

## 2S2 Food safety and risks is a circular system

April 12th 11.30u

Ine van der Fels, WUR, [ine.vanderfels@wur.nl](mailto:ine.vanderfels@wur.nl)

The matter of unintended consequences for health, local environment, and landscapes should be carefully considered. This implies, amongst others, that we bring back byproducts, like by- and side streams from food production, that can not directly be used for human consumption, into the food production system. Closing loops to make our food production system more circular has not only advantages, but also entails disadvantages. This may have consequences of the quality of the end product (e.g. contamination by pathogens or chemicals), which may imply a health risk. Recycling streams can also be susceptible to fraud regarding the type of food waste. Furthermore, unintended by-products or processing plants may harm local environments and landscapes.

Issues to be discussed may include:

- Costs come in the form of industrial activities that require space and energy, and which may pollute air, water and landscapes. Do we sacrifice valuable land (that could be used for food production) for building processing plants or producing renewable energy? We invite contributions in which the costs and benefits are discussed.
- Applicable waste streams or by-products are usually of sub-optimal quality compared to products specifically produced for the given purpose and may therefore lead to, for instance, lower crop yields or less robust products. To what extent is lower productivity or low quality of end products acceptable?
- Risks are considered within a one health approach, including risks for humans, animals and the environment. By using waste streams or by-products hazardous pathogens or chemicals (e.g. processing and environmental contaminants, pharmaceuticals) could be reintroduced in the system and they can continue to circulate or accumulate in specific compartments. By-products that are used as feed or fertiliser input are considered of the highest risk. Do we know where risks might occur? Are we able to predict this? What aspects to consider to prevent risks from occurring and what mitigation strategies are available? Yet again, a fair yet critical assessment needs to be made.

For this session we also welcome out-of-the-box solutions to mitigate costs and risks.

Keywords: Food safety, benefits, risks, transmission, landscape quality, one health, chemicals, pathogens, solutions.