

## **Up to minus 49% CO<sub>2</sub> reduction for Swabian-Hall pork with Donau Soja / Europe Soya respectively organic certification**

On-farm, regional and organic feed production are a contribution to climate mitigation

**The carbon footprint<sup>[1]</sup> of pork is largely determined by the feed. A shift can therefore significantly reduce CO<sub>2</sub> emissions. The Research Institute of Organic Agriculture (FiBL) Austria proves this with a recent study on pork production by the regional farmers association "Bäuerliche Erzeugergemeinschaft Schwäbisch Hall (BESH)" in Baden-Württemberg / Southern Germany. By using Donau Soja / Europe Soya-certified feed, the Swabian-Hall pork avoids about 31% of the average CO<sub>2</sub> emissions. In the organic version with, among other things, the farm's own protein feeds, the reduction is as much as 49%.**

With our diet, we contribute significantly to the climate crisis. Especially the production of animal proteins causes considerable amounts of greenhouse gas emissions.<sup>[2]</sup> In the case of pork, this is mainly due to the production of feed, especially soya from overseas: the European Union is heavily dependent on soya imports and obtains about 40% of its soya demand from Brazil. This means that we not only import feed, but also the environmental damage associated with it, such as deforestation for soya cultivation. After all, one third of the deforestation imported into the EU is due to the protein-rich legume. Soya thus accounts for the largest share of deforestation associated with EU imports – even ahead of palm oil.<sup>[3]</sup> This is because soya cultivation is often – especially in Brazil – leading to the conversion of forests (but also grassland) into cropland, which releases large amounts of climate-effective CO<sub>2</sub> emissions.<sup>[4]</sup>



Swabian-Hall swines receive Donau Soja / Europe Soya-certified feed and the farm's own organic feed, respectively. Photo: BESH.

Data from the Brazilian National Institute for Space Research (INPE) show that between 2000 and 2016, about 5.3 million hectares of natural land in the Amazon and the Cerrado have been transformed to cropland for soya cultivation.<sup>[5]</sup> This corresponds to almost one third of the arable land in Germany. Moreover, an alarming signal is that, for the first time over the last decade, the Amazon rainforest is emitting more CO<sub>2</sub> than it absorbs due to enormous deforestation, but also due to climate change impacts.<sup>[6]</sup> Soya from these areas has a carbon footprint about 10 times higher than Donau Soja / Europe Soya-certified European soya feed.

## Study proves CO<sub>2</sub> reduction in pork production

A recent study by FiBL Austria shows that regionally produced soya feed can significantly reduce greenhouse gas emissions (see figure). Swabian-Hall pork with Donau Soja / Europe Soya feed causes 3.3 kg CO<sub>2</sub> per kg pork (live weight). A comparable production for Southern Germany with soya from overseas (50% USA, 50% Brazil) causes 4.7 kg CO<sub>2</sub> per kg meat. Swabian-Hall pork therefore leads to a reduction of 1.4 kg CO<sub>2</sub> per kg of pork, or 31% of CO<sub>2</sub> emissions. In the case of organic Swabian-Hall pork, emissions can even be reduced by a further 0.9 kg of CO<sub>2</sub> per kg of meat to almost half, or minus 49% of the emissions of average production (see figure).

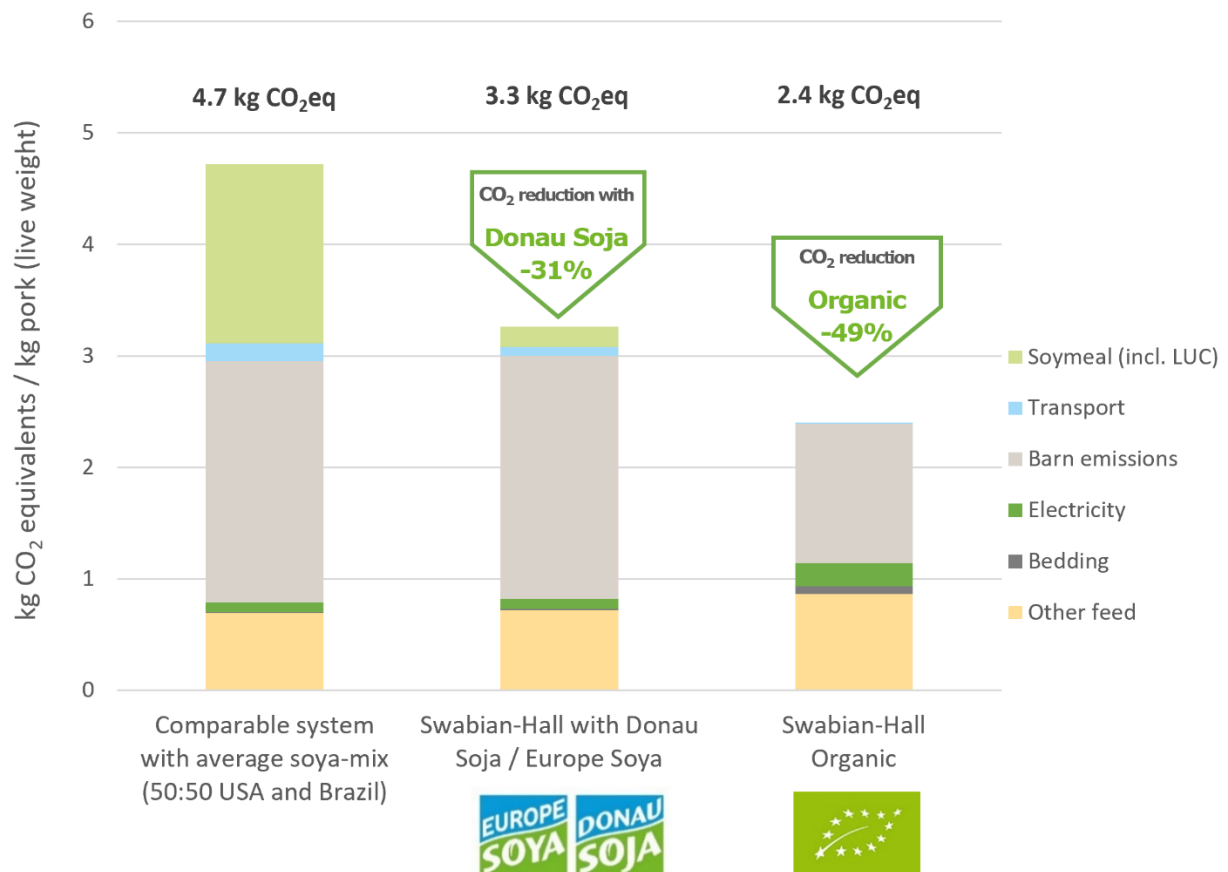


Figure: Global warming potential of 1 kg pork (live weight pig at farm gate) - comparison of conventionally or organically produced Swabian-Hall pork versus a typical production for Southern Germany with an average soya mix from overseas (50:50 USA and Brazil). Further processing steps after the pig fattening farm are not taken into account in this illustration.

In addition to the farm's self-produced and regionally sourced protein feeds, the lower barn emissions resulting from a higher use of solid manure are also decisive.

Another climate benefit of using regionally produced animal feeds comes from transport. Although the share of feed transport emissions by ship, train or lorry in the carbon footprint assessment is comparatively low, these emissions could be halved with the Donau Soja / Europe Soya-certified pork version and even largely avoided with the organic version. This is also confirmed by the further production steps up to the point of sale.

## Why a Swabian-Hall swine is something special

In 2019, soybean imports into the EU 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.<sup>[7]</sup> The regional farmers association "Bäuerliche Erzeugergemeinschaft Schwäbisch Hall" is a pioneer and relies on regional and deforestation-free feed: Swabian-Hall swines eat regional feed such as barley, wheat and grain maize, and the critical soya meal comes from regional or European production. Since 2016, Swabian-Hall swines have been fed mainly Donau Soja / Europe Soya-certified feed as protein feed. The organic Swabian-Hall swines eat the farm's own/regional feed such as barley, triticale, peas, wheat and soya beans or soya cake instead of soya meal.



Soya field in the vicinity of 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 / Europe Soya, the Swabian-Hall pork programme actively contributes to the preservation of forests and other valuable ecosystems and thus to climate mitigation.

## About the study

In autumn 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 Swabian-Hall pork (from agricultural production to point of sale). Data on the carbon footprint at the level of soya bean production, an essential part of the study, was assessed by Footprint-consult e.U.

Donau Soja would like to thank the "Bäuerliche Erzeugergemeinschaft Schwäbisch Hall", the farmers and suppliers, and the soya processing companies BAG Güssing (AT), Oleificio San Giorgio and Cereal Docks (both IT) for their support in the data collection.

## About the "Bäuerliche Erzeugergemeinschaft Schwäbisch Hall"

The "Bäuerliche Erzeugergemeinschaft Schwäbisch Hall", founded in 1988, works according to the principle of farmer self-help and is committed to farmer-led regional development in Hohenlohe (Baden-Württemberg/Southern Germany). It is thanks to the farmers of Hohenlohe that it was possible to revive a traditional landrace that was thought to have been lost – a project that has also received much international attention. Today, the herdbook of Swabian-Hall swines has grown to 350 herdbook sows, and 3,500 sows give birth to 70,000 piglets per year. In the meantime, about 1,500 farms have joined the strong community.

Website: [www.besh.de](http://www.besh.de)

## 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](http://www.donausoja.org)

## References

[1] Carbon footprint and CO<sub>2</sub> emissions respectively refer to CO<sub>2</sub> equivalents (CO<sub>2</sub>eq), 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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[7] The sustainable trade initiative (IDH), 2021. European Soy Monitor. Available at: <https://www.idhsustainabletrade.com/uploaded/2021/06/2019-IDH-European-Soy-Monitor-report.pdf>