

# Reducing environmental impact without effecting productivity

Over the past years, everyone progressively became familiar with the word “sustainability”. In 2021, The Economist Intelligence Unit published a report that showed a 71% increase in worldwide internet searches for sustainable goods, compared to 2016. As agriculture is often seen as a major contributor to GHG emissions and biodiversity loss, it is vital that the stakeholders invest in a more sustainable livestock production.

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Amongst the global guidelines about sustainability, the European Green Deal is an ambitious policy. One of the main goals of the Green Deal is to make Europe the first climate-neutral continent. Objectives include reaching zero net emissions of greenhouse gases by 2050 and an economic growth decoupled from resource use. In the animal feeding industry, FEFAC (European Feed Manufacturers' Federation) and FEFANA (EU Association of Specialty Feed Ingredients and their Mixtures) has shown strong commitment by issuing charters to contribute to a

climate neutral livestock production.

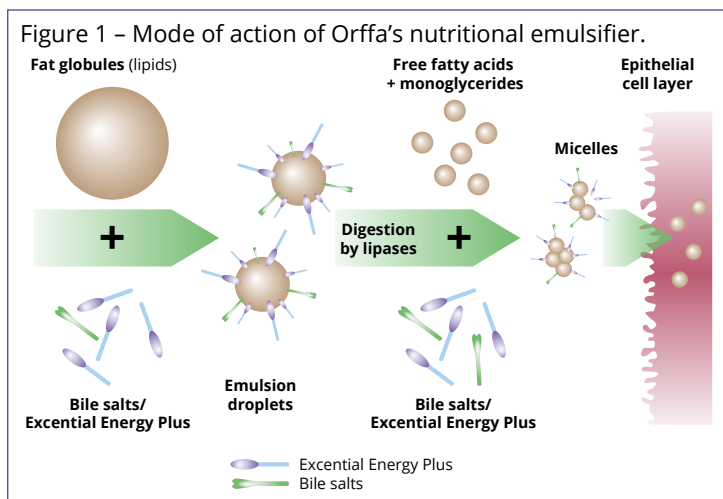
Orffa is strongly committed to continuously invest in R&D to develop new concepts and solutions that allows the industry to be more resilient and deal with the environmental, social and economic sustainability policies.

## Regulation on deforestation-free products

The FAO estimates that 420 million hectares of forest have been lost between 1990 and 2020. Therefore, the European Commission entered in force the deforestation-free regulation ((EU)2023/115). The regulation aims to protect the world's forest by allowing the export and import of only deforestation-free commodities. Commodities affected by this regulation (cattle, wood, cocoa, soy, palm oil, coffee, rubber, and derived products) would only be allowed on the EU market if they are deforestation-free. The sourcing of products that did not contribute to deforestation may reduce yearly carbon emissions by 31.9 million tons, which translates into economic savings of €3.2 billion (via carbon accounting). The EU deforestation-free regulation greatly impacts the animal feed industry. For instance, soy is one of the targeted commodities. In total 77% of the global soy production is destined for animal feed (remaining for direct human consumption and industry), due to its high essential amino acid and energy levels. Therefore, there is an urgent need for the animal feed industry to find dietary solutions that will reduce its dependence on soy. Orffa is already involved in products which can contribute to the reduction of this dependency. Amongst these innovations, Excential Energy Plus, a nutritional emulsifier with a high hydrophilic-lipophilic balance, has proven its benefits on nutrient digestibility and energy efficiency. More than 100 animal trials show that its supplementation upgrades metabolisable energy up to 140 kcal/kg and crude protein digestibility by 3%, making this nutritional emulsifier an instrumental feed additive to reduce the use of soy (byproducts).

## Reducing the dependence on soy

With its involvement in the energy and protein metabolism (Figure 1), Orffa's emulsifier enables feed companies to reformulate their diets and reduce the use of raw materials, such as soy. Firstly, the improvement of the digestion and absorption





of fatty acids allows formulators to include less digestible energy sources (such as recycled food oils or animal fats), without affecting the dietary energy for optimal health and performance of the animals. The inclusion of the nutritional emulsifier can save e.g. 90 kcal/kg of feed, which equals to a decrease in feed costs by around 5.26 USD/ton and a return on investment of 3.44. Furthermore, Orffa's additive has an indirect synergy with endogenous and exogenous proteases, making their substrate more available and enabling a sparing effect on digestible amino acids (e.g. by 0.18 g lysine/kg of feed).

Besides the reformulation application, several life cycle assessments have been performed in different animal species, showing the contribution of the emulsifier to reducing the CO<sub>2</sub> footprint of 1kg of animal product. In broilers, Excential Energy Plus was shown to reduce the global warming potential by an average of 2.78% (Figure 2). In addition, the terrestrial acidification potential, the freshwater eutrophication potential and the land use were also reduced. All these environmental benefits taken into account, this corresponds to a return on sustainable investment of 1:200, enabling to reduce emissions by 11 million tons of CO<sub>2</sub> equivalent, when considering a global poultry production of 92 million tons of broiler meat.

### More than just the environment

When thinking about sustainability, most people directly consider only environmental sustainability. However, two other pillars must be taken into consideration: social and economic sustainability. When focusing on social sustainability, the health of workers is a major concern. Minerals used in animal feed have a high dusting potential, which can be harmful upon inhalation. Therefore, Orffa has developed a specific technique to make minerals dust-free. This

mineral range consists of dust-free sources of iodine, inorganic selenium and cobalt, as well as a unique source of organic selenium, Excential Selenium 4000. Finally, an enhanced economic sustainability can be achieved by improving feed efficiency of animals with specific feed additives such as individual amino acids, betaine (Excential Beta-Key) and guanidinoacetic acid present in the company's portfolio.

### EcoVadis gold medal

To conclude, several parameters and regulations, such as the deforestation-free products regulation, are to be considered when formulating sustainable animal feed. Orffa developed several feed additives to help formulators minimise their CO<sub>2</sub> footprint while optimising animal health and performance. These efforts allowed the company to obtain the EcoVadis gold medal in 2023, ranking in the top 3% of best performing companies on global level.

EcoVadis assesses several sustainability criteria: environment, labour & human rights, ethics and sustainable procurement.

