

Sustainability by chance

Consumer co-creation yielding unintended environmental benefits for the food system.

Experiences of EIT Food

RIS Consumer Engagement Labs project

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EU-wide survey by European Commission, 2021

- 49% of respondents considered **climate change** as one of the **most serious** world problems, but:
- **only 16%** considered carbon footprint of food and were adopting shopping behaviors
- **35% had not taken any action** to fight climate change in the six months preceding the survey

(European Commission (2021). Climate change: Special Eurobarometer report 513. European Commission, Directorate-General for Climate Action. Publications Office of the European Union, Luxembourg)

tangible environmental impacts

by targeting consumers with **limited environmental awareness**

without **changes to the attitudes or values** →

sustainability **“by chance”** as a **by-product**
of non-environmental actions

Previous studies

– consumers & environment

- environmental significance of behaviors defined by **impact not intent**
- environmental sensibility
 - but **convenience** wins over the environment

Previous studies

– living labs

- environmental sustainability as a **recurring theme**
- living labs tend to focus on the adaptation and diffusion of **existing products and technologies**, exploring usage modalities to reduce environmental burdens

EIT Food RIS Consumer Engagement Labs project

- the largest food co-creation initiative in Europe
- 2019-2022: 17 countries, 43 food system companies and hundreds of consumers
- funded by the **European Institute of Innovation and Technology/EIT Food** through Horizon 2020 & Horizon Europe framework programs of the European Union

EIT Food RIS Consumer Engagement Labs project

- social experiment with companies and non-expert consumers (no specialist knowledge of food, no prior industry exposure)
- multiple creative scenarios including: **co-creation of culinary innovations (meals)** – that could be prepared by consumers in their own kitchens or commercialized by companies

Data and methods

- 10 Consumer Engagement Labs in Southern, Central and Eastern Europe, 2021
- each Lab: 10-13 consumers + companies
- semi-standard research protocol, 7-8 months
- sessions recorded, transcribed, qualitatively coded
- data used here: 9 out of 36 codes; 258,117 words in 1,007 encoded excerpts of transcripts from 10 Labs processes

Results – „good food” as understood by consumers

1. Taste
2. Visual qualities
3. Freshness
4. No additives/preservatives
5. Local origin, traceability of ingredients
6. Nutritional benefits
7. Diversity, balanced diet

Results – meat eating practices

- tend to eat meat one or more times per week
- meat: nutritious, more satiating
- consumers aware of the benefits of diversity in nutrition - balanced composition of meals combining meat with vegetables

Results – plant-based meat analogues

- limited experiences with plant-based meat analogues
- overly negative reactions
- opposite of “good food” (unattractive taste, use of additives, problems with traceability of ingredients)

Results – reasons to consume meat analogues identified by consumers

- fashionable tendencies (incl. youth)
- some participants ridiculed the environmental justifications for plant-based diets – as short-lasting and faddish arguments

Results – summary of consumer discussions

- strong preference for meat
- limited concern for the environment
- plant-based meat analogues not considered viable

Country	Production of meat (thousand tones, 2021)				Inability to afford a meal with meat every second day (% of citizens, 2021)	Farms with dry pulses and protein crops (ha, 2016)	Eating vegetables at least once a day (% of citizens, 2019)
	Poultry	Pigs	Cattle	Sheep and goats			
BG: Bulgaria	115.83	79.16	7.12	NA	22.40%	33,860	48.60%
EL: Greece	238.69	70.33	33.04	69.11	11.60%	31,640	53.50%
ES: Spain	1,629.45	5,180.06	717.88	130.51	4.70%	373,030	46.70%
HU: Hungary	549.98	462.74	28.93	NA	12.20%	21,180	44.90%
IT: Italy	1,376.24	1,335.44	747.89	30.2	7.90%	227,770	62.90%
LT: Lithuania	86.56	74.4	43.7	0.17	8.90%	238,150	53.70%
PL: Poland	2,540.21	1,976.33	555.12	1.18	3.60%	320,890	51.20%
RO: Romania	465.3	311.1	36.2	NA	19.20%	55,240	17.40%
SI: Slovenia	72.21	22.59	37.54	0.16	4.20%	1,310	56.80%
SK: Slovakia	77.32	60.7	9.02	NA	12.70%	12,680	47.30%

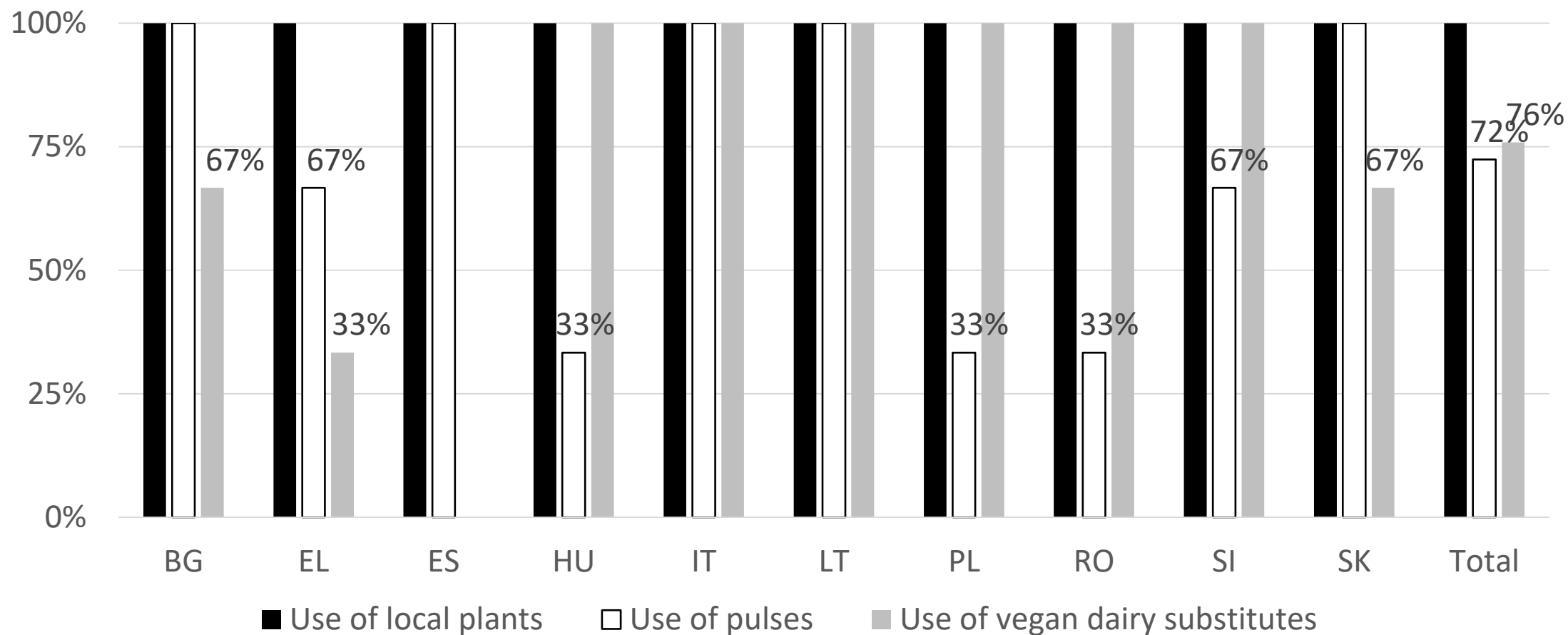
Meat and vegetable production and consumption in European countries where Consumer Engagement Labs were organized. Source of data: Eurostat

Results – creative tasks

- teams designing “proper meals”
- meals without animal-derived ingredients
- teams discussed and experimented, generating recipes and 29 sets of meals

Results – creative outputs

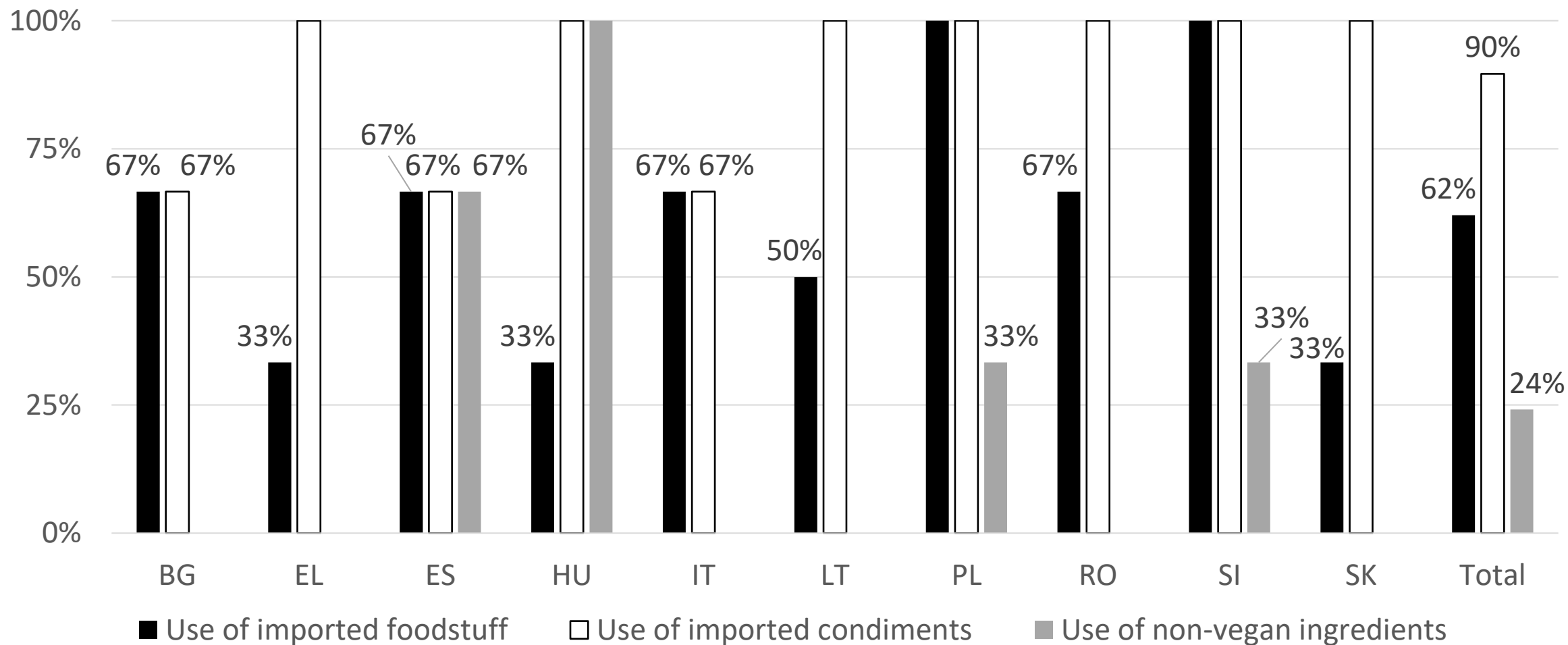
- use of local plants (vegetables, grains, cereals)
 - untypical ingredients (nettles, sorrel, hemp seeds and linseed)
 - ingredients from ancient traditions (beetroot, oyster mushrooms, pumpkin, rhubarb and zucchini)
 - use of pulses (beans, chickpea, lentils, soy)



Characteristics of new product ideas proposed by participants of Consumer Engagement Labs in 10 European countries – use of plant-based ingredients

Results – creative outputs

- some ingredients increased the environmental footprint
- imported foodstuff in desserts or side dishes (avocado, banana, kiwi, mango, pineapple, chia seeds, quinoa)
- imported condiments
- some meals included non-vegan ingredients (egg whites, ghee, feta cheese, butter) – mistakes?



Characteristics of new product ideas proposed by participants of Consumer Engagement Labs in 10 European countries – use of ingredients impairing the environmental benefits

Results – moving from animal-derived to plant-based foods

- promoting increased dietary diversity and flexitarianism
- consumers more willing to eat plant-based foods
- participants did not primarily focus on environmental benefits

Results – opinions of consumers

- positive sensory experiences
- feasible alternatives to animal products
- creative outcomes meeting all criteria of “good food” defined earlier by participants
- additional benefits: convenience, price, freshness, nutrition, speed of preparation

Conclusions (1)

- **environmentally sustainable** behaviors and outputs as **side-effects** of living labs
- **not discouraging** participants by excessive environmental activism
- relevant for **consumers ignorant of environmental challenges** who disregard awareness campaigns

Conclusions (2)

- **“sustainability by chance”**
 - action rather than ideology
- **unintended environmental impacts**
- **modifying consumer behaviors** despite initially **negative attitudes** towards plant-based dishes, without the need to change underlying **values**

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