CARBON FOOTPRINT

of Soybean Products
in the Brazilian Context

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TOPIC

Brazilian agriculture products have been questioned in the external context because the production is associated with deforestation, especially in the case of soy production. Studies widely disseminated in Europe group soybean meal (SM) and soybean protein concentrate (SPC) produced in Brazil in the range of 6kg CO_{2eq}/kg of product, reaching up to 7.4kg CO_{2eq}/kg of product when considered the worst-case scenario. Most of those emissions are linked to Land Use Change (LUC).

METHOD

This situation brings some European buyers to question Brazilian producers about the sustainability of their production processes, and the company (omitted) developed a study to quantify the GHG emissions of the SPC and SM produced in its units, using the PAS 2050:2011 method, in the cradle-to-gate approach. It applied mass allocation, focusing on the understanding of the relevance of each stage of the product lifecycle, considering LUC.

The functional unit (FU) defined for the study was 1kg of product. For the LUC, data from BRLUC v1.3 were used, which considered the state divisions of the country applying the most conservative scenario. The LUC factor was adopted specifically to the state of Mato Grosso where SPC suppliers are located, and to Goiás, where SM suppliers are located. The life cycle emission of 1kg of SPC was 4.2gCO_{2eq}/kg and for SM the emission was 1.2gCO_{2eq}/kg, being the LUC emission responsible for 86 and 70% respectively.

RESULT

The study showed that the LUC is the most representative source of emission for the Brazilian product, but the overall emission can be up to 80% lower than the results that is considered in international studies when considered data more attached to Brazilian reality.

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Author: **VITÓRIA LANES**
Fundação Espaço ECO/BASF S. A.
✉ vitoria.lanes@partners.basf.com