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Choosing the functional unit of an emerging technology: the case of digital tools in agriculture

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-• Introduction

Digital tools for agriculture are one of the levers to accelerate the **agroecological transition**. However, their environmental impacts remain unclear and must therefore be assessed.



- These **emerging** tools are **multifunctional** and can lead to **new uses**. These specificities raise methodological issues in the goal and scope phase of Prospective Life-Cycle **Assessment** (PLCA) approach.
- Therefore, this work focuses on identifying the functions of digital tools in agriculture. Several classifications of these tools exists but they are based on their place in the data chain or on the technology used. A new classification is required to choose a proper FU in adequation with the function of the tool.
- This study aims at proposing a functional classification and objectifying the choice of the FU for PLCA of agricultural digital tools.

-• Results & discussion



FUs yet.



Multifunctionality of digital tools remains a challenge when defining FU

-• Take-home message

Identifying a proper functional unit is crucial when applying PLCA to agricultural digital tools given their multifunctional and emerging use. Through a decision tree, the choice of the FU can be based on a rational process. This framework improves accuracy and **relevancy** of environmental assessment of digital tools in agriculture.

a : https://www.lesoutilsnumeriquesdesagriculteurs.com/

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