



ENSA Soy Week 2009 Soya and the Environment – background information

At a time when the protection of the environment and of natural resources is in everyone's mind, it's time to think of easy ways to effectively reduce our individual environmental footprint. How? Thanks to soy-based products! Discover how little, simple changes in your eating habits can have a positive impact on the environment.

The impact of eating habits on the environment : an inconvenient truth

In 2006, the Food and Agriculture Organisation of the United Nations (FAO) published a report entitled 'Livestock's long shadow: environmental issues and options', which highlighted that **18% of Green House Gas (GHG) emissions originated from the livestock sector**. This is as high as the GHG emissions from the transport sector. This report set the cat among the pigeons by making people aware that their food consumption largely contributes to global warming.

The environmental impact imputable to the production of meat and milk includes direct emissions, such as **methane emissions** from cows, but also indirect GHG emissions caused by **deforestation** to extend pastures. Besides, global warming is not the only environmental consequences of livestock rearing, since water and land use are also to be taken in consideration. It is estimated that **75% of agricultural land is used for cattle**, be it for pastures or for growing crops to feed the cattle¹.

The demand for food will keep on increasing in the future. **In 2030, we would need two planets to respond to the worldwide consumption demand²**. As far as animal products are concerned, the FAO predicts that both meat and milk consumption will double between 2000 and 2050. And the more animal product we consume, the bigger the impact on the environment.

The public authorities are becoming more and more aware of this issue. In 2009, the European Parliament acknowledged the contribution of livestock rearing to worldwide GHG emissions in its long-awaited report on Climate Change. Everyone seems to agree that **current consumption patterns are not sustainable**. Mitigation measures alone would not be enough to compensate the massive increase in animal products consumption and its environmental impact.

Reducing our consumption of animal products as part of the solution

Against this background, we are becoming aware that what we eat matters at least as much as how it is produced in terms of environment. **Everyone can do its part simply by reducing its consumption of animal products**. This would keep the demand for and therefore the production of animal products at

¹ FAO Livestock's long shadow: environmental issues and options. Food and Agriculture Organisation of the United Nations, Rome, 2006.

² WWF 2008 Living Planet Report, World Wide Fund For Nature, 2008



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sustainable levels. This is particularly true in developed countries, where people eat more meat than they would need dietary speaking.

Nutritionists agree that a human being only needs 90g of meat per day³. In the European Union (EU-27), each of us eats on average 75kg of meat per year, which means more than 200g per day. Meat consumption is even higher in the EU-15 with 89kg of meat per capita per year, i.e. roughly 245g per day. This is largely **above our dietary needs for animal proteins**.

Vegetal alternatives can help reducing meat consumption while preserving the environment

The human body needs proteins. Animal products are good sources of proteins but they are not the only ones! Plant-based alternatives, such as soy-drinks, tofu and soy-meat replacers, also contains high quality proteins and can easily be integrated in the diet.

Because soy products are from vegetal origin, they have a lower environmental impact than comparable meat and dairy products. Soy products are more sustainable in terms of land use, water use and GHG emissions. Recent research⁴ showed that it requires three times less land to produce one liter of 'soymilk' than one liter of cow-milk. Similarly, producing one kg of meat requires six times more land than one kg of tofu (soy-based meat replacer). In terms of water consumption, this proportion rises to 8 (it requires 8 times more water to produce 1 kg of meat than 1kg of of tofu)⁵. In terms of CO2 emissions, the same research showed that producing one liter of 'soymilk' emits three times less greenhouse gases than one liter of cowmilk. The ratio increases to 8 when you compare meat and tofu. (TBC by our own CO2 calculations during the summer).

Because soy products are from vegetal origin and are a good source of proteins, they can easily replace products of animal origin in the diet while contributing to reducing the impact of our food consumption on the environment. Thanks to their nutritional value – rich in protein, naturally lactose-free, cholesterol-free, rich in unsaturated fats –, soy products are ideal as part of a healthy diet.

Composition	Soy 'milk', enriched in calcium
Calorific value (kcal)	44
Proteins (g)	3.3
Carbohydrates (g)	3.2
- including sugar	3.0
- including lactose	0
Fibers (g)	0.3
Lipids (g)	1.9
- including saturated fatty acid	0.3
- including poly-saturated fatty acid	1.0
- including cholesterol	0
Calcium	110

Table I: Nutritional composition of soy drinks manufactured using whole soybeans (ENSA)

Nutritional labelling for 100g	Plain tofu
Calorific value (kcal)	137
Proteins (g)	14.0
Carbohydrates (g)	0.6
- including sugar	0.5
- including lactose	0
Fibers (g)	1.4
Lipids (g)	8.7
- including saturated fatty acid	1.2
- Including poly-saturated fatty acid	4.1
- including cholesterol	0

Table II: Nutritional composition of tofu made from whole soybeans Souci-Fachman-Kraut

³ McMichaels A. & Bambrick H., *Meat consumption trends and health consequences: a review of the evidence*. Public Health Nutrition Journal (2005) 8, 4, pp 348-356.

⁴ Blonk, Milieueffecten NL consumptie van eiwitrijke producten, 30 October 2008

⁵ Ecofys calculations (2009)



Nowadays, a wide variety of soy products to suit all tastes can be found in all shops. There are many ways to consume soy products. You can drink 'soymilk' with your cereals for breakfast or prepare a creamy smoothie with strawberries and 'soymilk'. When you feel like something savoury, tofu can be used to make all sorts of simple dishes such as: courgettes stuffed with tofu, vegetable quiche with tofu, marinated tofu sautéed with shrimps, etc. The list is endless. All you need to do is start cooking! And when you are in a hurry, there are always soy steaks, sausages, dumplings and ready-made soy meals, which are easy to reheat. Finally, soy 'yogurts' and deserts will bring a sweet conclusion to your meals.

You see, it's really easy to introduce plant-based foods in your daily diet!

So just like you chose to cycle to work instead of taking your car, just like you chose to buy energy-efficient light-bulbs, just like you chose to wash your clothes at 30°C instead of 90°C, you can simply choose to eat more soy products! Only by switching to a vegetarian one day per week, one can contribute to the protection of the environment and natural resources in a very efficient way. For instance, it is estimated that if every Flemish-speaking Belgian would stop eating meat one day per week, this could have the same positive impact on the environment as removing 500 000 cars from the Belgian roads⁶.

Not only are soy products good for your health, they are also good for the Earth!

⁶ EVA, the Flemish Vegetarian Association, based on the assumption that total GHG emissions from livestock for the Flemish Region amount to 7.2 Mton CO₂-eq per year and that the Flemish's favourite car, a Peugeot 307, emits 140g of CO₂ per km.