



# Using Crop Wild Relatives in innovative food products

## Translating crop diversity into practical food applications

### Introduction

*Crop wild relatives (CWRs) and CWR-derived materials from barley, wheat, pea and lettuce are underused resources with strong potential for food innovation. These materials may offer valuable nutritional and functional traits, including fibre, protein and other bioactive compounds of interest for food applications. They can also help broaden the use of agrobiodiversity in the food sector and create new opportunities for more diverse and sustainable products. However, their use in food products remains limited, and more work is needed to translate crop diversity into practical, appealing and relevant food applications.*



### Objectives

The aim of this work was to evaluate the potential of CWRs and CWR-derived materials from barley, wheat, pea and lettuce in innovative food products. It explored how these materials could be incorporated into different food formats and how they might contribute to the development value-added products.

More broadly, the aim was to examine how crop diversity can support more nutritious, diverse and sustainable food systems, while creating links between plant genetic resources and product development.





**cousin**

Crop Cousins, promise for the future

## Results

COUSIN's product development activities show that CWRs and CWR-derived materials can be incorporated into a range of innovative food products. Examples explored within the project included barley muffins and roasted barley tea; wheat pasta and roasted wheat tea; lettuce pesto and a lettuce-based fruit smoothie; and pea-based products such as couscous, pea and berry fruit leather, and a pea-based mojito. These examples show that crop diversity can be translated into practical food applications across different product types.

Overall, the work highlighted the potential of CWR-related materials to diversify food ingredients, inspire new product concepts and support more sustainable and consumer-relevant food systems.

## Recommendations

CWRs and CWR-derived materials should be further explored as ingredients for food product development, particularly in applications that combine nutritional quality, functionality and consumer relevance. Future work should focus on optimising formulations and processing conditions, while also evaluating sensory quality, stability and shelf life. Attention should also be given to food safety, including the identification of potentially toxic or antinutritional compounds that may limit the use of some materials in foods. Comparative studies across genotypes, ingredients and product formats will help identify the most promising applications. In the longer term, pilot-scale production and food safety assessment will be important to support uptake of these products.

## Further reading

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