

CO₂ reduction in GUSTINO's pork production thanks to Donau Soja

GUSTINO-pig „climate-fit“ reduces 42% of greenhouse gas emissions

The carbon footprint^[1] of pork is largely determined by the feed. A recent study by the Research Institute of Organic Agriculture (FiBL) Austria proves this based on the feed from the Austrian *GUSTINO-Strohschwein* ("straw pig") "climate-fit". By using Donau Soja-certified feed, the *GUSTINO* programme avoids about 42% of CO₂ emissions usually emitted.

Background

In German-speaking countries, food consumption accounts for one quarter of individual greenhouse gas emissions.^[2] Food choices play a crucial role in the consumers' personal carbon footprint. In the production of animal-based food, relevant amounts of greenhouse gas emissions already emerge during animal feed production. Globally, the change in land use - for example from grassland or forest to agricultural land - accounts for large amounts of greenhouse gases.^[3]

Data from the Brazilian National Institute for Space Research (INPE) show that between 2000 and 2016 approximately 5.3 million hectares of

native vegetation in the Amazon and the Cerrado have been transformed to cropland for soya production.^[4] This corresponds to about one third of the arable area in Germany.

About 40% of the soya imported to the European Union originate from Brazil. These imports are mainly used as high-protein feed in livestock production. Soya feed from the Amazon region or the Cerrado is polluted with high CO₂ emissions due to land conversions. This results in a CO₂ footprint for Brazilian soya being about 10 times higher than for Donau Soja / Europe Soya-certified soya feed.



GUSTINO-pigs are fed with Donau Soja. Photo: *GUSTINO*

Results of the study: CO₂ reduction in pork production

The study by FiBL Austria shows how feeding with regionally produced soya feed impacts the emission of greenhouse gases positively. *GUSTINO-pork* produced with Donau Soja causes 2.5 kg CO₂ per kg of pork, while a comparable production with soya from overseas

(estimated to be 50:50 from USA and Brazil) causes 4.3 kg CO₂ per kg of pork. That translates to a reduction of 1.8 CO₂ per kg of pork, resulting in an emission reduction of 42% (see figure).

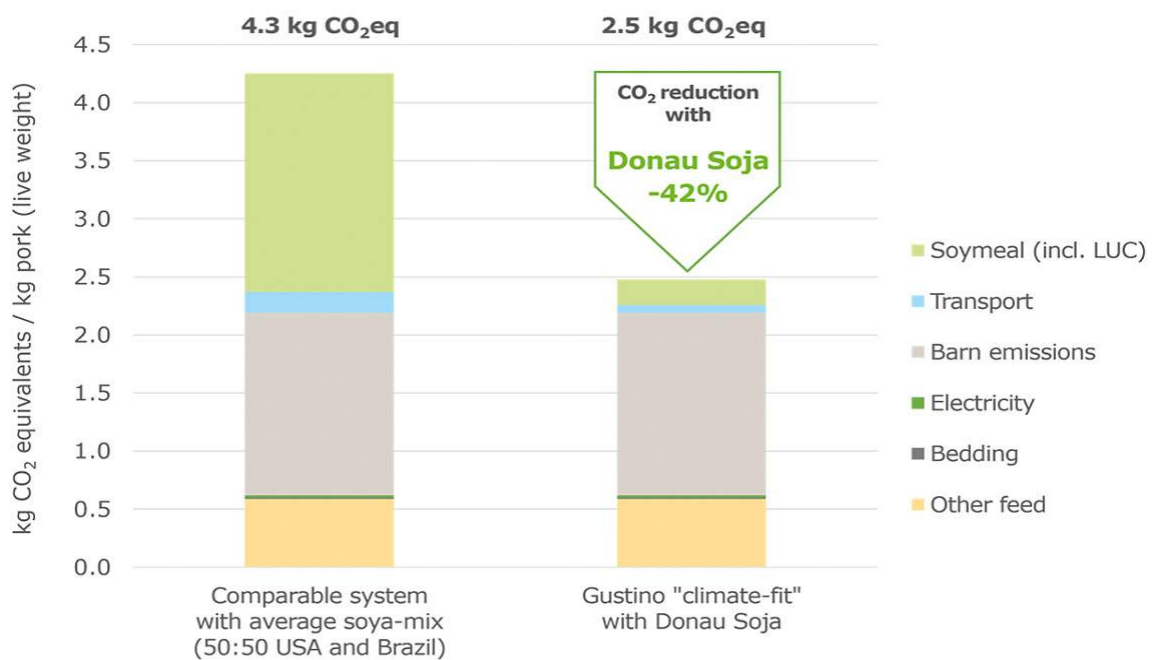


Figure: Global warming potential of 1 kg of pork – comparison of feed with DonauSoja versus average soya-mix from overseas (50:50 USA and Brazil). Pork refers to 1 kg of pig (live weight) at farm gate, which is why further processing steps after the pig farm are not considered.

The study also highlights the significant contribution of protein feed to the carbon footprint of pork production. When using soya from overseas, the share of soya meal in total emissions is 44% - mainly due to emissions from land use changes in Brazil. According to the figures of the present study, the emission share of soya meal is significantly reduced from 44% to only 9% if Donau Soja meal is used in the feed.

Another climate benefit of using regionally produced soya lies in transport emissions. Although the share of emissions from ships, trains or trucks to the total carbon footprint is comparatively low, these emissions can be more than halved by using Donau Soja.

Why a *GUSTINO*-pig "climate-fit" is something special

The European Union is heavily dependent on soya imports. In 2018, these amounted to almost 40 million tonnes, mainly from overseas. About 12 million hectares are needed to meet this demand. According to the Sustainable Trade Initiative (IDH), only 25% of the EU's soya demand comes from certified deforestation-free production.^[5]

GUSTINO farmers are pioneers and rely on regional and deforestation-free feed. *GUSTINO*-pigs "climate-fit" grow up on Austrian family farms and 80% of the feed is provided with the farm's own feed such as barley, wheat, field beans and maize. Even the critical soya meal comes from regional or European production: Since 2018, *GUSTINO*-pigs "climate-fit" have been fed mainly Donau Soja-certified feed as protein feed.



Soya field near Vienna.

Photo: Mirjam Lichtenberger, Donau Soja



The quality labels Europe Soya / Donau Soja stand for quality- and origin-controlled soya feed.

The quality labels Donau Soja / Europe Soya guarantee non-GM, sustainably produced soya of European origin. Donau Soja / Europe Soya-certified supply chains protect valuable ecosystems: Soya is only cultivated on land that was dedicated for agricultural use not later than 1 January 2008. By relying on Donau Soja, the *GUSTINO*-pig programme actively contributes to the preservation of forests and other valuable ecosystems and thus to climate protection.

About the study

In March 2020, Donau Soja commissioned the Research Institute of Organic Agriculture (FiBL) Austria to investigate the effects of using Donau Soja / Europe Soya-certified products on the carbon footprint of food and feed. Pork (live weight, at farm gate) of the brand *GUSTINO-pig "climate-fit"* is one of the products investigated. Data on the carbon footprint at the level of soya bean production are an essential part of the study and were collected by Footprint-consult e.U.

Donau Soja thanks the *GUSTINO* farmers and suppliers, the Association of Agricultural Processing Producers (Verband landwirtschaftlicher Veredelungsproduzenten) the soya processing companies Oleificio San Giorgio and Cereal Docks (both IT), BAG Güssing (AT) and the participating soya bean producers for their support in data collection.

About the *GUSTINO-pig "climate-fit"* programme

As early as 30 years ago, the Association of the Chamber of agriculture of Upper Austria (VLV) started to build up the *GUSTINO* brand together with contract farmers and trade partners. *GUSTINO*-pigs grow up on Austrian family farms and 80% of the feed is provided by the farm's own feed such as barley, wheat, field beans and maize. They have 60% more space in the barn and a resting zone with straw bedding. *GUSTINO* calls this husbandry „Tierwohl & Klimafit“ (animal welfare & climate-fit) and thus goes beyond the legal standards. *GUSTINO* farms are climate-friendly if they feed their pigs regional, non-GM Donau Soja in addition to the farm's own feed.

Website: <https://www.gustino.at/gustino/>

About Donau Soja

Donau Soja is a non-profit, independent and member-based organisation based in Vienna. The vision of Donau Soja is a sustainable, safe and European protein supply. To achieve this, Donau Soja supports, among other things, the sustainable production of soya in Europe and the development of regional value chains. The two labels Donau Soja / Europe Soya stand for non-GM soya products of controlled origin and quality from the Danube region and from Europe. Donau Soja unites over 280 members in 25 countries.

Website: www.donausoja.org

References

[1] Carbon footprint and CO₂ emissions respectively refer to CO₂ equivalents (CO₂eq), thereby including other greenhouse gases such as methane or nitrous oxide. IPCC (2013): Climate Change 2013: The Physical Science Basis: Working Group I Contribution to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press, New York.

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