

Session Partnerships: April 11th 15.45 hrs

4s1: The circular food systems network: exploring opportunities for food security by circularity in different regions in the world

Livestock based Circular Food Systems in Tropical Islands

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Tropical islands are today on the frontlines of climate change and have to face many challenges to improve food security. Implementing circular food systems is necessary to become more self-sufficient and limit environmental impacts. Livestock have a crucial role to play in a circular food system by valorising co-products, waste and grassland and converting them into valuable food and manure. To facilitate the transition towards more circular system, we propose a methodology based on a metabolism approach, which aims to identify livestock-based scenarios to increase circularity of food systems. The methodology proposes 3 levels of accuracy and investment to encompass the large diversity of tropical islands contexts. The 3 levels have the same objective but can be applied depending on the means available in terms of data, time, funds and human resources. Level 1 is based on a proto-metabolism using macro data, level 2 is an accurate metabolism using a Material Flow Analysis (MFA) and level 3 proposes a participative approach with stakeholders' involvement in the metabolism. The methodology has been applied to 2 case studies, Madagascar and Reunion island which have similar pedo-climatic conditions but very different food systems. Application of the methodology is partial in Madagascar due to a lack of time and data and is almost complete in Reunion Island.