

Food 2040: Microbiomes & fermented foods

Shaping the Future of EU Food Research & Innovation under the European Biotech Act and food safety simplification frameworks.

Pierre-Mathieu
Pélissier

Directorate-General DG Research &
Innovation (DG RTD.B.2)

26 August 2026 | HealthFerm
Conference

Food 2030: Microbiome & fermentation frontier

Unlocking microbial blueprints, functional starter cultures, and plant-based fermented foods for European health and competitiveness.

EU Microbiome research landscape – Food 2030

Domain	Key EU Projects	Target TRL	Regulatory links	Food 2040 Strategic Impact
Plant fermentation	HealthFerm, DOMINO	TRL 4 – 7	Novel Food Reg (EU) 2015/2283 & EFSA	Nutritious pulse/cereal sourdoughs & oat yogurts
Soil & crop holobionts	EXCALIBUR, EcoStack, SoildiverAgro	TRL 5 – 8	EU Soil Strategy & Fertiliser Reg	30-50% reduction in synthetic fertilizers & pesticides
Livestock & aquafarming	HoloRuminant, CIRCLES, 3D-omics	TRL 4 – 7	EU Methane Reduction & Animal Welfare	Gut resilience, lower methane emissions, biocontrol
Upcycled biomass protein	SMART PROTEIN, RUSTICA, MASTER	TRL 6 – 8	EU Biotech Act & Circular Bioeconomy	Edible fungal biomass & bio-based soil nutrients



Microbial blueprints for bioeconomy

This CORDIS Results Pack showcases the application of 12 EU-funded projects in the field of microbiome R&I, with benefits ranging from improved soil and ecosystem health to new high-value bio-based products.

Evaluating 10 Years of Food 2030



The Food 2040 strategic shift

- **Outcome-driven priorities:** Moving from descriptive pathways to measurable targets. Reframing priorities around Healthy, Resilient, Just, and Environmentally Sustainable food systems.
- **Holobiome integration:** Viewing soil, crop, animal, and gut microbiomes as interconnected drivers of planetary health.
- **Regulatory co-design:** Aligning Horizon Europe R&I directly with the modernised EU biotech legislation.
- **Commercialization/integration:** project-level scientific outputs have been strong, Food 2040 addresses the critical gap of market uptake and long-term policy integration.

Assessing public's perception of novel foods

→ What is the EU public's perception about novel foods?

- 27 countries
 - 20k+ citizens interviewed
 - 27 countries factsheets
-
- What is EU's openness to innovation?
 - What are the drivers of adoption?
 - What are acceptance conditions?
 - What are the keys to trust?
-
- How does it compare geographically (country scale, per population type?)

Publication : september 2026



Regulatory modernisation

Aligning research breakthroughs with the EU Biotech Act, EFSA Pre-Submission Advice, and Food Safety Simplification frameworks.

The EU Biotech Act

The **EU Biotech Act** introduces legislative reforms to accelerate market entry and reduce administrative barriers for food biotechnology and fermentation innovations.



Expanded EFSA advisory scope

Interactive scientific guidance on testing protocols provided directly by EFSA experts *prior* to formal novel food dossier submission.

Early Study Clarification



Production strain rules

Tailored, fast-tracked regulatory approval pathways for low-risk Genetically Modified Micro-organisms (GMMs) and precision fermentation strains.

Targeted GMM Pathways



Shortened delays

Cutting the study notification non-compliance penalty ("clock-stop delay") directly in half to prevent long market re-entry freezes.

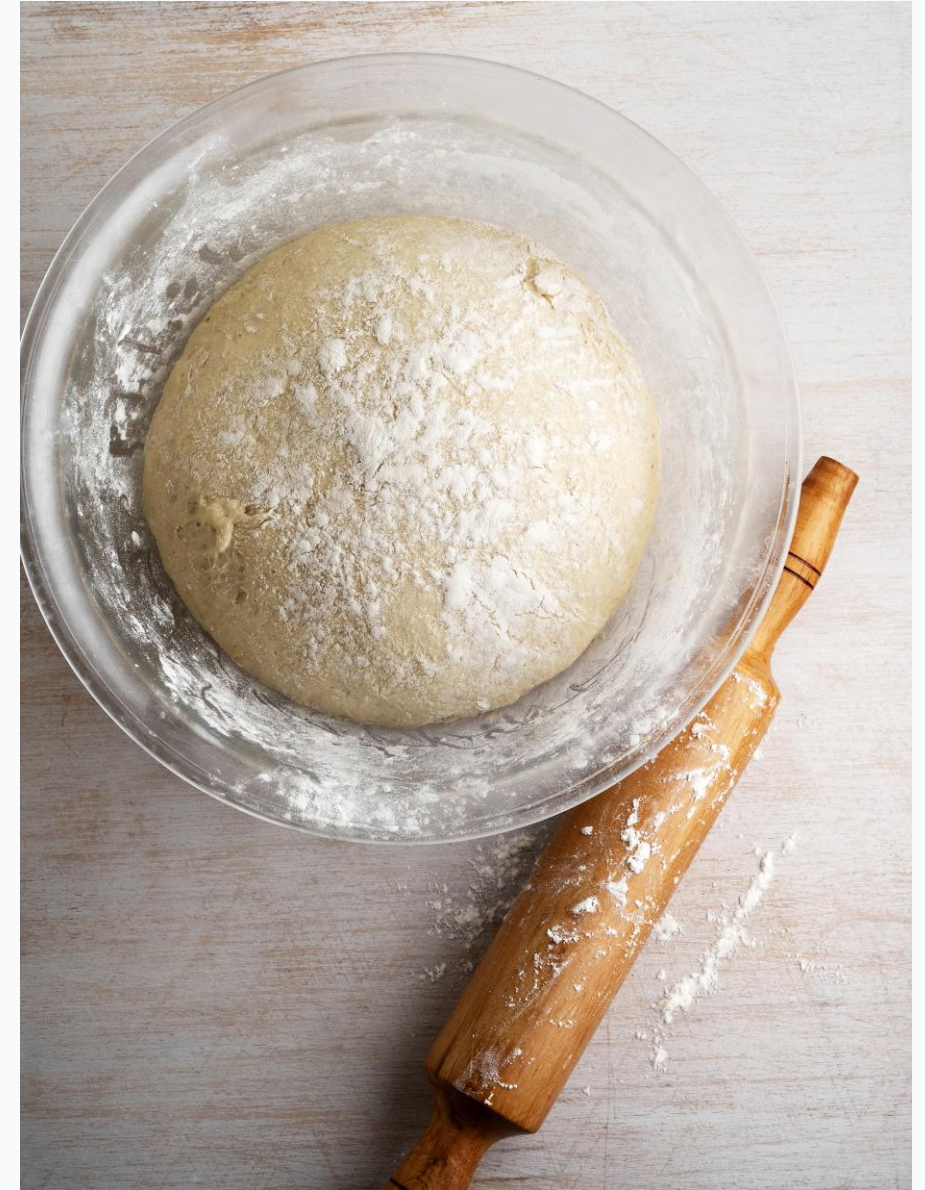
6 Months → 3 Months

The EU Biotech Act

Plant-Based sourdough & microflora: Establishes clearer safety evaluation criteria for complex starter cultures and wild microflora used in cereal/pulse fermentations.

Processing aids & strain safety: Clarifies rules for production organisms: strains removed from final food matrices face significantly reduced novel food hurdles.

Gut health & clinical validation: Enhanced pre-submission dialogue helps align HealthFerm human intervention studies with EFSA health claim standards early.



Dialogue & next steps

Thank you for your attention. Let's shape the future of European microbiome and food fermentation research together.

Pierre-Mathieu Pélissier

European Commission — Directorate-General for Research & Innovation
Directorate B: Healthy Planet | Unit B.2: Bioeconomy & Food Systems

Email: RTD-FOOD2030@ec.europa.eu