

# WASTELESS PRACTICE ABSTRACT

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## Piloting of the WASTELESS computer vision-based image analysis tool in Spain



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WASTELESS - Waste Quantification Solutions to Limit Environmental Stress



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## PRACTICE ABSTRACT

Large amounts of food are wasted every year, and reducing it requires comparable measurement. WASTELESS developed simple tools to record food loss and waste in different supply chains.

In Spain, a photographic and weighing protocol was used to support the WASTELESS computer vision-based image analysis tool that estimates fruit waste from pictures by detecting visible spoilage signals.

The objective was to provide real images plus ground-truth weights of whole fruit and the decayed portion, so the model can be tested and calibrated against actual waste percentages. Data were collected for more than 20 fruit items including apple, lemon, orange, peach and pear, photographed across decomposition stages in a controlled setup (camera and lightbox). Each fruit was then cut and physically weighed to quantify the decayed fraction, enabling direct comparison between image-derived decay and weight-based waste.

For practitioners contributing data or building similar datasets, consistency is the biggest driver of usefulness. A shared protocol for angles, lighting, background and inclusion of a scale reference improves transferability between sites. Dataset diversity should increase over time, adding different varieties and more realistic household conditions so the model does not overfit to lab images. Finally, annotation rules must be consistent about what counts as “decayed part” versus edible trim, because these judgement calls can bias the model and reduce comparability if different teams make different decisions.

## RESOURCES

Title/Description: Computer Vision-Based Image Analysis

URL: <https://wastelesseu.com/tools/computer-vision-based-image-analysis/>

## ADDITIONAL INFORMATION

The WASTELESS computer vision-based image analysis tool was developed by Hacettepe University. For further information contact [burcea@hacettepe.edu.tr](mailto:burcea@hacettepe.edu.tr).

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