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AGRICULTURE & INNOVATION

Reducing food loss on the farm

Which new on-farm practices and technologies can limit food loss?

In the EU, ca. 90 million tons of food waste are generated annually with associated costs estimated at €143 billion. While in Western societies most of the documented food losses and wastes occur post-farm gate, nevertheless there can be considerable pre-farm gate food losses (>10%) arising from:

- ▶ Inefficient farming operations
- ▶ Difficulties with fulfilling production contracts
- ▶ A lack of awareness and consequently inadequate reporting (categorising) of food losses

Losses generated during primary (on-farm) production can be broadly categorised as 'practice-based' and 'market-based'. 'Practice-based' refers to direct loss generated during the operations of growing and harvesting the crops. 'Market-based', on the other hand, is loss that is generated as a result of external market events that influence production on the farm.

The EIP AGRI Focus Group (FG) "Reducing food loss on the farm" aimed to identify the main on-farm practices and technologies that can minimise such losses. The 20 Focus Group experts suggested that there is a need to establish clear definitions of what constitute 'food losses' on the farm, and to devise and implement systems that measure and monitor these on an ongoing basis.

The experts considered that there is no single solution to resolve the on-farm losses problem. The solutions are complex, at the interface between technology, economics, sociology, behavioural science and other considerations. However, they are of the opinion that highly efficient farming practices and suitable supply contracts between farmers and retail/processing sectors that are structured to minimise product discard are required.

The Focus group experts also considered that there is a need to enhance the level of awareness in society through education and dissemination programmes aimed at all 'actors' and stakeholders along the chain, including the consumer and wider society.

"Every part of the food production chain influences, and is influenced by, the other parts of the chain. Different countries and regions have different ways of avoiding food loss along the chain. This issue is very important, and harmonising the approaches, and reaching the right actors may help to address it."

- Jana Roels (Belgium), expert from the EIP-AGRI Focus Group on Food Loss on the Farm -

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Ideas for Operational Groups

- ▶ Defining losses and sustainable 'waste' removal rates from the farm, in particular the relationship between removal rates and recirculation of nutrients and organic matter in the context of soil health and sustainable production systems.
- ▶ Enhancing on-farm operational efficiency: testing new digital technologies to improve farming efficiency and meet citizens' requirements.
- ▶ Enhancing consumer awareness: initiating cooperation between local schools and farmers to raise awareness on the availability of 'ugly vegetables' and the environmental benefits of using this resource.
- ▶ Waste valorisation: testing ways to maximise value for 'unavoidable' wastes, co-products and by-products (such as animal manures), by utilising these resources for high value applications, within the context of ensuring sufficient return of resources back to the land (soil).
- ▶ Developing and testing new business models and fair trading practices: develop and test new business models that will enable farmers to plan better and minimise the need to over-produce to meet retail demands.

Research needs

- ▶ Understanding the dynamics of the multi-actor 'value chain approach': market dynamics of contractual agreements between producer (farmer) and consumer (retail, processing) and how policy and regulation impact on market dynamics and sustainability.
- ▶ Defining, measuring and monitoring actual losses on the farm in the context of sustainable farming systems.
- ▶ Developing technologies (particularly 'digital agriculture') that offer enhanced operational efficiency based on best practice and monitoring of operations for management and compliance purposes.
- ▶ Identifying valorisation pathways that offer new opportunities for utilising 'unavoidable' wastes arising from highly efficient on-farm operations.
- ▶ Finding new and effective ways to educate stakeholders, enhancing awareness of the extent and impact of the issue and solutions- with a particular focus on youth.

More ideas for Operational Groups and research needs available in the Focus Group report

More information on the EIP-AGRI website



Focus Group webpage	Press article: Irish potato company prevents food loss on the farm
Focus Group report	Inspirational idea: <ul style="list-style-type: none">• Towards a circular horticulture system• Olive stones to develop a new sustainable plastic

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