DIVINFOOD

Co-constructing interactive short and mid-tier food chains to value agrobiodiversity in healthy plant-based food

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Milestone MS16
Validation of the quality of the new products/recipes made by partners from WP3 raw material (taste, appearance, composition), to introduce them in markets in WP1 and to elaborate guidelines in WP2

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Summary

This document reports on the organization of the different food quality evaluations with consumers, farmers, small-scale processors and chefs, that took place or will take place within the scope of Task 2.2-iii. This task considers the sensorial analysis (i.e., considering taste, aroma and appearance), of the existing NUC based food products and formulations or created in Task 2.1, performed in different LLs.

Each LL selected a different approach, more adapted to their own reality, and that can be grouped in three different types of evaluations: with consumer panels, community-based evaluations, or together with Chefs.

In all involved LL, the tested NUC based food products were very positively received by the tasters, anticipating good opportunities for their introduction into the markets.

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Introduction

In DIVINFOOD WP2 Task 2.1 "Co-creation of innovative/renew and diversified plant based healthy and tasty food products and recipes", innovative mild processing solutions were applied to develop NUC based recipes in collaboration with consumers, farmers, small-scale processors, chefs, breeders and students.

Very diversified food products were developed depending on the Living Lab specific NUC and network. These ranged from mixed legume-cereal products, new cereal-based products, to legume-based new recipes.

To define their market ability, the organoleptic/sensorial quality (i.e., considering taste, aroma and appearance) of these NUC-based food products need to be evaluated, and some basic guidelines established.

In several Living Labs tasting activities were organized to validate the quality of the new products/recipes made by partners from WP3 raw material, to introduce them in markets in WP1 and to elaborate guidelines in WP2.

This document reports the different food quality evaluations, performed with consumers, farmers, small-scale processors and chefs, that took place or are taken place in different LLs, and is organized by the type of collaborative approach, with consumer panels, community-based evaluations, or together with Chefs.

1. Evaluations with consumer panels

1.1. LL GPeaPort

SUMMARY of the LL tasting

Date: 24-29/07/2025
Involver partners: UNL and Cooking Lab
Location: Sense Test, Vila Nova de Gaia, Portugal

Species of NUC:
Grass pea *(Lathyrus sativus)*

Tested recipes:
-Grass pea miso broth/soup (125 ml/participant)
-Mayonnaise with Grass pea miso (10 ml/participant)
-Shrimp balls with grass pea miso (2 units/participant)
-Cookies with grass pea miso (2/3 units/participant)
-Vanilla mousse with grass pea miso (foam) (10 g/participant)
-Cooked grass pea
-Marinade cooked grass pea tempeh cubs
-Fried grass pea tempeh chips
-Grilled grass pea tempeh slices

Involved actors, stakeholders:

1. Acceptance Studies

100 consumers. The consumer panel is predominantly regional (Greater Porto Area).

2. Sensory Profile Studies

Trained panel of 11 experts selected based on their sensory aptitude.

Methodology for quality evaluation:

For each product category, four tempeh samples were evaluated in different presentation modes (cooked, fried, grilled, and marinated), as well as five different samples incorporating miso (soup, mayonnaise, shrimp ball, biscuit, and mousse). A twofold approach was used, combining a consumer test (overall liking measurement) with a sensory profile analysis using a dynamic method — Temporal Check-All-That-Apply (TCATA).

All tasters were recruited from the database of Sense Test (Vila Nova de Gaia, Portugal), a specialized laboratory for sensory testing of food products (ISO 8589:2007/Amd 1:2014). The company ensures data protection and confidentiality according to authorization 2063/2009 of the National Commission for Data Protection, under the GDPR (Regulation EU 2016/679), and follows appropriate professional conduct.

Figure 1: Miso samples presentation

Figure 2: Tempeh samples presentation

1.   Acceptance Studies - Overall Liking

The overall liking test was conducted with panels of 100 consumers, following an accredited methodology in line with ISO 11136:2014/Amd 1:2020 and Sense Test's internal procedure PR 13.

Each participant was invited to rate overall liking on a 9-point hedonic scale (1 = "Dislike extremely" to 9 = "Like extremely"). Additionally, participants were asked to provide open comments indicating the main aspects they perceived in each sample.

All products were presented in a monadic and balanced order of presentation, coded with a random three-digit number (Macfie et al., 1989). Tests were carried out in individual sensory booths at Sense Test. Each booth was equipped with paper napkins, a glass of water, and crackers to allow tasters to cleanse their palate between samples.

2.   Sensory Profile Studies - Temporal Check-All-That-Apply (TCATA)

To evaluate the sensory profile of the different products, TCATA was applied using a trained panel with 11 judges (selected according to ISO 8586 – Sensory analysis: General guidelines for the selection, training, and monitoring of selected assessors and expert sensory assessors). Tasters were asked to select all applicable attributes at each moment during a 60-second evaluation period for each sample. An 8-second fading time was applied, after which the previously selected attributes were automatically deselected.

One attribute ballot was used for the tempeh samples, while five separate ballots were used for the miso-based preparations, due to product differences. All TCATA tests were performed in triplicate to evaluate the panel's performance across sessions.

Figure 2: Tempeh samples preparation for testing in individual sensory booths

1.2.   LL CerOcc

SUMMARY of the LL tasting

Date: From 01/03/2022 to 31/12/2024
Involver partners: INRAE/Purpan
Location: France

Species of NUC:
Einkorn (*Triticum monococcum*) and Rivet wheat (*T. turgidum*)

Tested recipes:
- Bread made with einkorn flour
- Pasta made by einkorn and rivet wheat flour
- Bulgur made with einkorn
- Flakes made with einkorn

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Depending on the objectives of the study (consumers, a panel of judges trained in sensory analysis in general, or farmers/processors)

Context and methodology for quality evaluation:
Local wheat chains produced by artisans and farmers are in development. As a new agri-food system, new indicators of sensorial quality of products need to be developed. To help the manufacturers to better characterize and optimize their production, it is necessary to determine the consumer expectations.

We decided to evaluate these products to have some references on physic-chemical and sensorial characteristics of this type of product in order to develop new products from other raw material (other einkorn varieties, other wheat varieties.

1. Bread made with einkorn flour

We have chosen 8 breads made with einkorn flour (Table 1). Flours have been characterised on water content, phytate content, particle size, ash and damaged starch.

Table 1: Einkorn bread samples

Bread 1	Bread 2	Bread 3	Bread 4	Bread 5	Bread 6	Bread 7	Bread 8
			-				

We have identified production practices and have made a Pivot classification (alternative sensorial method) of these breads and a hedonic sensorial analysis (60 consumers) (Figure 1). The aim was to obtain a description of each type of bread and identify the most appreciated by consumers.

Figure 1: examples of a sensorial degustation session (Photo: INRAE)

2. Pasta made by einkorn and rivet wheat flour

2.1. Commercial pasta

First, a total of 7 durum wheat pasta made in the Occitanie region (Figure 2) and 5 einkorn pasta (Figure 3) made in the South-West of France have been selected. The diversity of manufacturing processes was gathered by interviewing the different producers. Data were collected such as the

type of wheat used for the manufacture, the raw material used (flour or semolina), the parameters of the process (drying temperature) in order to have a real view of the process diversity.
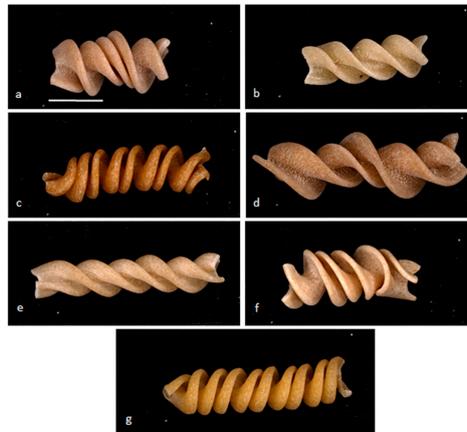

Figure 2: Pasta made from durum wheat

Figure 3: Examples of pasta made from einkorn

Secondly, a descriptive study was conducted using the Pivot Profile method to find free descriptors for each sample of pasta. Then, a hedonic study was carried out. A total of 60 naif consumers attributed a grade from 1 to 9 for each sample. Finally, a correlation was made between the appreciation and the descriptors for each type of pasta.

An assay has been made to know if einkorn variety influence the quality of pasta (6 varieties have been tested). The physic-chemical and sensorial characteristics was also evaluated.

2.2. Assays of pasta made with different varieties of einkorn

To increase agrobiodiversity and to find adapted varieties to local conditions and on-farm processing, a participatory evaluation involving farmers was conducted to select the varieties they consider more interesting among 100 genetic resources (INRAE, CRB, Clermont-Ferrand). Nineteen cultivars were selected and cultivated in 5 locations (research stations and farms) to evaluate their agronomic performances (lodging and pests' resistance, covering power compared to weeds, dehulling facility, Thousand Kernel Weight (TKW), yield). They were dehulled, processed into flour using a stone mill, then into pasta. The quality of flour (protein content and profile, mineral content, particle size) was assessed and compared with commercial artisanal ones. Pasta samples have been analysed on a physic-chemical and sensorial basis. Color has been evaluated on dry pasta. The cooking behaviour of pasta has been evaluated by measuring the optimal cooking time, the water absorption, and the cooking loss. The texture (using a TAXT+ with

Ottawa module) and the protein profile and content have been analysed on cooked pasta. The 6 pasta samples were then tasted by 14 sensory judges using ranking descriptive profile (an alternative to flash profile).

3. Bulgur made with einkorn and durum wheat

We have chosen 2 samples of commercial bulgur: 1 made from einkorn (Priméal) and 1 made from durum wheat (Carrefour). These samples were considered as control to better understand what was attended by consumers and to better advise producers if they want to develop this kind of product. We analysed the physic-chemical characteristics of bulgur samples such as water content, water absorption, optimal cooking time and texture (using a texturometer). We also performed a focus group composed of 6 people (3 farmers and 3 producers) to characterize organoleptic characteristics (descriptors: visual aspect, smell, texture, taste) and appreciation. They have tasted the 2 controls and 2 assays made with their own raw material (einkorn and rivet wheat) (Table 2).

Table 2: Dry bulgur and cooked bulgur analysed made from different raw material (durum wheat, rivet wheat and einkorn)

	Durum wheat (commercial)	Rivet wheat (assay)	Einkorn (commercial)	Einkorn (assay)
Dry bulgur				
Cooked bulgur				

4. Flakes made with oat, rivet wheat and einkorn (on going)

Four samples of oat flakes have been analysed on their physic-chemical (water content) and sensorial characteristics (Table 3).

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Table 3 : Commercial oat flakes samples

Brand	Packaging	Water content (%)
Carrefour		11%
Bjorg		11,2%
Carrefour		11,2%
Quaker		11,2%

Ten consumers have tasted these commercial samples and some assays of oat flakes. It will be considered as control to develop flakes from einkorn and rivet wheat.

To sum up, sensory evaluations were carried out by different categories of people depending on the objectives of the study (consumers, a panel of judges trained in sensory analysis in general, or farmers/processors). The studies focused:

- on characterization to generate vocabulary for different types of products and to assess which attributes distinguish them,

- on hedonic studies with consumers to better understand the appreciation,

- on exploratory focus groups with processors to understand their needs.

2. Community-based evaluations

2.1. LL LegNord and FabaNord

SUMMARY of the LL tasting

Date: 1-2/11/2025
Involver partners: DVF and SLU
Location: Plant Food Festival, Copenhagen, Denmark

Species of NUC:
• Pea (*Pisum sativum*) - three different traditional grey pea varieties.
• Faba bean (*Vicia faba*) - hulled vs de-hulled.
• Lentils (*Lens culinaris*) - Anicia lentils

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Tested recipes:
Boiled in plain water with a pinch of salt.
Toasted Anicia lentils.

Involved actors, stakeholders:
Approximately 100 citizen consumers

Context and methodology for quality evaluation:

DVF will conduct a two-day consumer tasting event at the Plant Food Festival in Copenhagen on November 1st and 2nd (see picture from the festival below). The festival is expected to attract several thousand consumers with a strong interest in plant-based products, including lesser-known legumes and cereals.

Plant Food Festival in Copenhagen (Photo: DVF)

The goal of the tastings is to gather consumer feedback on taste, aroma, and appearance of various NUCs, while also collecting valuable demographic and behavioural data from participants. This data will be analysed to provide insights into consumer preferences.

The tastings will feature several NUCs. The tasting materials will be provided by Work Package 3 or, if unavailable, by producers from the Nordic Living Labs (LL-Leg Nord and LL-Faba Nord), such as Nordvara and Naturbruget Tranum.

Data will be collected in two main parts:

1. Product Feedback: Consumers will evaluate the products using a nine-point Hedonic scale to rate their overall liking of the samples (see example below). They will also provide written comments to explain their ratings.

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Sample 1								
Look and taste the sample.								
A1. What is your overall liking of the sample?								
☐	☐	☐	☐	☐	☐	☐	☐	☐
Extremly bad	Very bad	Bad	A little bad	Neither good nor bad	A little good	good	Very good	Extremly good
A1a. Why do you think so? Write a comment: _____ [PROG: OPEN ANSWER]								

Sample 2								
Look and taste the sample.								
A1. What is your overall liking of the sample?								
☐	☐	☐	☐	☐	☐	☐	☐	☐
Extremly bad	Very bad	Bad	A little bad	Neither good nor bad	A little good	good	Very good	Extremly good
A1a. Why do you think so? Write a comment: _____ [PROG: OPEN ANSWER]								

Nine-point Hedonic scale to rate their overall liking of the samples (Photo: DVF)

2. Demographic and Lifestyle Information: After tasting, participants will complete a questionnaire that includes demographic and lifestyle questions. The questions cover the following areas:

o Age and Gender identity

o Household situation

o Total annual household income (TBD)

o Highest level of education

o Main diet (e.g., carnivore, vegan, flexitarian)

o Interest in environment and sustainability related to food choices

o Willingness to try new foods and flavours

o Primary place of vegetable purchase (e.g., farm, market, supermarket) to better understand their relationship with sustainable and local food.

3. Word association (participant can choose descriptive words freely).

The data collected will be analysed and compared to provide deeper insights into consumer behaviours and preferences.

2.2. LL Leg-Hung

SUMMARY of the LL tasting

Date: February-June 2024
Involver partners: ACC and Agri Kulti
Location: at the consumer's home

Species of NUC:
Green lentils (*Lens culinaris*), split peas (*Pisum sativum*) and chickpeas (*Cicer arietinum*)

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Tested recipes:
No specific recipes tested - the consumers received the packages of various legumes, and they could decide what to make with it in their homes, feedback was gathered about this. Consumers received some recommended recipes via e-mail.

Involved actors, stakeholders:
100 consumers at their own homes.

Context and methodology for quality evaluation:
ACC organised a community-based consumer evaluation (Hello Legumes!) from the products of Leg-Hung Living Lab in cooperation with Agri Kulti between February and June 2024.

As the first step of the evaluation, a questionnaire was designed to understand the consumers dietary preferences, habits and to collect statistical data. Through the process, all consumers received 4 emails including recipes and advice on the use of the selected NUCs. A webinar was also organised with the participation of Agri Kulti and an influencer promoting leguminous plants. After the evaluation period a follow-up questionnaire was sent to understand the consumers' habits in the long-term.

2024.01.22.

Hello legumes! Join our February challenge!

Perhaps one of the biggest myths about vegetarian and vegan diets is that the human body does not get enough protein through them. However, this is not true at all, we can also get sufficient quantity and quality of protein from plant sources. One of the best sources of plant protein is various legumes. The first Conscious Shopper Challenge of 2024 encourages you to get to know these healthy and versatile ingredients better!

The course of the challenge

1. Register for the challenge by midnight on January 31st!
2. After registration, you will receive the webinar link to participate, and the first hundred applicants will be sent gift legume packages to the address provided during registration, containing three 25 dkg packages of green lentils, yellow peas, and chickpeas. (We only ship domestically.)
3. During the four-week challenge, we will send you a newsletter every week with useful tips and recipes that you can get inspired from!
4. Experiment and share your experiences with us. Use the hashtag #hellohuvelyesek in your posts!
5. After completing the challenge, we will send you an evaluation questionnaire. If you fill out the questionnaire and send us a picture of yourself completing the challenge, **we will give you a free Conscious Shopper product test of your choice** . The first 70 **residents of Zugló will receive an IKEA gift package** thanks to the Zugló Municipality.

Advertisement for the Hello legumes! challenge

360 consumers subscribed to the testing, the first 100 people received a small package of green lentils, split peas and chickpeas (250 gramms/each). They could choose from options: 1) some of them tried out a legume what they had never used before or 2) cooked from legumes through a 4 weeklong period. This happened in February 2024.

Legume packages sent to consumers during the Hello legumes! challenge

The most common motivations of joining to the evaluation were the following:

• 43% said they are interested in legumes, but they did not have knowledge to prepare it

• 39% said that they ate meat, but because of environmental reasons they were open to eat less meat and consume more legumes as protein

• 38% said they would like to try out new food and recipes

During the consumer challenge, four emails featuring recipes from various chefs and food influencers were sent to the participants. The registered consumers participated in a webinar and received weekly newsletters on the topic. In the webinar, Attila Králl from Agri Kulti gave a presentation on legume production in Hungary, while Kinga Madarász, a food blogger and chef, delivered a presentation about how to prepare legumes the best ways. Additionally, participants were also provided with WP2 Leg-Hung's recipes for home cooking by Agri Kulti in which recipe development Kinga Madarász was involved. 98 consumers fulfilled the challenge and filled in an evaluation questionnaire after cooking from the legumes.

The testing was positive: more legume consumption was reported thanks to the information and recipes they received. Most of the consumers (61%) chose the option to cook main dishes from legumes once or twice a week. Split peas and chickpeas were rated as the most popular legumes from the testing package. Lentils and soya were also mentioned as legumes which consumers chose more thanks to the challenge however these are not produced in the Leg-Hung LL.

Participants were asked to report on their legume consumption habits 3 months after the end of the evaluation. More than 50% of the group said they consumed more legumes than before the evaluation.

2.3.   LL Cer-Hung

SUMMARY of the LL tasting

Date: May-June 2023
Involver partners: ACC and ÖMKi
Location: at the consumer's home

Species of NUC:
Emmer (*Triticum turgidum* L. subsp. *dicoccum*), einkorn (*Triticum monococcum*) and spelt (*Triticum spelta*)

Tested recipes:
Pasta

Involved actors, stakeholders:
25 consumers at their own homes

Context and methodology for quality evaluation:
In CerHUN LL we tested pasta made from ancient grains of NUCs (emmer, einkorn and spelt) with consumers. It was important also to increase the testers' knowledge on this topic, so they had to participate in a webinar before the product test.

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Ancient cereals pasta sent to consumers for tasting

The webinar was attended by 12 people; the others watched the recording afterwards.

After the webinar, a total of 25 people tested pasta made from 3 types of cereals: spelt, einkorn wheat and emmer. The pasta was sent to them by post. They gave feedback on their experience in an online questionnaire. We received feedback from 23 people. All were very happy with the opportunity and open to trying similar new products and introducing them into their daily diet.

The majority of testers agreed that:

• all three pastas were easy to prepare;

• shorter cooking time than the usual wheat or durum pasta;

• the texture was also very good, and didn't cook apart;

• after the einkorn wheat and the spelt they had a longer feeling of fullness than the "traditional" pastas;

• the einkorn wheat and the emmer was very tasty, but the testers did not like the spelt as much

Date: 2025 September
Involver partners: ACC and ÖMKI
Location: at the consumers' home

Species of NUC:
Emmer (*Triticum turgidum* L. subsp. *dicoccum*), einkorn (*Triticum monococcum*)

Tested recipes:
Flour

Involved actors, stakeholders:
396 consumers at their own homes

Context and methodology for quality evaluation:

ACC organised a community-based consumer evaluation (Hello Ancient grains (Einkorn and Emmer)!) from the products (Emmer and Einkorn flour) of Cer-Hung Living Lab in cooperation with Ömki in Septembert 2025.

As the previous two Divinfood challenge, we recruited consumers who were willing to test and eat emmer and einkorn flour based products for a month. 396 consumers subscribed to the testing, the first 60 people received 2 kg of emmer or 2 kg of einkorn flour (2kg/each) and tried out and baked from it during a month-long period.

Example of cereal flour packages sent to consumers during the Hello Ancient grains (Einkorn and Emmer)! challenge

In the pre-survey 40% heard about the NUCs but didn´t try it at all, 50% eat and baked from it already and 7% didnt hear at all from these NUCs. To support them, consumers in the challenge received 5 emails including recipes and advice on the use of the selected NUCs. A webinar was also organised with the participation of Ömki and a baker who is using emmer and einkorn also in his bakery. With Ömki together we prepared a market research about where to source from the NUCs flours and where to find NUC flour based breads and pastries in bakeries for the consumers who didnt recieved flour from us but wanted to participate in the consumer evaluation challenge. After the one month period a follow-up questionnaire was sent to understand the consumers' habits in the long-term.The testing was positive, ACC received 29 evaluations.

2.4.   LL Leg-ItSwitz

SUMMARY of the LL tasting

Date: October 2025
Involver partners: FIRAB
Location: online in relation to the survey, national in terms of consumer feedback and Central Italy in relation to processing and manufacturing with the collaboration of Alce Nero

Species of NUC:
White lupin (*Lupinus albus*)

Tested recipes:
White lupin snack

Involved actors, stakeholders:
Hundreds of e-commerce consumers

Context and methodology for quality evaluation:
The project aimed to promote the use of white lupin flour in food preparations, testing its potential as a functional and protein-rich ingredient in industrial bakery applications.

Phase 1 – Launch and Concept Definition (June–September 2024)

Technical Objective: To assess the technological and sensory feasibility of producing a baked product with white lupin flour as a key ingredient.

Concept chosen: Development of a snack with a high white lupin content.

MUST HAVE:

Organic certification.

NICE TO HAVE:

- High protein content.

- Option to include proteins from other legumes.

- Preferably with extra virgin olive oil.

DON'T HAVE:

- Flavourings or natural flavourings.

- Thickeners.

- Animal-derived ingredients.

- Isolated proteins.

- Antioxidants.

Actions: Search for organic lupin flour suppliers and define project timeline.

Phase 2 – Laboratory Testing (October–December 2024)

This initial experimental phase faced significant workability and baking challenges. Main issues included difficult dough handling, spongy texture and inconsistent baking performance. Adjustments included varying lupin flour percentages, adopting toasted lupin flour and testing alternative legume flours.

Optimization involved introducing native legume proteins to balance structure and taste. Tests were also carried out on process factors (thickness, shape, saltiness) and minor recipe adjustments.

Result: laboratory recipe approved internally for taste and structure and shared as the base for industrial testing.

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Phase 3 – First Client Feedback and Optimization (January–February 2025)

The laboratory recipe was approved in terms of form, texture and flavour. Planning started for the industrial line test scheduled for March 2025.

Phase 4 – Line Test and Review (May–June 2025)

The first industrial test failed due to technological limitations. The dough was unbound and non-laminable. It lost structure and cohesion during baking due to high protein content reducing elasticity and plasticity, destabilizing lamination and following baking.

Corrective measures over a new round of tests included increasing strong flour and gluten content as well as reducing non-lupin legume flours (keeping lupin percentage unchanged). Result: Improved structure and validated lab samples for next testing phase.

Phase 5 – Recipe Consolidation and Approval (July 2025)

The revised recipe was positively evaluated for both texture and flavour. A final pilot production test was planned for late August 2025.

Phase 6 – Pilot Production and Validation (August–September 2025)

The pilot production confirmed initial good dough workability but revealed new process challenges.

- Acceptable initial workability, but issues during cutting and shrinkage after baking.

- Final texture too hard and not crumbly enough.

- Dough showed highly sensitivity to moisture and hydration variations during processing.

Despite these, the product was packaged in single-dose format for consumer testing.

Phase 7 – Sensorial evaluation by e-commerce consumers (from October 2025)

A package of the snack will be sent by mail to hundreds of e-commerce consumers coupled with a request to fill in a questionnaire (a QRcode will lead to the survey).

White lupin snack sent by mail to e-commerce consumers for testing

Caro consumatore,

stiamo lavorando al lancio di un nuovo prodotto e siamo molto entusiasti di coinvolgerti per testare il tuo livello di gradimento.

Il nuovo mini snack è gustoso, leggero e ricco di proteine in quanto è realizzato con lupino bianco, una fonte preziosa e naturale di proteine vegetali.

Non essere impaziente, aspetta ad assaggiarlo! Ti chiediamo soltanto pochissimi minuti per esprimere il tuo parere.

Prima di aprire il sacchetto, scansiona il QR code che trovi in basso e compila il nostro questionario seguendo le istruzioni che ti guideranno prima e dopo l'assaggio.

Ti ringraziamo per il contributo e per aver condiviso la tua esperienza!

White lupin snack with QRcode for evaluation questionnaire

3. Evaluations together with Chefs

3.1. LL AURA

Date: 17/07/2025
Involver partners: mPmC
Location: Chef Christian Têtedoie Restaurant during the workshop "Recipes with the Meat Bean"

Species of NUC:
Meat Beans (*Phaseolus vulgaris*)

Tested recipes:
•Fayonnaise
•Sardinade
•Tapenade
•Grain salad
•Apple salad
•Vegetable cakes
•Improved meat hachis parmentier
•Fish terrine
•Almond cake
•Chocolate cake
•Scottish cream
•Cheesecakes

Examples of tested Meat bean based recipes

Involved actors, stakeholders:

24 participants (producers, processors, chefs in collective or commercial catering, doctors, dietitians, public organizations, researchers, journalists)

Methodology for quality evaluation:

For mPmC, working with forgotten local varieties goes beyond the agricultural approach, even though it is clearly the foundation of everything. A systemic approach must be developed. Therefore, the ecosystem must be as broad as possible to consider the creation of a short-supply chain.

To meet the objective of the European DIVINFOOD project, mPmC s.a.s. (mes Producteurs mes Cuisiniers), coordinator of the DIVINFOOD project for the Région Auvergne-Rhône-Alpes "Living Lab," applies its systemic approach to all DIVINFOOD tasks under its responsibility.

In this context, mPmC organized a "recipes" workshop focused on the Meat Bean, also known as the "Cheylard Bean," a name recently rediscovered thanks to the outstanding historical research conducted by Tara Dourian of INRAE.

The aim of this « recipes » workshop was to bring together a diverse group of stakeholders to collaborate in preparing a shared lunch centered around our "meat bean," the subject of research in our Living Lab.

Another objective was to gather feedback on the tasting of dishes made with the Meat Bean/Cheylard Bean.

The workshop was co-facilitated by mPmC and Samuel Mony, a trained chef with whom we have previously collaborated. Samuel is a specialist in legumes and collective catering issues.

We began with a presentation on legumes and their culinary benefits.

To embody the importance of this systemic approach, mPmC invited participants from various backgrounds - producers, processors, chefs in collective or commercial catering, doctors, dietitians, public organizations, researchers, journalists - who do not usually meet but are all dedicated to the same goals within their respective fields. Thanks to this workshop, they met in a relaxed atmosphere, built connections, and projected future collaborations. This was also one of our objectives.

With our NUC (Neglected Underused Crops), under Samuel's guidance, they developed recipes/dishes ranging from starters to desserts for our lunch. We also took the opportunity to introduce the Living Lab's NUC from Portugal, the Grass Pea, by incorporating it into a recipe.

This was also an opportunity for each of us to get to know one another better and to create links that will help strengthen this ecosystem.

Chef Christian Têtedoie, a Michelin-starred chef who also holds a Michelin Green Star, participated and hosted us in his restaurant and kitchens to carry out the workshop.

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Meat bean-based recipes preparation

Once the dishes were prepared, they were presented and tasted by every participant. A discussion was held with all participants about the benefits and challenges of legumes, depending on each person's expertise.

All ingredients used in the recipes were organic.

In all these dishes, the meat bean was used either as a technical support or to enhance the quality of the products.

Meat bean-based recipes tasting

After lunch, feedback on taste and organoleptic aspects was collected. Overall, the feedback from all guests was positive. Participants were sometimes surprised by the results of the recipes, but always in a positive way. Of course, there were recipe preferences depending on personal tastes and professional contexts (collective catering, commercial restaurant, hospital, etc.).

One issue that came up repeatedly in the discussion was price. At what price will the meat bean be sold? Because while the meat bean has proven its worth in the kitchen, its consumption will depend on its selling price. Only mechanization will make it possible to offer it at a sustainable price. Mechanization is the focus of the Région Auvergne-Rhône-Alpes Living Lab's work for the 2025-2026 season.

Each guest received a booklet with all the recipes prepared during the workshop.