



Facts about soy production and the Basel Criteria

Use of Soy

About 85% of world-wide soy production is used for animal feed

Soy provides important proteins and oils that can be used for a wide range of products such as food, animal feed, hygienic articles and numerous industrial applications. Ice creams and body lotion are among the products made from soy-based ingredients. Because of its high protein content, 85 percent of worldwide soy production is used for animal feed, especially for pig and poultry farming.

Economic impact of soy production

Over the last 20 years worldwide soy production has doubled to 210 million tons.

As a result of increasing meat consumption worldwide, the demand for soy and hence its production has doubled to nearly 210 million tons over the last 20 years. This trend is expected to continue in the future, with demand for soy increasing to 300 million tons by 2020. Latin America in particular has reacted to this increasing demand with an expansion of its soy production. Over the past 10 years, soy expansion in Latin America has more than doubled (from 18 million hectares in 1995 to 40 million hectares in 2005). The largest increase is expected for Brazil, Argentina, Paraguay, and Bolivia.

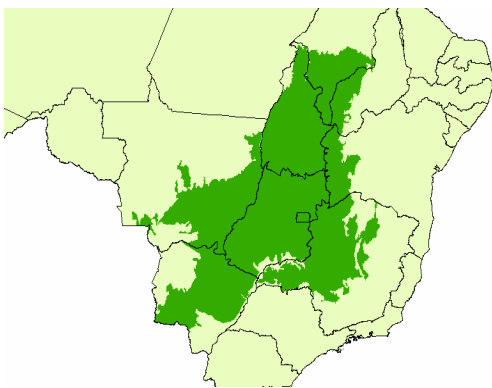
Doubling its soy acreage over the last 10 years, South America has recorded the largest increase.

The WWF recognizes that because of its physiological properties soy has become both a basic material for many products and an important feed-stuff. Soy represents a vital source of income for the producer countries. However, soy production is also responsible for adverse ecological and social impacts.

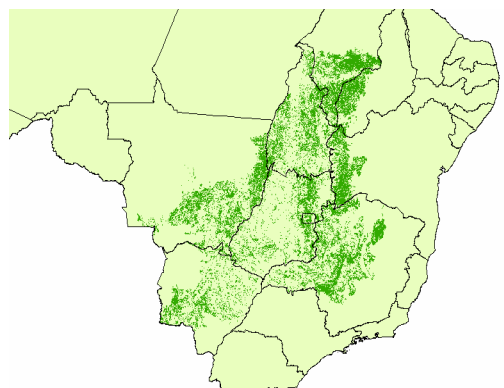
Ecological consequences of soy production

Soy production leads to the destruction of valuable habitats.

Agricultural activities, extensive forestry, and other practices have reduced the Atlantic forest in Brazil, Argentina and Paraguay to about 7 percent of its original extent within the last 40 years. A similar trend has emerged in the Brazilian Cerrado, the world's most species-rich savannah, where according to the latest estimates only 20 percent of its original 200 million hectares remain intact.



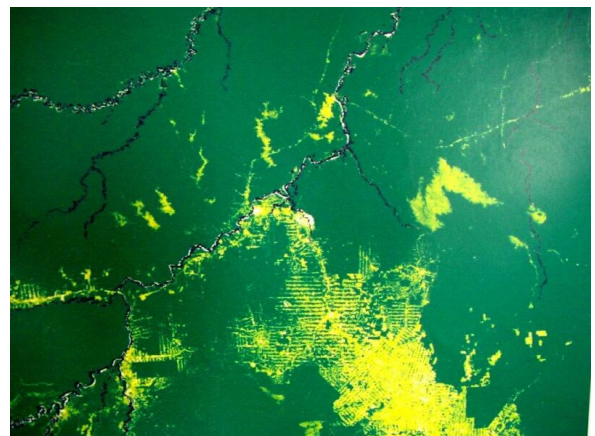
Cerrado original distribution (Machado et al. 2005)



Cerrado distribution 2002 (Machado et al. 2005)

Soy fields are pushing deeper and deeper into the Brazilian Amazon.

The breeding of new varieties has enabled farmers to cultivate soy in humid tropical forests for the past few years. Since then soy fields are pushing deeper and deeper into the Brazilian Amazon. Since 2003, 70,000 km² of tropical forest have been destroyed in the Amazon. The largest share of soy is grown in the state of Mato Grosso, which also shows the highest deforestation rate in all of Brazil – of which an estimated two thirds is illegal.



Maps showing extent of deforestation in the Amazon. (*Lighter colour denotes deforested areas*)

Soy production threatens the Cerrado, the world's most species-rich savannah.

The Amazon Basin, the Cerrado and the Atlantic Forest are among the most species-rich ecosystems in Latin America. Half of Brazil's soy production comes from the Cerrado. If the expansion of soy areas continues to grow at the present rate, an additional 16 million hectares of savannah land and 6 million hectares of tropical forest are threatened to be converted. This corresponds to roughly five times the size of Switzerland.

Soil erosion is one of the main reasons for declining soil fertility in Brazil

A lack of soil cover and deficient protection from the wind in soy production lead to erosion and infertile soils. Every year Brazil loses 55 million tons of topsoil to this process. A soy field in the Cerrado loses an average of 8 tons of soil per hectare. The resulting fertility decline is compensated with increasing fertilizer use.



Pesticides poison hundreds of thousands annually in Brazil.

Large-scale use of synthetic fertilizers and pesticides can pollute ground water and surface water. On the one hand, polluted water threatens the existence of various native plants and animal species; on the other, it represents a human health risk, especially for agricultural labourers and indigenous population groups. According to a local environmental organization, between 150,000 and 200,000 cases of pesticide poisoning are reported in Brazil every year. 4,000 victims die from it. Experts assume that about 10 percent of the Brazilian population – some 15 million people – are exposed to pesticides. Soy production accounts for 25 percent of all pesticides used in Brazil. Over the last 10 years, Brazilian pesticide sales have tripled. Rain and floods wash pesticides into rivers, killing fish and other species.

New road construction leads to destruction of forests and savannahs .

Satellite images demonstrate that expansion of agricultural land occurs along roads. Road construction through tropical forests and savannahs irrevocably causes large-scale destruction of these habitats. One example is the BR 163 highway, which threatens a large forested area called Terra do Meio. If access to Terra do Meio is not regulated, deforestation will dramatically increase and endanger the livelihood of forest dwellers. The modification of waterways to facilitate soy transportation and new construction of warehouse and port facilities also pose major threats to the environment.



Sequence of pictures showing impact of a road construction on forests in Brazil.

Social consequences

Soy production is a contributing factor in people losing their lands.

In some areas of Latin America soy production is associated with social conflicts.

The creation of new soy fields often leads to land rights violations against families, small farmers and indigenous population groups, thereby increasing the number of landless people.

Large-scale soy production barely creates new jobs.

Because of its high degree of mechanization, large-scale soy farming is not very labour-intensive. Per 170 to 200 hectares only one employee is needed. For the local population there are often only seasonal, low-paying jobs available. Cases of forced labour have been documented.

People fight over land rights in soy producing areas.

Most of the added value from soy production fills the pockets of large land-owners, banks, trading houses and transport companies. Often the government or the private sector offers infrastructure support to attract large entrepreneurs. Lured by the benefits of infrastructure such as roads, farmers acquire land as quickly as possible and convert forest and savannah into soy fields. Without sensible sound planning, protection of natural habitats and respect for the land of the indigenous population this process often degenerates into a struggle over land ownership – with increased tensions and armed as a consequence.

Towards a more sustainable future

Use of fallow land and more intensive cultivation of pastures reduce the need to convert forests and savannahs.

Various WWF studies have proven that the growing demand for soy can be met without conversion of valuable natural areas. In Latin America's major production areas millions of hectares of savannah and former forests that have been converted into grassland are not or poorly used. The use of these areas for soy production reduces the need to convert additional forests or savannahs. Also, if pastures were used rotationally for soy production and cattle farming, the quality of the pastures would improve as a result of increasing concentrations of soil nitrogen through soy. Thus, the pressure to expand soy fields would decrease. A more varied use of the land would also help to create more jobs.

Loss of soil fertility and erosion can be avoided with appropriate measures

Due to poor land use, many agricultural areas lost their fertility and were later abandoned. With the introduction of appropriate practices such as crop rotation their productivity could be regained.

With better cultivation practices on existing soy growing areas ecological degradation could also be minimized. Erosion could be largely prevented with low-impact cultivation activities. Integrated or biological weed and pest control practices could help reduce the negative effects of pesticide use on people and the environment.

These measures could dramatically reduce the anticipated loss of natural habitats from 22 million hectares to about 4 million.

Conversion of valuable habitats can be reduced.

Concerted efforts by responsible soy producers, processors and suppliers of soy products along with NGOs could not only minimize the conversion of valuable natural habitats but also significantly improve the social situation of agricultural workers and family farms and support a more diversified agriculture.

Basel Criteria for responsible soy production

Switzerland is playing a leadership role in addressing these issues. Supported by the WWF, Coop has developed the Basel Criteria for responsible soy production. The Basel Criteria include existing standards such as SA 8000, the requirements of the International Labour Organization (ILO) and the EurepGAP for good agricultural practice. As such they are compatible with all relevant international regulation. In addition, they include the following critical points:

- No conversion of primary vegetation and High Conservation Value Areas (HCVA) to agriculture land after July 31, 2004; compensatory measures for conversions between January 1, 1995 and July 31, 2004
- Maintaining soil and water quality by introducing better man-

agement practices

- No use of genetically modified material
- Minimum wages, fair working conditions, ban on child or forced labour and other ILO requirements
- Safeguarding of land rights and participatory land use planning involving all stakeholders
- Monitoring social consequences for the local population and the requirement to favour local employees, products and services
- Group certification schemes for small farmers
- Full traceability and independent control throughout the supply chain

Two Brazilian soy suppliers adhere to the Basel Criteria.

So far, two Brazilian soy suppliers, IMCOPA and Agreco, adhere to the Basel Criteria. Currently, their combined annual supply capacity is 2.2 million tons.

The Basel Criteria will be an important contribution to the international Roundtable on Responsible Soy process

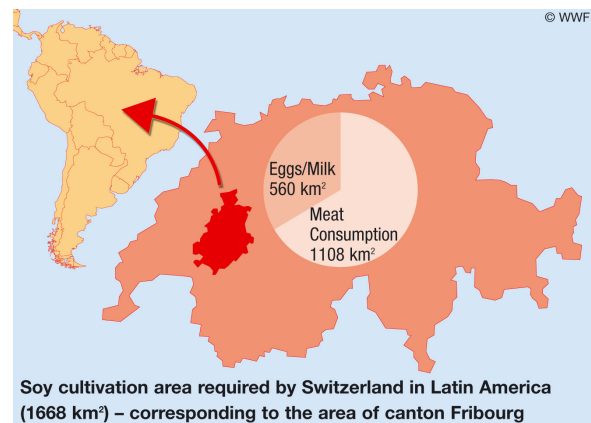
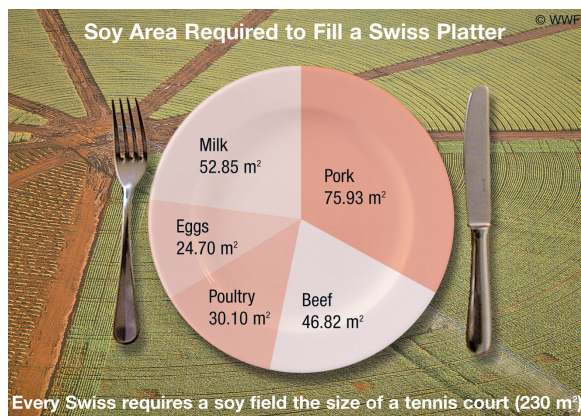
Activities for responsible soy production have also been initiated internationally. In March 2005, the first conference of the “Roundtable on Responsible Soy” took place in Foz do Iguaçu (Brazil). The WWF and Coop played an important role in organizing this event. The international process is supported by the Swiss State Secretariat for Economic Affairs (seco, which, through its economic development activities, promotes sustainable trade with developing countries. The objective of this multi-stakeholder process is to develop and then implement a set of broad-based criteria for responsible soy production in cooperation with all concerned parties. The Basel Criteria will be an important contribution to the international process.

The “Roundtable on Responsible Soy” is one of many other processes to improve the sustainability of globally traded goods, (for example in the areas of coffee, sugar cane, cotton and palm oil. Their common goal is to make conventional production more sustainable from an ecological, social and economic perspective.. The Roundtable on Sustainable Palm Oil (RSPO) already includes a third of all companies involved in global palm-oil production. The global “Principles and Criteria for Sustainable Palm Oil Production”, adopted in November 2005, are currently being tested in a series of pilot projects. See www.rspo.org

Switzerland's responsibility

Annual consumption of meat, dairy products and eggs in Switzerland requires soy fields the size of the Canton of Fribourg.

To meet the overall consumption of meat, dairy products and eggs in Switzerland, we need approximately 460,000 tons of soy products per year. This corresponds to an area of approx. 1700 km² in Brazil (the size of the Canton of Fribourg). With its per-capita consumption of milk, eggs and meat, Switzerland requires a soy field of about 230 square metres per person – roughly the size of a tennis court.



For its domestic production of eggs, meat and dairy products Switzerland imports between 225,000 and 250,000 tons of soy products (beans, pellets, cake, oil) per year.

Thanks to the engagement of Coop and fenaco, the first load of soy pellets produced in compliance with the Basel Criteria reached Switzerland in June 2006. fenaco's goal is to ensure that within a year nearly two thirds of their imports meet these criteria (= 1/3 of Switzerland's overall imports). Moreover, fenaco will continue to offer its responsibly produced soy for the same price as its conventional products.

Additional information: www.panda.org/forests/conversion, www.responsiblesoy.org