

Chicken feasts on jaguar?



Since the 1970s the amount of land used world wide for growing soy has increased enormously – more than for any other crop. Global production – only 26 million tonnes in 1961 – rose to as much as 308 million tonnes in 2014.¹ By then soy was being grown on about 6 percent of the world's agricultural land.² This is also reflected in the growth of global trade in soy: from 80 million tonnes in 2007³ to about 180 million tonnes in 2014.⁴ In 2015 almost a third of the world's soy came from areas in tropical Brazil.⁵ The EU is one of the largest importers,⁶ here most of the imported soy is used for producing animal feed.⁷ Within the EU, Germany was the largest importer in 2015, importing nearly 5.9 million tonnes,⁸ with about half the amount coming from Brazil.⁹

How our consumption of meat is responsible for tropical rainforests being cut down

Trade in soya is booming. That would seem like good news, considering that many of us see the bean with its high share of protein as a welcome replacement for all kinds of meat. The lesser-known fact is that only about two percent of soybeans go directly to the consumer; in the form of soy sauce, tofu and the likes. About 20 percent of the bean consist of oil, which is used in the production of groceries. The remainder, the soy meal, end up as feed for chicken, pigs and cows. The immense amounts of imported soy are what makes mass production of meat possible in Europe and Germany. In order to satisfy the high demand producers have taken to cultivating large monocultures of soy, spelling doom for the rainforest. There large areas are being clear-cut to provide the space for agriculture, this in turn means that the species-richness is lost and the local farmers and indigenous people are uprooted.



Soy beans are dried and then shipped all around the world.



For every kilogram of chicken meat gained from mass production a chicken must be fed 1089 gram of soy amongst other ingredients like wheat or corn.

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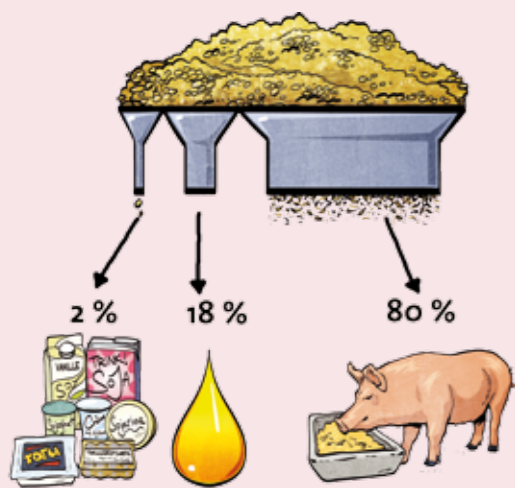


Nothing but soy- monocultures leave no room for species-richness or biodiversity.



The majority of soy in the EU is used up in the production of meat, eggs and dairy products

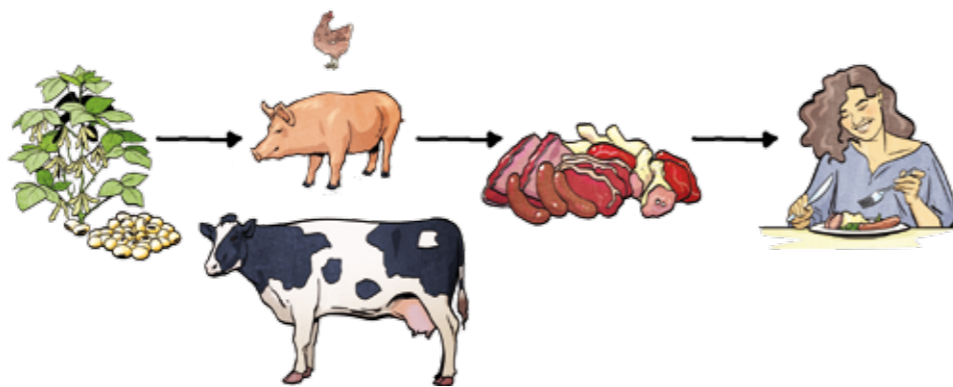
THE PERCENTAGE USE OF SOY



When the oil has been gained by processing the beans about 80 percent remain as grits. These are high on protein (38 percent) and are therefore used in the mass production of meat, since the protein is crucial for fast muscular growth. Therefore most soy ends up on our plates when we are eating animal products. Only two percent are made into groceries directly; as fresh beans or processed in the form of soy sauce or tofu. The oil can be found as cooking oil or, chemically modified in ready meals. But it also shows up in everyday life, in body lotions, luck or the diesel in your car – soy oil usually comes in disguise.

Rainforest in the feeding trough

Cattle pasture, arable land, and tropical forest have all had to make way for huge soy monocultures in Brazil, where a single farm can cover several thousand hectares. In only five years between 2001 and 2006, soy was planted on about a million hectares where there had recently been species-rich rainforest.¹⁰ When cattle pasture, the biggest driver of rainforest destruction since many years, is converted into soy fields, new pastures are then created somewhere else cutting down more rainforest in the process. The same way of indirect land use change applies to arable land. In this way the destruction of tropical rainforest eats further and further into regions of intact forest – a vicious circle, for which Europe carries shared responsibility.



Harbours and roads push the destruction of rainforests

The example of Brazil: The growth of soya cultivation in the Brazilian Amazonas region has led to increased funding of infrastructure projects. 2001 the harbour of the city of Santarém was expanded in a way that allows for the shipping of soy from there to every place in the world. Meanwhile roads in the Amazonas rainforest were asphalted and new ones were created, to make easy transportation of soybeans to the harbours possible. These roads permit to venture ever deeper into forest whilst also reducing the cost of transportation for soy. The result is more forest being cut down predominantly along the roads to create space for new soy-monocultures.¹¹

Short and bitter: More cultivation of soy leads to more and better infrastructure which in turn leads to even more – and cheaper – soy production. And the new infrastructure facilitates other destructive activities as well. This vicious circle is destroying rainforests, biodiversity, and traditional ways of life.

GM technology: straight through the back door and onto our plates

Nearly all the soy grown in Brazil is genetically modified (GM)¹² to make the plants resistant to glyphosate. This controversial herbicide, which is sprayed from small planes flying over vast fields of soy, kills all other plants. A lot of studies have recorded the devastating effects of glyphosate on human and animal health. The World Health Organisation (WHO) warns that glyphosate is “probably carcinogenic” and may also be mutagenic.¹³

According to opinion polls, most people in Germany object to GM products in their food.¹⁴ So it is good that in the EU the use of GM products, such as maize starch or soy lecithin, has to be indicated in the list of ingredients of food products. Unfortunately, animal products such as meat, eggs, milk, and dairy products are exempted from this regulation even though most of the soy meal fed to chicken, pigs and cattle is genetically modified. This means that a lot of consumers are unaware that they’re eating food which has been produced using GM products. To overcome this problem, in Germany we can, for example, make sure there’s a “non-GM” label on the food or the product we buy is organic.

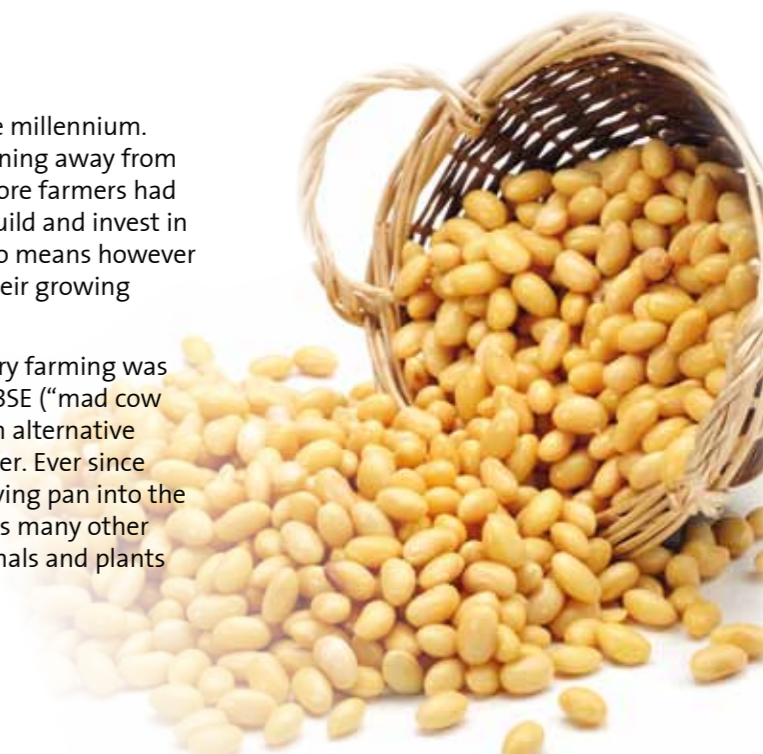
Why is soy booming?

Vast areas of rainforest were cut down around the turn of the millennium. This was because farmers in industrialised countries were turning away from rearing animals extensively on large areas of land. Where before farmers had kept as many animals as their land could sustain, now they build and invest in large stables that can hold a vast amount of animals. This also means however that farmers depend on buying up on feed to keep up with their growing herds- procured from outside of the EU as well.

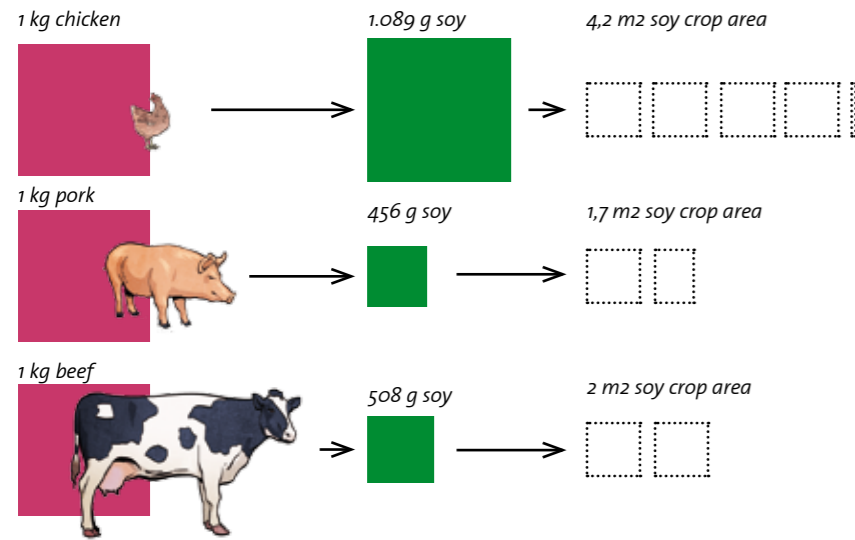
And the use of meat and bone meal as a protein feed in factory farming was banned because it had recently been identified as a cause of BSE (“mad cow disease”). Because of the rapid growth of factory farming*, an alternative source of protein had to be found urgently. Soy was the answer. Ever since environmentalists have warned that we hopped out of the frying pan into the fire, because the destruction of the tropical rainforest prompts many other calamities; like heating up our world climate and unique animals and plants becoming extinct.

DID YOU KNOW?

About one fifth of every soy bean consists of oil. Soy oil can be found in margarine and cooking oil and is also used in the food processing industry.¹⁵ It can be refined to produce lecithin, which is added to a lot of processed foods as an emulsifying agent which turns a variety of different substances into a homogeneous mixture.¹⁶ In the chemical industry soy oil is used in cosmetics, varnishes, paints, and other products, and also as a source of energy in biodiesel.¹⁷



* Definition, “intensive animal husbandry”: In intensive animal husbandry livestock of the same kind and age are herded in large groups on limited space. These groups are too large to be fed with the feed produced on the farm, so this form of farming is characterised by the need to import additional feed. The farms also reduce the amount of employees and mechanize their procedures to achieve maximum efficiency.

**DID YOU KNOW?**

On factory farms, 1,089 gram of soy are needed as added feed to produce one kilogram of chicken meat. This requires an area of 4.2 m² to be used for soy cultivation. 508 gram soy are needed to produce one kilogram of pork, requiring 2 m² of soy cultivation. And 456 gram soy are needed to produce one kilogram of beef, entailing soy cultivation on 1.7 m². The 4.2 m² required to grow enough soy to produce one kilogram of chicken meat, could be used to produce 8,5 kilogram of potatoes which would feed a large number of people.¹⁸ This doesn't take into account the area of land required to produce other components of animal feed.¹⁹

Rays of light: How public pressure can help

In 2006 in Brazil, international pressure led to a moratorium on soy production. The aim was to put a brake on increasingly rapid rainforest destruction. Almost all soy producers and exporters made a voluntary commitment not to buy soy which had been grown on land where rainforest had been cut down after 6. August 2006.²⁰ Other factors also contributed to a reduction in the rate of deforestation in the Amazon Basin in Brazil:²¹ the Cattle agreement of 2009,²² satellite monitoring of forests introduced by the Brazilian government,²³ and stricter laws.²⁴

There was a negative side to this positive development, though: Stronger rainforest protection in Brazil, coupled with a continuing increase in demand, meant that soy producers moved operations to other regions. So savannah was cut down to create agricultural land in the Cerrado region in Brazil and in the Amazon Basin in Bolivia, where there is less monitoring, and the laws, if they exist at all, are not enforced.²⁵ This example shows that the protection of tropical forest can only work across whole regions, ideally with international measures applied across national borders.

Yet another bitter pill: In recent years the trend in Brazil has been moving in the wrong direction as well. In absolute terms Brazil is still the country with the highest rate of deforestation worldwide.²⁰ Ultimately, only a reduction in the demand for soy for animal feed will prevent the destruction of rainforest for soy plantations.

Signs of hope in Germany

Apart from responsible political decisions in the countries dealing with deforestation, there are also things which those of us who live in Europe or Germany especially can do to protect tropical forests. It would make a big difference, for example, if farmers were only to rear as many animals as they can feed with fodder that they have grown themselves. This would solve both the problems associated with soy imports and the problem of huge amounts of slurry, which pollutes both the soil and groundwater. There has already been a rethink by some farmers, so that more and more beans, lupins, and peas are being planted here as an alternative to soy. A coalition right across German society is pushing for an agricultural "revolution" to make agriculture in Germany and throughout the world more sustainable.

The Brazilian rainforest is endangered by soybean production.

Amongst all pulses soy has the highest percentile of protein.

What can we do?

Take responsibility

As a consumer you can make an important contribution to the protection of the tropical rainforest!

Enjoy your meal!

- **buying less meat (if we buy meat at all) and enjoying better quality meat (preferably organic).** The labels of Demeter, Naturland, Bioland, and Neuland guarantee that no soy from rainforest regions has been used in animal feed. Unfortunately the EU organic label doesn't provide a sufficient guarantee in this case.
- **enjoying soy products, such as tofu or soy milk, which are ideally made from soy grown ecologically in Europe;**
- **not throwing away food** – about 22 percent of the food that goes to waste in Germany is meat products, milk products, and eggs;²⁷
- **asking our butcher or food retailer where the meat comes from and what has been fed to the animal;**
- **eating a healthy, varied diet** and putting plenty of vegetables and pulses (peas, beans, etc.) on our plates.

**It's a justice issue: Are we being greedy at other people's expense?**

The German Nutrition Society (DGE) recommends between 300 gram and 600 gram of meat per week as part of a healthy diet.²⁸ We easily exceed that in Germany – each of us eats more than 59 kilogram of meat per year on average.²⁹ That's more than a kilo a week. And, although our rate of meat consumption is one of the highest in the world, we produce one fifth more than we need for our own consumption.³⁰

The high productivity of the German and European meat industry is based on imported protein feeds, mostly made from soy meal. It wouldn't be possible to produce such huge quantities of meat without importing all this soy. Germany's so-called "protein gap", i.e. the amount of protein products produced nationally as a proportion of national demand, is around 65 percent.³¹

Wherever soy is grown for export, the arable land can't be used by local people – to grow their own food, for example. Crops could be grown to make sure the regional food supplies cover the needs of the population, instead the soy ends up in feeding troughs in Germany.

Looking at it another way: In 2014 nearly one million hectares outside of Germany were used to produce soy for the German meat market.³² If we wanted to meet our internal demand for soy within our own borders, we would need an area of land half the size of Rhineland-Palatinate. That would serve solely to maintain a level of meat consumption which health experts warn is excessive and which also has grave consequences for the environment in Germany, in terms of high concentrations of nitrates in groundwater, over fertilization, air pollution, massive use of antibiotics, and the development of resistant bacteria – to name just a few of the problems.

For further information

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Soy

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