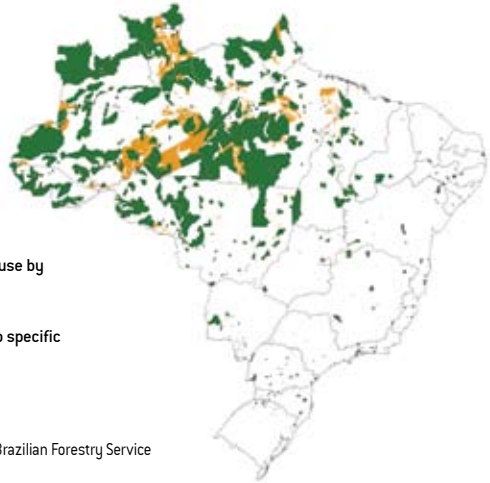
(areas of more than 500 km)



Currently Brazil has 19% of the planet's intact forests (see the map of federal public forests below). However, since the 1970's, around 67 million hectares, the equivalent of 17% of the original Amazon area, have been destroyed. The perception that the expansion of soy-bean culture in Legal Amazon may be contributing to this situation is discouraging for buyers and may end up becoming a non-tariff barrier to soy exports.

FEDERAL PUBLIC FORESTS

- Located in areas destined for environmental protection and use by traditional communities
- Located in public areas with no specific determination of purpose



Source: Ministry of the environment – Brazilian Forestry Service



Deforestation

The lack of a sustainable development policy that takes into account the peculiarities of the forest is one of the causes of this devastation. In the past, the Amazon was considered to be an inexhaustible reserve to be used in benefit of the economy and the development of the country. A great deal of money was spent on vast public and private works such as hydroelectric power stations, highways and incentives to attract workers from other regions. These ended up acting as a mechanism for the unordered and unsustainable occupation of forest areas. The objective today is to prevent the repetition of these mistakes

AMAZON FOREST		
AREA	MILLIONS OF HECTARES	PERCENTAGE
Forest area	300	81,7
Deforested area	67	18,3
Original forest	367	100,0

Source: National Space Research Institute – INPE (PRODES) 2005

In addition to being the largest fresh water reserve in the world, the Amazon region plays an important role in the water cycle. A 100 thousand kilometer river network depends on the forest – 50% of the rainfall in the area is produced by evaporation and transpiration processes in the forest interior. The process influences the rainfall regime in other regions of Brazil and South America. Agriculture in these regions is also dependent on the process.



Water



FOTOS: ZIG KOCH/HG

Extraction activities in the Amazon: business from the forest

The forest is also important because of the wealth of its biodiversity. Today it shelters one in three living forms on the earth. Each hectare of forest has between 40 and 300 species of trees, ten times more than the forests in the temperate regions of North America.

Biodiversity



This diversity is important for research into the active principles of medicines, cosmetics, as well as the oil, latex, fiber and gum industries, into new plant varieties and the maintenance of the habitats of thousands of different species. For this reason, Brazil has a strategic role to play in research into new products derived from nature. Working in the Amazon region implies knowing and respecting the forest, harmonizing economic use with conservation.



The Soybean Market

History

The soybean phenomenon as a driver of growth began in the southern states, but the evolution of growing techniques permitted the adaptation of the plant to the soil and climate conditions of the Brazilian Midwest region and the substitution of the extensive occupation of the Cerrado with dynamic agricultural activity.

The low price of land, together with the incentives offered and the special lines of credit created by the federal government further boosted the expansion process. The participation of the government, particularly in the beginning of the process, was aimed at occupying the hinterland of the country and meeting the demand for grain from the agro-industrial sector, as well as driving exports to improve the country's trade balance.

The Midwest

According to Embrapa, this constellation of factors helped multiply the volume of soybeans produced in the country by thirty in the last three decades of the 20th century. This growth contributed greatly to the economic and social development of this region of the country. Today the region is responsible for more than half of the soybeans produced in the country. Cities offering better quality of life and infrastructure were born and grew driven by production of the grain.

This occupation has, however, also generated socio-environmental impacts, which cause concern for society as a whole. New frontiers are being opened in the Cerrado region (Piauí and Maranhão) and the Legal Amazon (Tocantins and Pará, among others) and require the adoption of measures such as Economic-Ecological Zoning and others determining that production be resumed in abandoned and degraded areas, as well as in grazing areas where productivity is low.

HDI OF MUNICIPAL DISTRICTS IN THE CERRADO

DISTRICT	MUNICIPAL HDI	STATE HDI
Sorriso (MT)	0,824	0,767
Lucas do Rio Verde (MT)	0,818	
Chapadão do Céu (GO)	0,834	0,769
Goiatuba (GO)	0,812	
Chapadão do Sul (MS)	0,826	0,770
São Gabriel do Oeste (MS)	0,808	

*HDI- Human Development Index

HDI for Brazil : 0.769

The table shows the Human Development Index (HDI) for some municipal districts in the Cerrado region. What they have in common is economies based on agribusiness (soybeans) and some of the highest HDI's in their respective states.



Currently, the oilseed accounts for 30% of the country's agricultural income (data from National Confederation of Agriculture) and involves more than 243 thousand producers (small, medium and large) who occupy some 23.4 million hectares of land from the north to the south of the country. In the southern region alone, there are almost 200 thousand family farming operations (data from Federation of Family Agricultural Workers – FETRAF Sul) dedicated to soybean production, showing that this activity has an important social role. The three main products of the Soy Complex (grain, meal and oil) account for 10% of Brazil's exports.

The intense general occupation of the Cerrado region has increased concern about the production model and the trend towards expansion. Soybean cultivation occupies 1.4% of the Legal Amazon, occurring mainly in the Cerrado or transition regions between the Cerrado and the Amazon forest. Since soy occupies 1.1 million hectares or only three thousandths of the whole Amazon biome, we understand that it is necessary and possible to control and to plan the development of the crop in this region.

The controversy about the expansion of soybean cultivation illustrates the current situation of the domestic and international market, which demands a definite balance between economic results and a responsible attitude to conservation and the maintenance of biodiversity and environmental services, as well as co-existence with the cultures of traditional peoples, in order to prevent the destruction of the socio-environmental patrimony of the Amazon Biome.

Responsible companies that purchase soybeans and soybean derivatives want to ensure that they are not contributing to negative impacts on the largest intact forest area in the world. Similarly, responsible soybean producers need a mechanism that will assure their customers that they work in a responsible manner. It is believed that the use of already degraded areas could meet the demand for soybeans and other agricultural products.

The Soybean Moratorium

→ What it is about

On July 24, 2006, ABIOVE (the Brazilian Vegetable Oil Industry Association)* and ANEC (the National Cereal Exporters Association) and their respective members announced a new commitment to the market, known as the Soybean Moratorium.

It was decided not to commercialize soybeans from agricultural areas within the Amazon Biome deforested after July 24, 2006, during a period of two years.

This initiative indicates the need to adequately plan and manage the use of land in the Amazon Biome productively and valuing the farmer who obeys the law and is aware of his role as a supplier of food from a highly environmentally sensitive region. Social, environmental and economic sustainability have now become the product specification.

This is also a demand from customers in each link of the production chain, who are concerned about the origin of the products they buy, demonstrating that they share this responsibility.

→ Proposals and objectives

The Soybean Moratorium is aimed at balancing economic development and socio-environmental preservation in the Amazon Biome.

The objective is to use natural resources in a more sustainable manner, and to promote responsible agriculture, respect for biodiversity and environmental services, food production and the development needs of the local populations.

EXPECTED RESULTS



* ABIOVE Members: ABC, ADM, Arnaggi, Baldo, Bunge, Cargill, Imcopa, Louis Dreyfus, Menu and Produtos Orlândia



During these two years, the participating bodies will help improve sustainability for local agribusiness by means of:

- **Mapping** and monitoring the planting of soy in the Amazon Biome
- **Environmental awareness and education**, demonstrating good agricultural practice and regularizing environmental liabilities, promoting the application of the Brazilian Forestry Code.
- **Identification** of best practices in agriculture, labor relations and respect for local communities for agribusiness.
- **Enforce** the application of and compliance with public policies that promote the best options for land use.
- **Refinement** of institutional relations and legislation to improve control of deforestation and development of soybean growing in region.

In addition to the above mentioned activities, the participating companies, either on their own initiative or as part of a joint effort by the sector, condemn the use of abusive labor practices on farms.

This is expressed through a contractual clause limiting grain purchases to producers in compliance with labor legislation.

Working agenda



How does the Moratorium work?

- **The union of the private and civil sectors**

The commitment marks the beginning of a unique process in Brazil' development. Private initiative and civil society have united to elaborate appropriate proposals for the local reality, seeking to conjugate technical knowledge, international demands and the socio-environmental characteristics of the Amazon Biome.
- **Strategies and actions**

Cross-disciplinary work groups were formed to draw up strategies and actions to diminish the potential impacts of a disordered advance of agriculture in the biome, which is small compared with the total area which could be brought into production, but has been evaluated as a potential risk. Aware of their responsibility, companies and NGO's have joined together to implant this governance system, preventing the kind of environmental and social damages that could occur in the absence of such preventive efforts.
- **Soybean Working Group**

The GTS or Soybean Working Group, created with the objective of defining the operational model for the moratorium, consists of the business sector, represented by ABIOVE, ANEC, the companies ADM, Amaggi, Bunge, Cargill and by the NGO's Articulação Soja Brasil, Conservation International, Greenpeace, IPAM, The Nature Conservancy and WWF Brazil, in addition to other companies and NGO's that are participating actively in the subsidiary work groups. The GTS is responsible for establishing the working agenda, taking strategic decisions and coordinating the actions of the sub-groups. Meetings are held periodically, coordinating the advances and the needs of each of the sub-commissions.

The Soybean Moratorium is a way of planning development, meeting the worldwide demand for food without sacrificing our main asset, the country's natural resources.



Division of Labor

- **Mapping and Monitoring Sub-group:** works on developing solutions to identify more clearly the limits of the biome and produce a more detailed cartographical base, as well as locating the production areas, assessing the best technology available as well as the partnerships necessary to execute and validate this. The monitoring aims to identify deforestation that has occurred since announcement of the moratorium and to accompany uncontrolled advances in soybean growing in the biome, assessing the state of the culture.
 - **Education, Information and Forestry Code sub-group:** studies and develops ways of disseminating the adoption of the socio-environmental care mechanisms and measures that should be applied locally. The objective is to ensure the actions generated by the Moratorium reach the local farmers and the other economic, social and political agents involved, especially the more influential ones on a local level, helping agribusiness reach the correct balance between economic needs and socio-environmental preservation, in a conscious and law-abiding manner.
 - **Institutional Relations sub-group:** seeks to approximate business sector and civil society representatives with the members of government bodies in order to improve sustainable development policies and promote the adoption of mechanisms to control the negative impacts of the expansion of soybean production in the Amazon Biome.
- The first phase of the Moratorium, which involved the consolidation of the partnerships between the participating companies and the NGO's active in the process and region, is drawing to a close. All the measures are aimed at acknowledging those producers who are in compliance with the Moratorium and who operate legally, observing the environmental legislation in force.



WORKING GROUP PARTICIPANTS

PRIVATE INITIATIVE	CIVIL SOCIETY
Companies belonging to ABIOVE and ANEC: ADM, Amaggi, Bunge and Cargill	Representatives of the NGO's: Amigos da Terra- Amazônia, Articulação Soja Brasil, Conservation International, Greenpeace, Imafloa, IPAM, STTR-Santarém, The Nature Conservancy and WWF Brazil

Understanding the Forestry Code

→	Within the law	<p>In Brazil, Law 4.771/65, that established the Forestry Code, introduced the concepts of Permanent Preservation Areas (APP) and Legal Reserves (RL).</p> <p>The objective is to conserve areas that exercise important ecological functions related not only to protecting biodiversity but also the welfare of human populations – maintenance of microclimates, pest and disease prevention, protection of soil and water resources.</p>
→	The object of conservation	<p>The APPs are protected areas with native vegetation cover having the environmental function of preserving springs and other water sources, geological stability, natural landscapes, biodiversity and the soil.</p> <p>The RLs are native vegetation areas that may be exploited but with adequate management, for example the selective extraction of wood and fruits. The objective is to guarantee the sustainable use of natural resources and the conservation of ecological processes and biodiversity and to ensure shelter and protection for wild flora and fauna.</p>
→	Discussion about the law	<p>At the time the law was passed, a large part of the properties were in locations where the native vegetation had already been altered. With the expansion of the agricultural frontiers to the Midwest region, there were attempts to modify the Forestry Code in Congress, which were not concluded. The discussion about the legislation continues until today.</p> <p>The Law 7.771/65 is still in force, but has been altered by the MP 2.166/67, of 2001, which, among other questions, increased the Legal Reserve area for properties with Amazon forest vegetation from 50% to 80% and for those with Cerrado vegetation cover from 20% to 35%. The Legal Amazon covers the states of Amazonas, Amapá, Pará, Rondônia, Acre, Roraima, Mato Grosso and parts of Maranhão and Tocantins. This is a political territorial division created by the law 1.806, in 1953. Within this region there are areas that are characteristic of the Amazon Biome, others characteristic of the Cerrado Biome, as well as others.</p>



PETER MILKO/HG

The following are classified as Permanent Preservation Areas:

• **Waterside vegetation** – areas alongside rivers or any water course with a minimum width, on each side, of:

- 30 meters for waters courses of up to 10 meters in width
- 50 meters for waters courses from 10 to 50 meters in width
- 100 meters for waters courses from 50 to 200 meters in width
- 200 meters for waters courses from 200 to 600 meters in width
- 500 meters for waters courses of more than 600 meters in width

- The **banks** of lagoons, lakes, water reservoirs, springs or water sources with a minimum width or radius of 50 meters
- A minimum band of 100 meters for the **edges** of escarpments
- The **tops** of hills, mountains or ridges
- **Slopes** or parts of slopes with an inclination of more than 45 degrees, equivalent to 100% on the slope line.

The Permanent Preservation Areas must be respected in the form and limits established by the law, irrespective of the description in the land title register. The areas of native vegetation located in the APPs may be considered for the calculation of the Legal Reserve percentage only if the sum of both is superior to 80% of the property in the Legal Amazon region, as long as this does not imply the opening up of new areas for alternative land use.





This is the area situated inside the property, with the exception of the Permanent Preservation Area if this is less than 80% as described previously. In the states that constitute the Legal Amazon, the Legal Reserve area to be maintained in the property is:

80% if the property is located in the area of the Amazon forest (Amazon Biome)

35% if it is located in the Cerrado area within the Legal Amazon

In accordance with the Provisory Measure 2.166/67, the location of the Legal Reserve area within the property must be approved by the state environmental authority taking into account the pre-established criteria. This should then be entered on the land title in the appropriate land registry. Alteration of the use of the land is prohibited in the event of the transfer or the subdivision of the land for any reason.

With the title, the Legal Reserve area is guaranteed by a Term of Adjustment in Conduct entered into with the environmental authorities, containing the location, basic ecological features and the prohibition to suppress vegetation. Only after this addendum is made to the land title, may the owner deforest the areas not delimited by the Legal Reserve.



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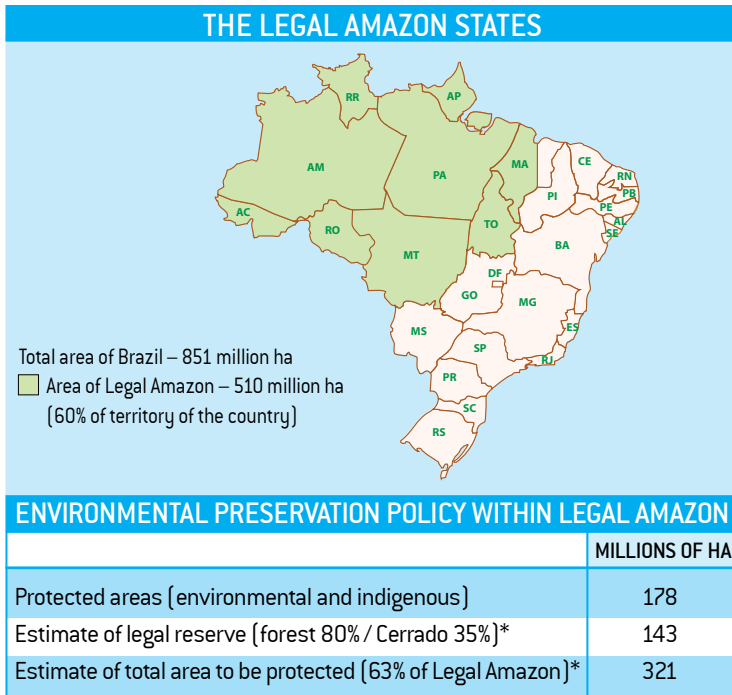


Exploitation of the Legal Reserve area by removal of the native vegetation cover is prohibited. However, economic exploitation based on sustainable forestry practices is permitted.

Considering that there is no federal regulation for the compensation of Legal Reserves and since the MP 2.166/67 has still not been voted by the National Congress, it is strongly recommended that the compensation be approved by the state environmental authorities. This could be implemented by the leasing of the area under the regime of forestry servitude/easement or Legal Reserve or the acquisition of forestry reserve quotas.

Proprietors who suppressed the forest or native vegetation on their land after December 15, 1998, are not entitled to use this benefit.

Another form of compensation is the maintenance, for a period of 30 years, of reserves, by means of the donation of equivalent areas inside national or state parks, national forests, extraction reserves, biological reserves or ecological stations where land titles are pending, within the same water basin and with the same ecosystem.



Source: ICONE/2006

*Estimate refers to ideal to be reached



Legal Reserve

The Legal Reserve areas may be established in a regime of condominium involving more than one property, as long as the legal percentage is observed, the addenda to all the land titles are made, and approval is obtained from the environmental authorities. The 35% for rural properties located in cerrado regions of the Legal Amazon may be distributed as follows: 20% in the property and 15% in the form of compensation in another area, as long as it is located in the same hydrographical micro basin.

Under the law, forestland or native vegetation may not be converted for other uses if the property already has deforested or abandoned areas or areas that are used inadequately.

The law also determines the prohibition or limitation of the cutting of rare or endemic (that exist only in the region) vegetation or vegetation that is threatened with or at risk of extinction.

It also prohibits the cutting of species necessary for the subsistence of populations dependent on extraction within the areas delimited by the environmental authorities.



Degraded areas

With respect to **degraded soils** within the properties, agriculture should be re-introduced with the proper agricultural management and recovery practices. This type of measure will bring evident economic and environmental benefits, avoiding the need to open up new areas for planting. It should be noted that the demarcation of internal roads, when aligned with contour levels, may help prevent water erosion.

The **recuperation of water springs** is important for conserving environmental services, ensuring the production and maintenance of quality potable water for agriculture and human consumption. The delimitation of planting areas should maintain the integrity of such springs, which should be isolated and replanted to guarantee preservation.

Waterside vegetation has the important role of containing the force of the flow of the watercourses, preventing the erosion and absorption of soil by water, which leads to silting. The recovery process should involve a PRAD (Degraded Area Recovery Project) prepared by a qualified professional, containing a plan and a schedule for the work to be undertaken.

The recovery of these areas aims to restore them to their original state as far as possible. This consists of different stages that include the demarcation of the isolation area, soil management for the degraded areas and the itemized replanting measures.

To find out more

Fauna

Law 5.197/67 deals with the protection of fauna and other items. More information at <http://planalto.gov.br/ccivil/leis/L5197.htm>

Forests

Law 4.771/65 institutes the New Forestry Code
Medida Provisória 2.166-67/01, alters articles 1,4, 14, 16 and 44 and adds clauses to the Law 4771, of September 15, 1965, which institutes the Forestry Code, as well as alters the art. 10 of Law 9.393, of September 19, 1996, which deals with taxation of Rural Territorial Property – ITR and other items. More information at <http://planalto.gov.br/ccivil/leis/L4771.htm>

Environmental licensing

The Conama Resolution 237/97 deals with environmental licensing (www.mma.gov.br/port/conama/legi.cfm)

Integrated Environmental Monitoring and Licensing System (SIMLAM) provides access via internet to the SLAPR base (<http://monitoramento.sema.mt.gov.br/simlam/>)

Burning

Decree 2.661/98 regulates the single item of art. 27 of Law 7.771, of September 1965 (Forestry Code), through the establishment of precautionary standards for the use of burning/fire in agricultural/pastoral and forestry practices and deals with other items. More information at <http://www.lei.adv.br/2661-98.htm>

Water Resources

Law 9.984/00 created the National Water Agency (ANA), a federal body responsible for the implementation of the National Water Resources Policy and coordinating the National Water Resources Management System and deals with other items. More information at <http://www.ana.gov.br/>

Agricultural Techniques

Embrapa Soja elaborates solutions for the sustainable development of soybean agribusiness. More information at www.cnpso.embrapa.br

Conservation units

Decree 1.922/96 deals with the recognition of Private Natural Heritage Reservations and others.

Reservations and others

Conama Resolution 13/90 deals with the zones surrounding the conservation units. More information at <http://www.lei.adv.br/1922-96.htm> and <http://www.mma.gov.br/conama/>

Best Practices



Responsible Agriculture

The key directive nowadays is sustainability. In other words, adopting a production model that strikes a balance between current environmental, economic and social considerations and guaranteed production for coming generations. The basis for sustainability on rural properties is what has come to be called good agricultural practices, that include soil and water management and conservation, integrated agriculture and animal husbandry, integrated harmful insects management, rationalized storage and application of pesticides and chemical products, safety, packaging disposal, adequate storage, garbage disposal, maintenance of water sources, combating the use of fire/burning and respect for the rights of local populations.



No-tillage Planting

Brazil is the world leader in the no-tillage planting system, which provides a series of benefits, such as a reduction in the degradation and impoverishment of the soil caused by erosion, in addition to a significant reduction in the consumption of diesel oil. Direct planting permits greater stability in production due to increased water storage as a result of greater infiltration in the soil and lower evaporation losses due to a protective covering of organic matter.

Although it leads to an increase in the use of herbicides, the practice does generate environmental gains because it reduces silting and the contamination of rivers, springs and lakes, and increases biodiversity and the biological activity of the soil through the higher concentration of organic matter.



DEPTO. DE COMUNICAÇÃO GRUPO ANDRÉ MAGGI



Around 50% of the area planted with grain in the country is based on the no-tillage system.

Good agricultural practice implies not using fire or burning. Burning impoverishes the soil, consumes nutrients and eliminates organic material, in addition to being harmful to health and contributing towards global warming. Burning is regulated by law and requires authorization from an environmental authority. Burning may only take place during specific times of the year. The purpose of burning must be defined and the protective measures in place in Permanent Preservation Areas and Legal Reserves must be obeyed.

IBAMA's National System of Forest Fire Prevention and Combat (PrevFogo) provides information on controlled burning techniques. Legal deforestation must obey the law, therefore it is fundamental for the producer to obtain the necessary environmental licenses when opening areas for agricultural.

Avoiding burning



Environmental licensing for agricultural and livestock activities is the administrative procedure whereby the competent environmental authority licenses productive activities. Licensing covers the installation, amplification and operation of business ventures and activities using environmental resources that are considered effectively or potentially pollutant or may cause degradation of the environment. It applies to animal breeding, settlement or colonization projects, the raising of fish or wild animals, irrigation projects, underground tubular wells, silos, warehouses and landing strips, among others.

Environmental licenses



The SLAPR system (Environmental Licensing System for Rural Properties), which uses geo-processing techniques and a geo-referenced databank, was created to analyze applications and issue licenses. The system identifies and locates the perimeter of the property and protected areas, in addition to monitoring and controlling deforestation. The system was developed by SEMA (the Mato Grosso Environmental Department), but since 2002, the Ministry of the Environment has been providing technical and financial support for its implementation in the nine states of the Legal Amazon region.

SLAPR





Integrated System

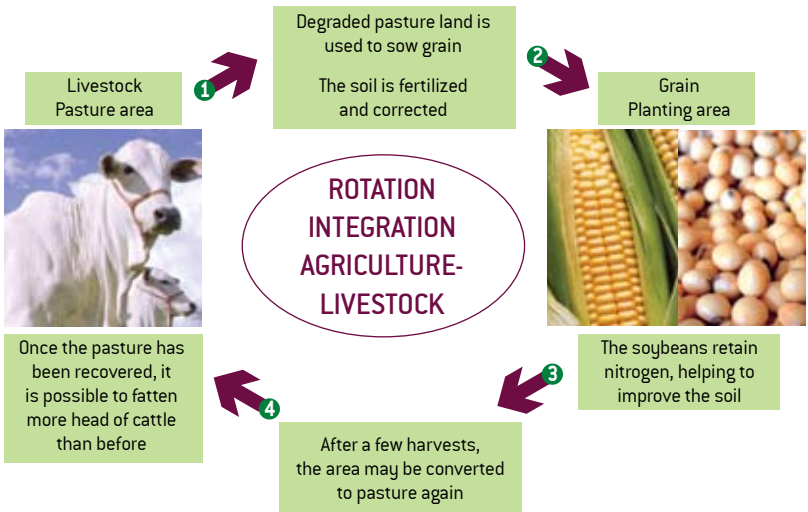
One way of achieving higher yields in grain production in the Cerrado region is planning production systems that include crop rotation and integrated animal husbandry. Both practices increase production without requiring the opening of new areas (deforestation).

Crop rotation consists of alternating vegetable species annually in the same agricultural production area, preferably using direct planting techniques, which reduce soil erosion. This practice improves the physical, chemical and biological characteristics of the soil, helps control weeds, diseases and harmful insects, replenishes organic matter and protects the soil.

Another possibility is **integrated cropping/animal husbandry** in a similar system. Corn or soy is sowed in the summer. In the winter, the land is left fallow, and the cattle graze and eat fodder. Farmers who have adopted this system are better able to control weeds and get better yields than they would if they sowed a second annual soy crop.

The **agroforestry system**, which consists of maintaining trees in the grazing or agricultural land, provides shade for cattle and protection for the natural predators of harmful insects and permits the additional sowing of legumes in agricultural areas to replenish nitrogen and recuperate the soil.

Using land more intensively to reduce the pressure to open up new areas for agriculture



Harmful insect management should incorporate diverse techniques, including the use of resistant strains of plants, soil management, crop rotation, insects monitoring, and biological and chemical control. The latter should not be applied indiscriminately, because it increases costs and can provoke an imbalance in the insect population, jeopardizing the ecosystem.



Equally, the control of diseases, such as the Asian rust detected in the 2001/2002 crop, requires integration of diverse measures that could reduce losses.

Biological Harmful Insects Control



Good environmental management implies the careful and correct application of insecticides and other agrochemicals, taking into account climate (the non-occurrence of winds and rain during application), type of target, operation and equipment. Pesticide packaging should be washed three times and returned together with the lids and labels to the places indicated on the purchase invoice. The use of personal protective equipment (PPE) is indispensable when applying insecticides.

The plantation should be monitored professionally to ensure that agrochemicals are only used when the level of pests and disease may cause economic damages or when meteorological conditions dictate preventive application. For this reason it is necessary to consult an agronomist. Just as important as the choice of the product is the moment to apply the product. Agro-chemical products should only be applied by trained operators and with equipment that is in good working condition. For further information, consult Andef (National Vegetal Defense Association – www.andef.com.br)



Agrochemical products





Labor legislation



In compliance with the law

Whilst increased productivity alleviates pressure on the land, it also reduces the employment of agricultural labor. Nowadays the production of soybeans takes place on medium to large-sized properties with the intensive use of machinery and chemical inputs, which reduces the need for manual labor. However, social and environmental bodies argue that in addition to occupying the forest, the advance of the agricultural frontier may continue to fuel the exploitation of slave labor in the region: the poor residents of rural areas or the outskirts of towns are supposedly taken to remote areas to work under degrading conditions.

Surveys conducted by the International Labor Organization (ILO) show that the number of soybean farms convicted of using slave-like labor is very low, but certainly the image projected by this kind of operation could be harmful to responsible farmers and to the country as a whole.



The Penal Code

Brazilian legislation establishes that a business owner is legally responsible for the labor relations in his business. The 1988 federal constitution conditions the possession of a rural property to the execution of its social function, with the proprietor bearing responsibility for whatever happens on it.

Article 149 of the Penal Code has existed since the beginning of last century. It condemns all types of forced labor, which it defines as “work demanded of a person under threat of sanction and for which the person has not spontaneously offered his or her services”. Slavery is a form of forced labor. It means absolute control by one person over another, or of a group of people over another social group. This control may be exercised in a number of ways, by forbidding the worker

to leave the property, by obliging a person to work without payment or by linking payment to the purchase of goods from establishments on the property.

The labor law for rural or agricultural labor has been in force for more than 30 years (Law 5.889, from June 8, 1973). Therefore there is widespread awareness of the fact that forced labor is a crime and the obligation to guarantee labor rights.

Currently industry associations like ABIOVE (Brazilian Vegetable Oil Industry Association) and domestic and foreign companies engaged in the processing and commercialization of soybeans are associated with the National Pact for the Eradication of Slave Labor, launched in Brasilia in 2005 by the International Labor Organization (ILO), The Instituto Ethos de Empresas e Responsabilidade and the NGO Repórter Brasil. All pact members have made the commitment to no longer acquire products from soybean producers who are proven to use slave labor.

The pact observes the so-called “dirty list” of slave labor in Brazil, a public record informing the farms that have been caught or sued for illicit activities. This list is periodically updated by the Ministry of Work and Employment (MTE). Private and public banks, as well the federal and local governments block financing for any of the organizations appearing on the list. Similarly large retail chains refuse to distribute any products made from soybeans from these farms.

Although it is the public prosecutors rather the pact members who are responsible for apprehensions or the investigation of these cases, blocking their access to credit has been effective in decreasing the incidence of slave labor in general.


DELFIN MARTINS/PULSAR IMAGENS



The fight against slave labor in the country is not just a question of humanism. It is also a question of demonstrating the rectitude of the Brazilian private sector and preserving its image in the eyes of consumers and the international market.

National Pact for the Eradication of Slave Labor





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Understanding the **soy moratorium:** responsible production



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