



## Research Summary Sheet

### *Value chain approach for identification of sources, causes and valorisation opportunities of agricultural waste*

#### Context and Challenges

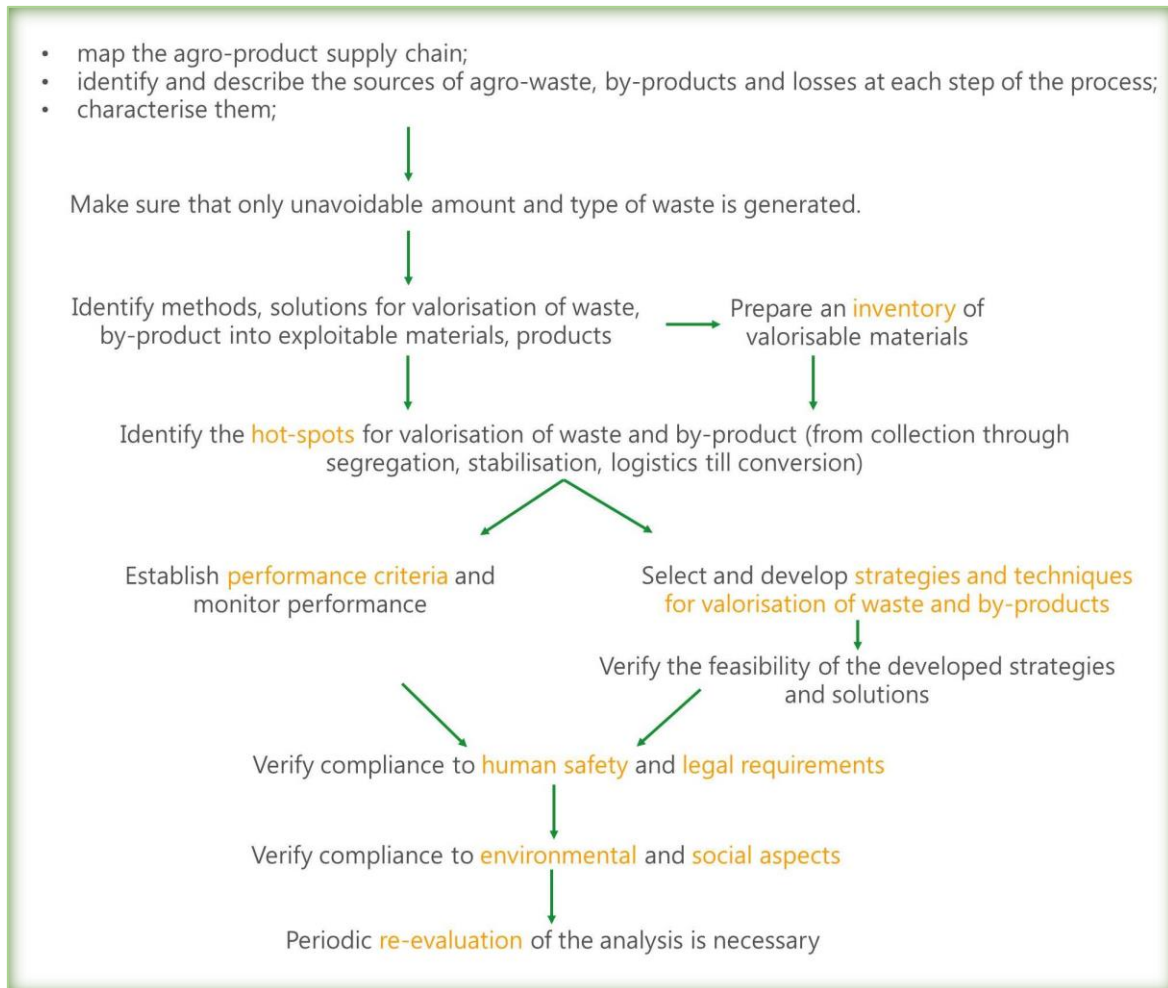
The existing methods for utilization and valorization of agricultural wastes focus on the processing and valorisation of the already generated waste. These methods do not consider the sources, causes and place of the waste generation along the whole value chain of agricultural products and do not assess whether there are alternatives, more feasible options for utilization of waste material at other steps of the value chain. The **objective of the work was to develop a conceptual framework for analyses and inventory of agro-waste conversion routes** using a value chain approach based on cause-effect analysis.

#### Results and Applications

The approach developed is based on mapping the process of production of the agricultural material along the whole value chain and analysis of the types of waste and losses, their causes, sources and valorisable material content step by step. The **map/ flowchart** of the process has to be established. At the valorisation phase for the selected valorisation routes, the flowchart has to be extended with the steps of the valorisation processes. For each type of waste and losses and each cause of waste and losses the **methods for its control** (prevention, elimination, reduction to an acceptable level) or/and **valorisation** will be defined systematically, the **feasibility of the application** of each control method and valorisation method will be assessed and the priorities will be established. An **inventory of valorisable materials** will be prepared during the step-by-step analysis. Based on the priority analysis the hot-spots for control of losses and valorisation of waste will be identified. For the feasible strategies, technologies the compliance to **food safety** and **legal requirements**, **social** and **environmental** aspects has to be checked. The whole analysis has to be **re-evaluated periodically** at least every 3 years, or in case of any significant change in the process.



The main steps are shown in the following figure



## Breakthroughs, benefits and added value

Circular economy requires following a more resource efficient waste valorisation procedure. The developed method maps the whole value chain and identifies those steps where the amount of waste can be reduced to the unavoidable amount and then, explores all the possible options for valorisation and then choose the most efficient valorisation routes for the generated waste.

**Further information on NoAW project:** <http://noaw2020.eu>

Campden BRI Hungary: dr. András Sebők, e-mail: [a.sebok@campdenkht.com](mailto:a.sebok@campdenkht.com)

INRA (Coordinator): Prof. Nathalie Gontard, e-mail: [nathalie.gontard@inra.fr](mailto:nathalie.gontard@inra.fr)