





# Welcome to EIT FOOD for thought! Edition #4, December 2022 Sharing ideas, driving innovation

EIT FOOD for thought! is a tool to find articles, news and innovation references in your area of interest.

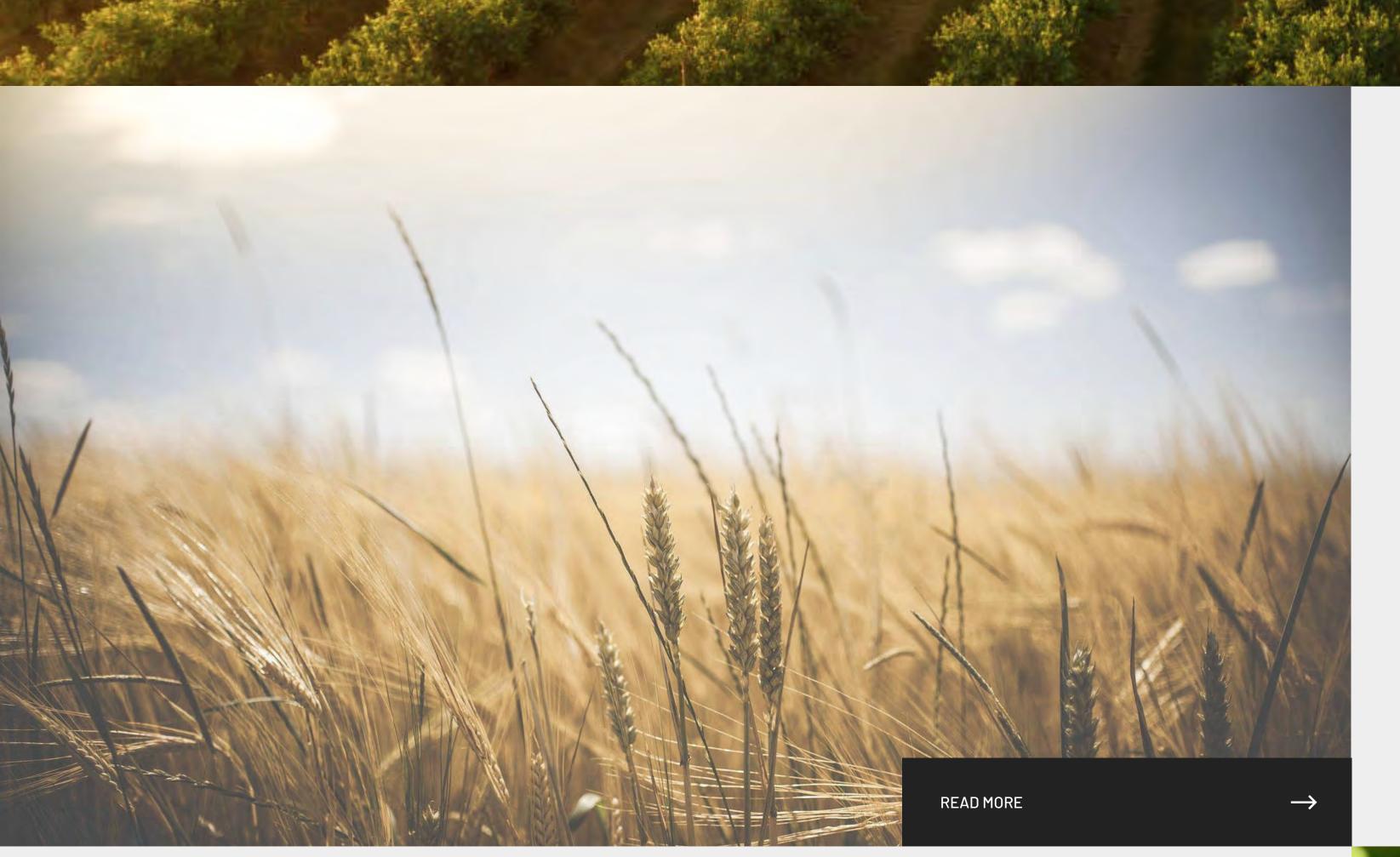
CLIPPING







# Innovation clipping

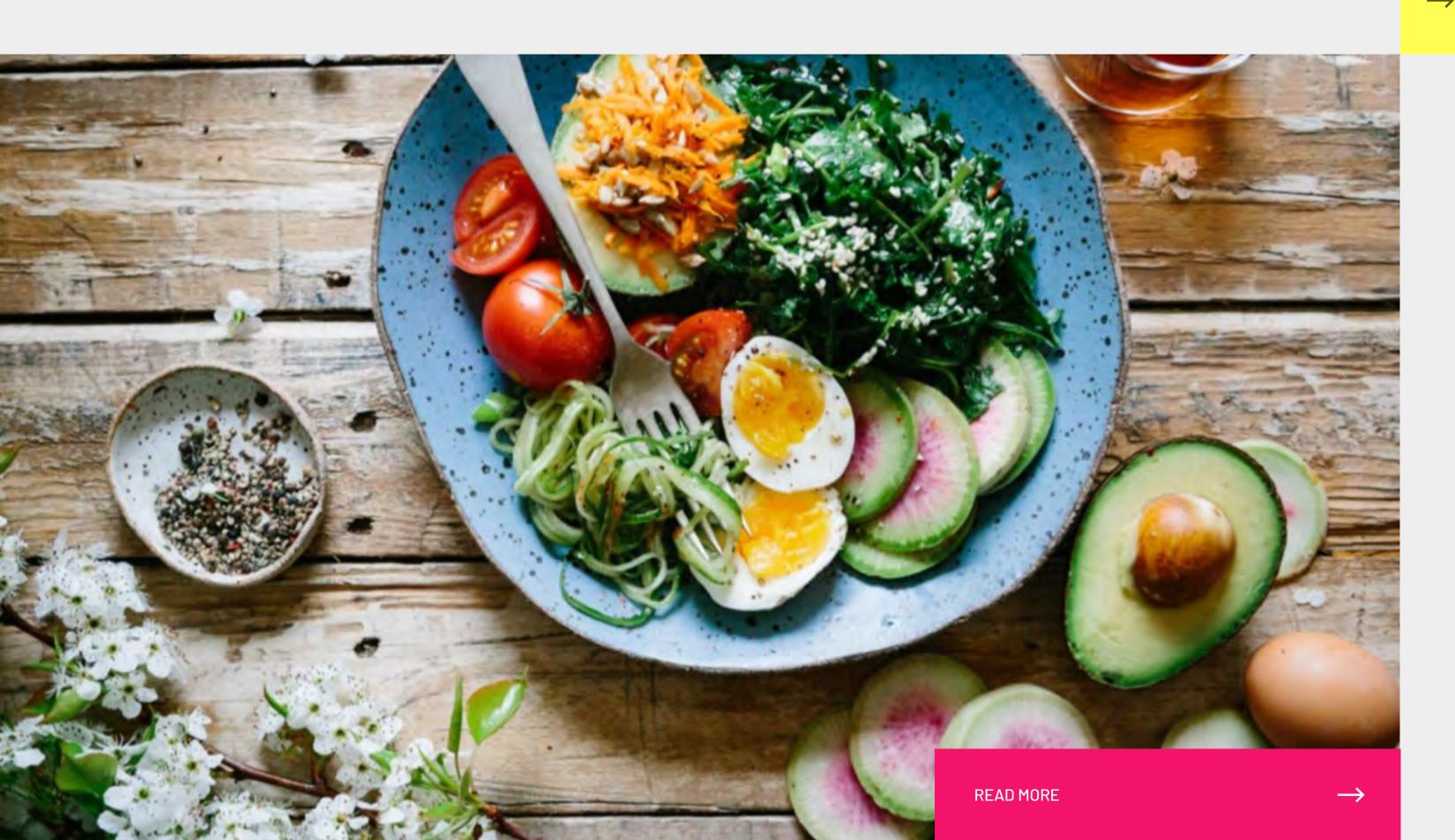


#### Agrifood sector outlook

Important updates in economic data, trends or forecasts which could influence the agri-food sector, specially in Europe.

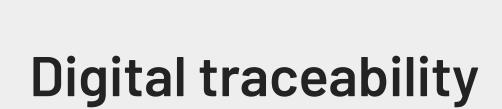


Foster the development and adoption of protein diversification for healthy, sustainable, appealing and affordable solutions.

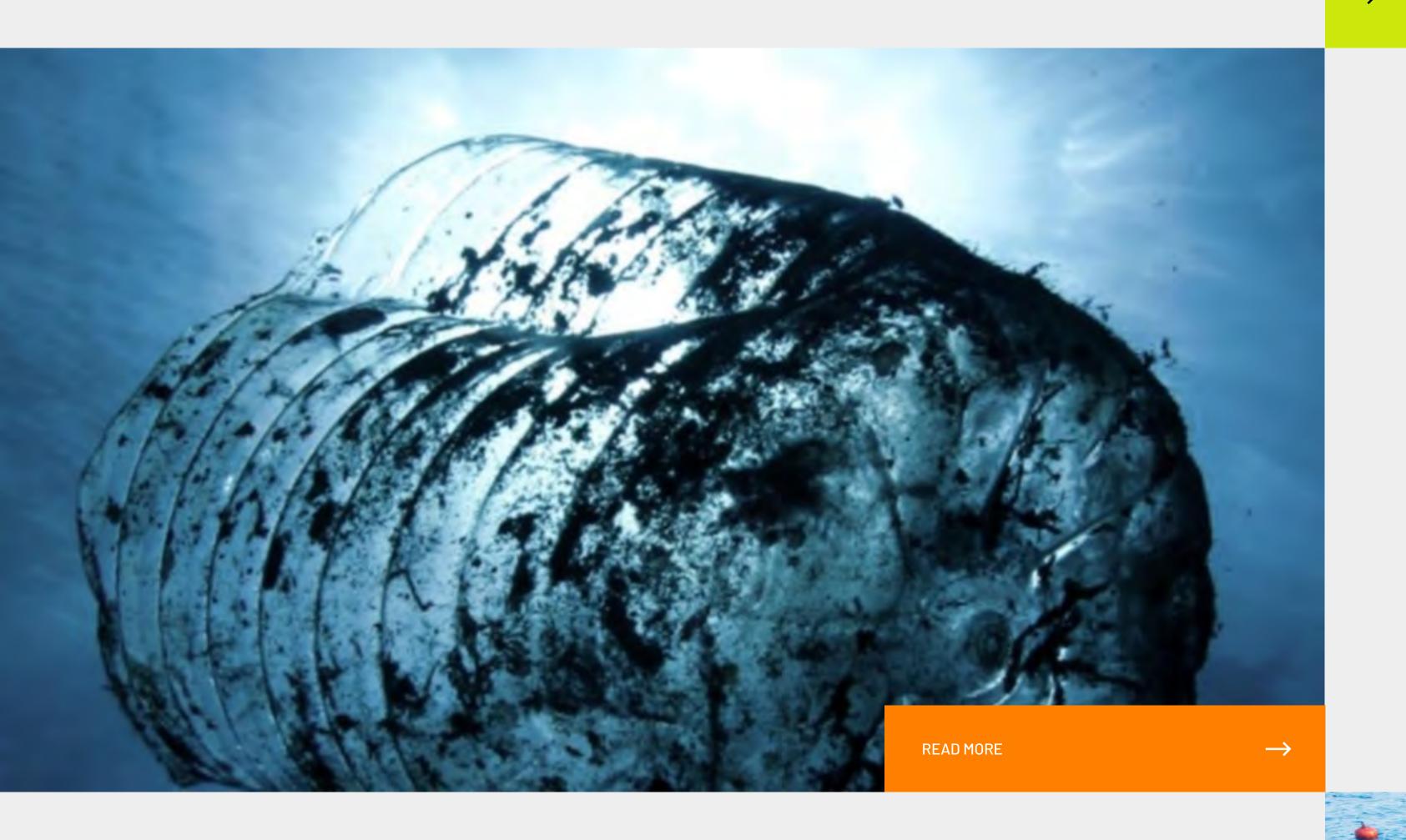


#### Targeted nutrition

Develop solutions (products, tools, monitoring devices, etc.) that support the reduction of risks factors for non-communicable diseases and micronutrient deficiencies in different target populations.



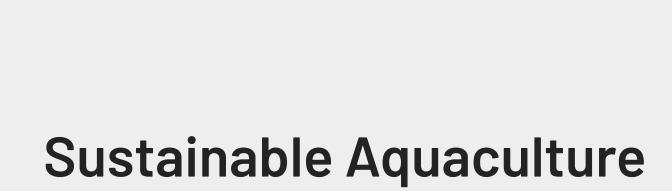
Improve the safety, efficiency and sustainability of food and meet consumer demand for food production transparency and authenticity, through the digitalisation of food traceability, using technologies such as food sensing, blockchain and the internet of things.



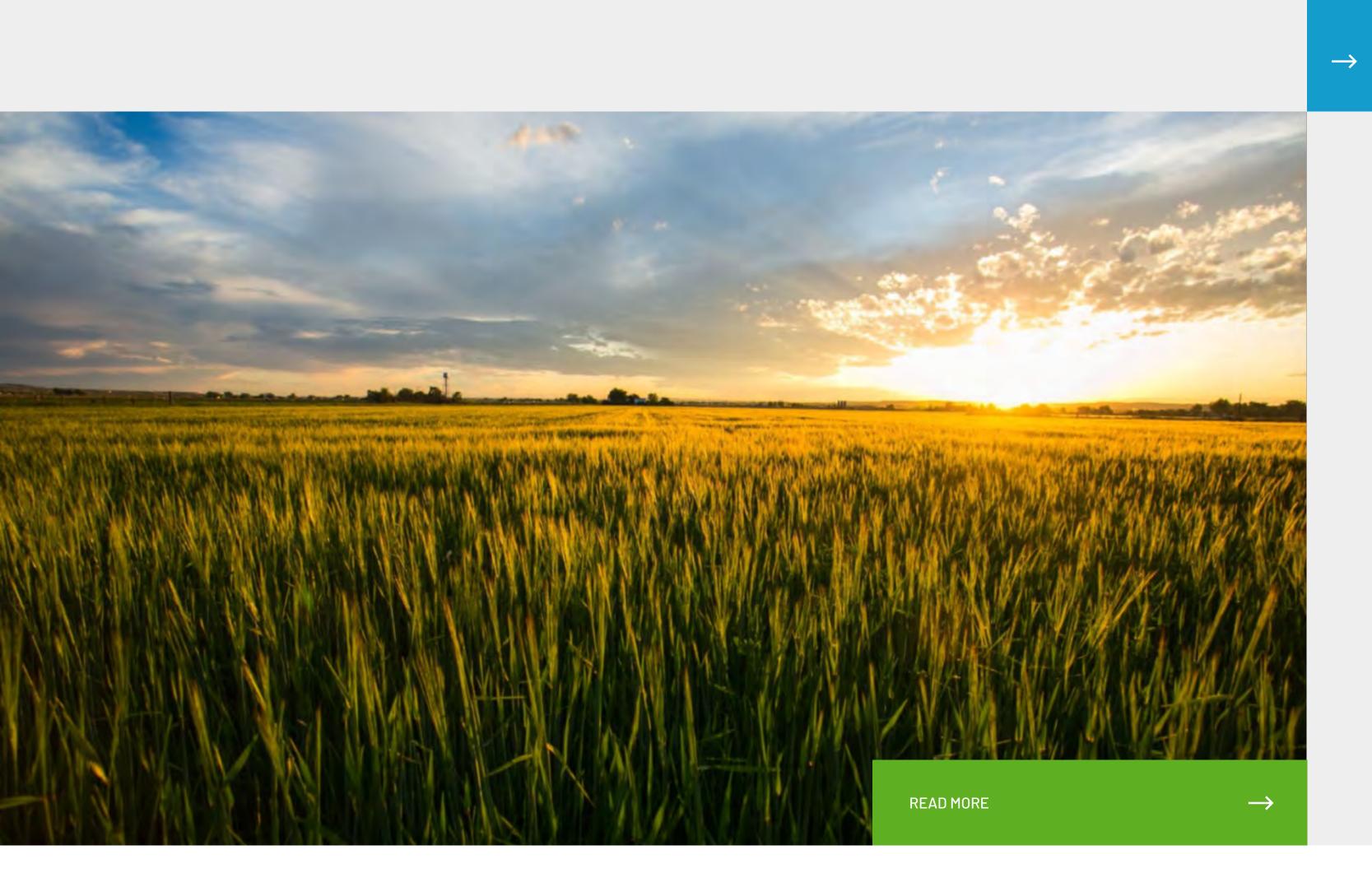
### Circular Food Systems

Shift from our current linear model (make, use, dispose) to a circular food system in which resources are used optimally and the amount of waste

generated is reduced.



Transform and expand the current aquaculture practices into smarter and circular systems, in order to safeguard our environment and oceans, and to deliver healthier dietary choices to our communities while supporting European economy.



## Sustainable agriculture

Develop and implement sustainable solutions that contribute to a significant reduction of the environmental impact of agricultural activities while sustaining productivity and profitability.

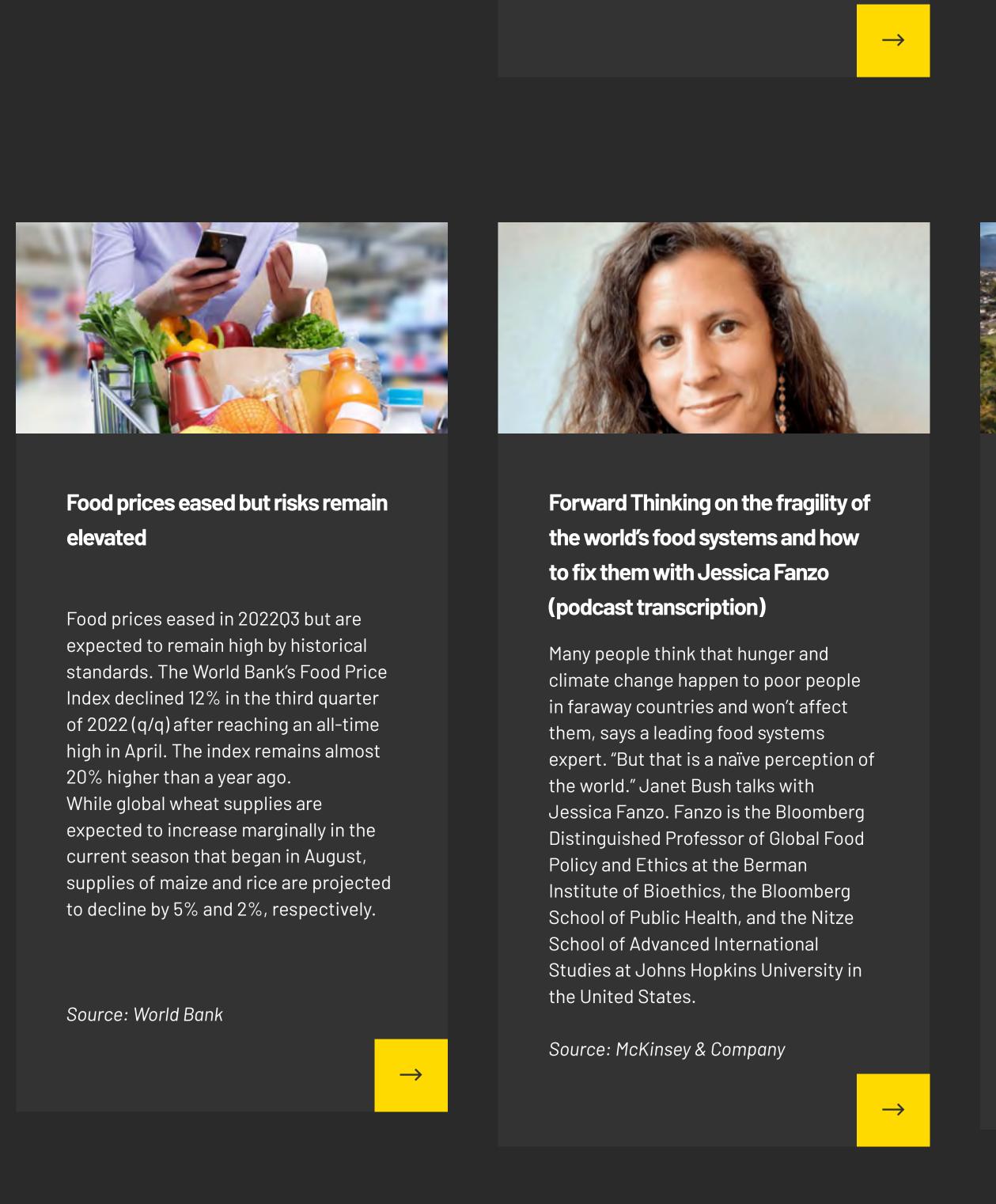


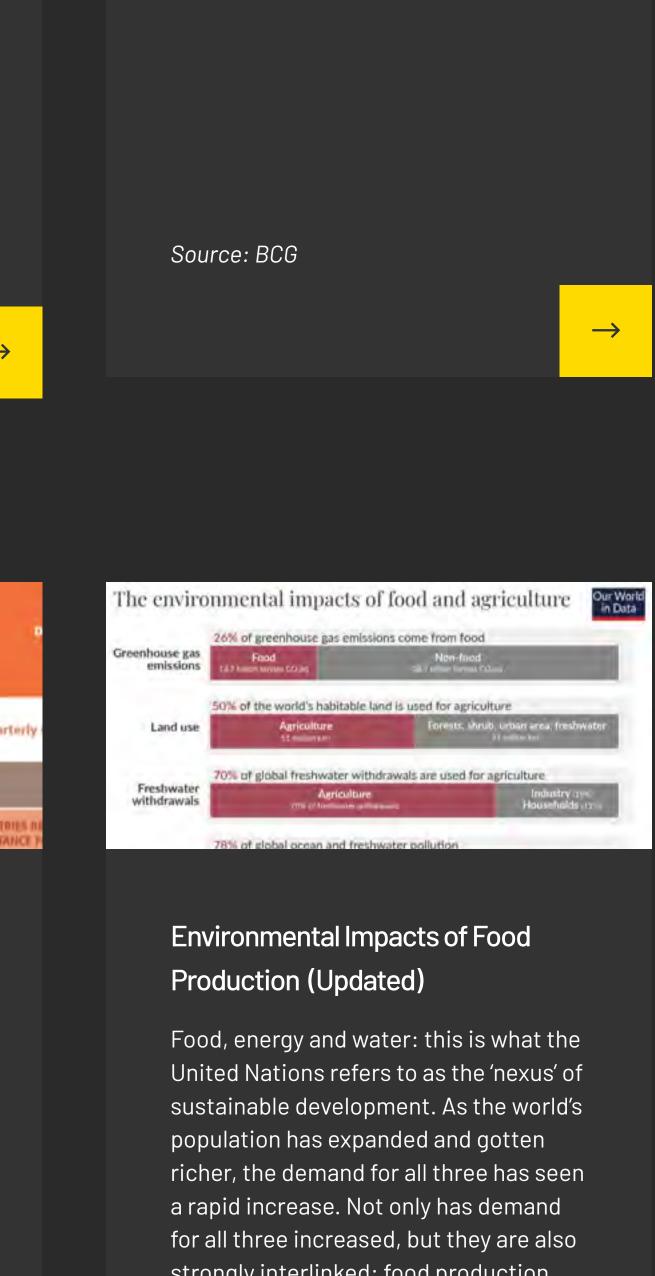




World food prices remain stable or decreasing, but they are still 20% higher than a year ago, knocking on the fragility of the food systems. However, Europe continues under big inflationary pressure.







Four Futures for the Global Food

This article lays out four scenarios for

forecasts. Rather, they represent BCG

best efforts to envision the contours of

we might have to operate—or rather

depending on how certain key factors

and their underlying uncertainties play

several versions of such a world—

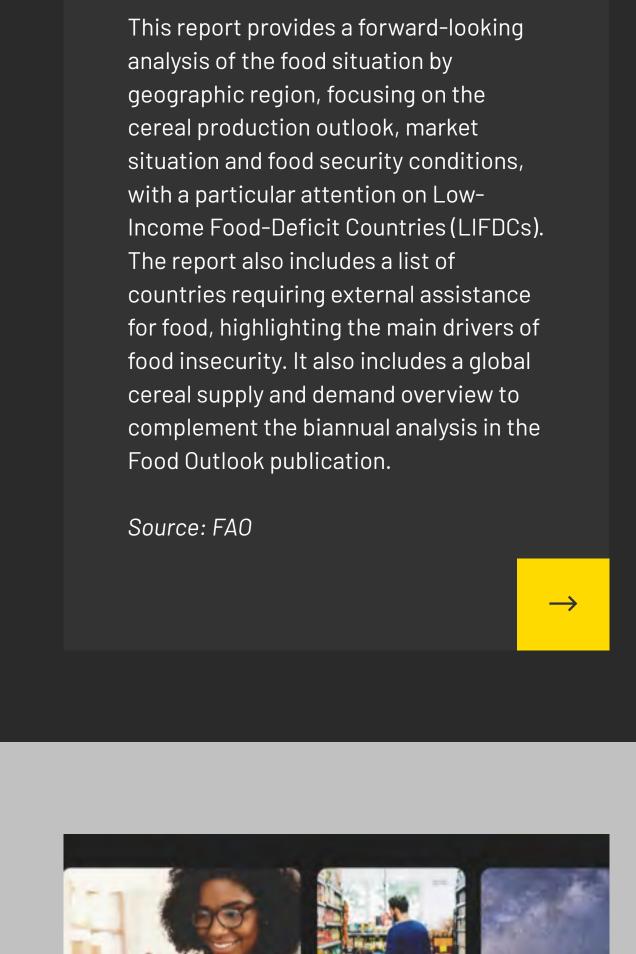
a stretched-but-plausible world in which

the future. These scenarios are not

System

out.

# Food price monitoring tool The tool from Eurostat to analyse the available data on price developments through the supply chain. It monitors 26 supply chains and compares the price indices of four stages of the supply chain: Retail sector, Domestic food industry, Imported products and Agricultural commodities. Source: Eurostat



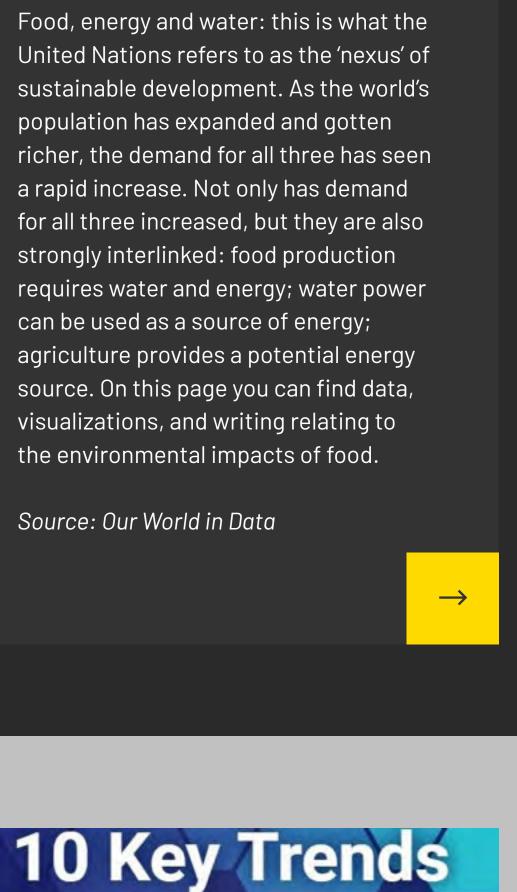
Food and Agriculture Organization of the United Nations

**CROP PROSPECTS and** 

Crop Prospects And Food Situation.

**FOOD SITUATION** 

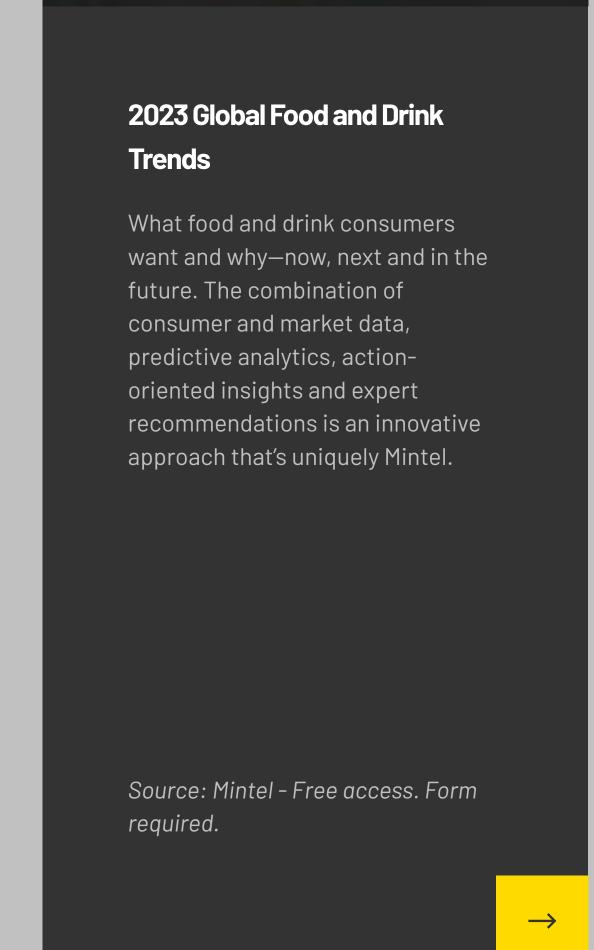
Quarterly Global Report

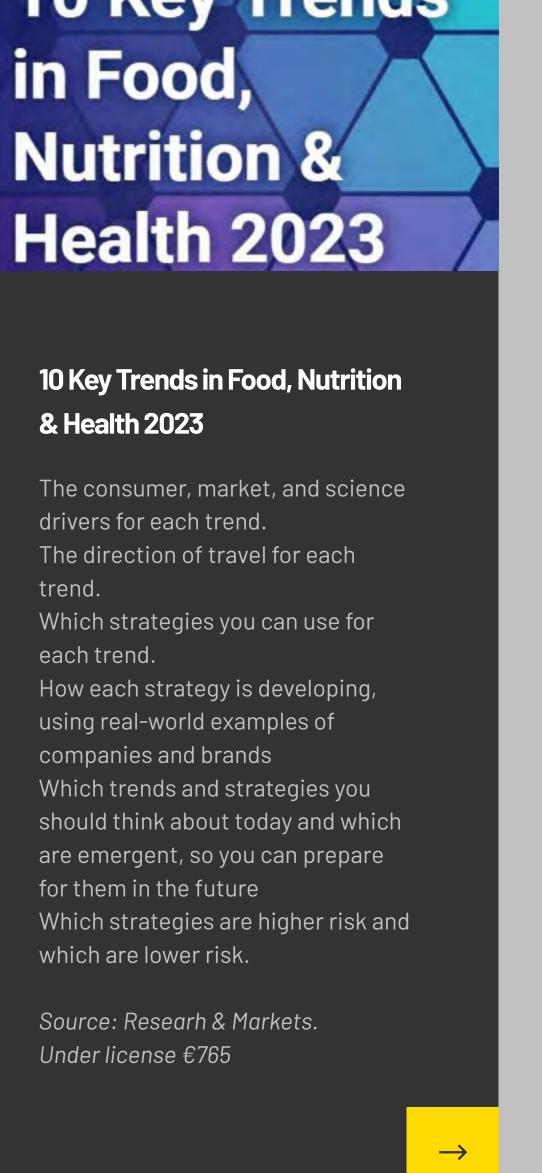


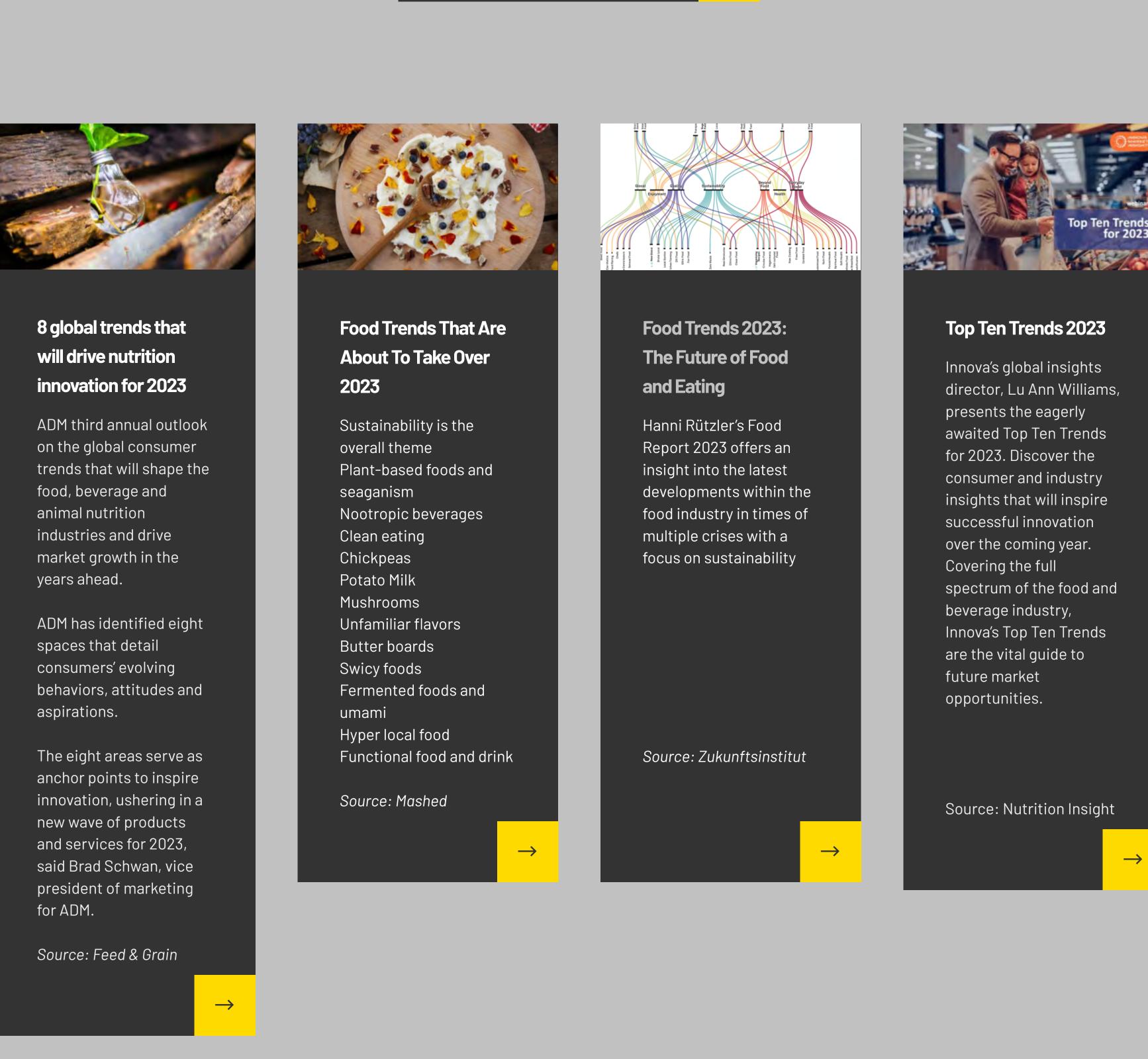


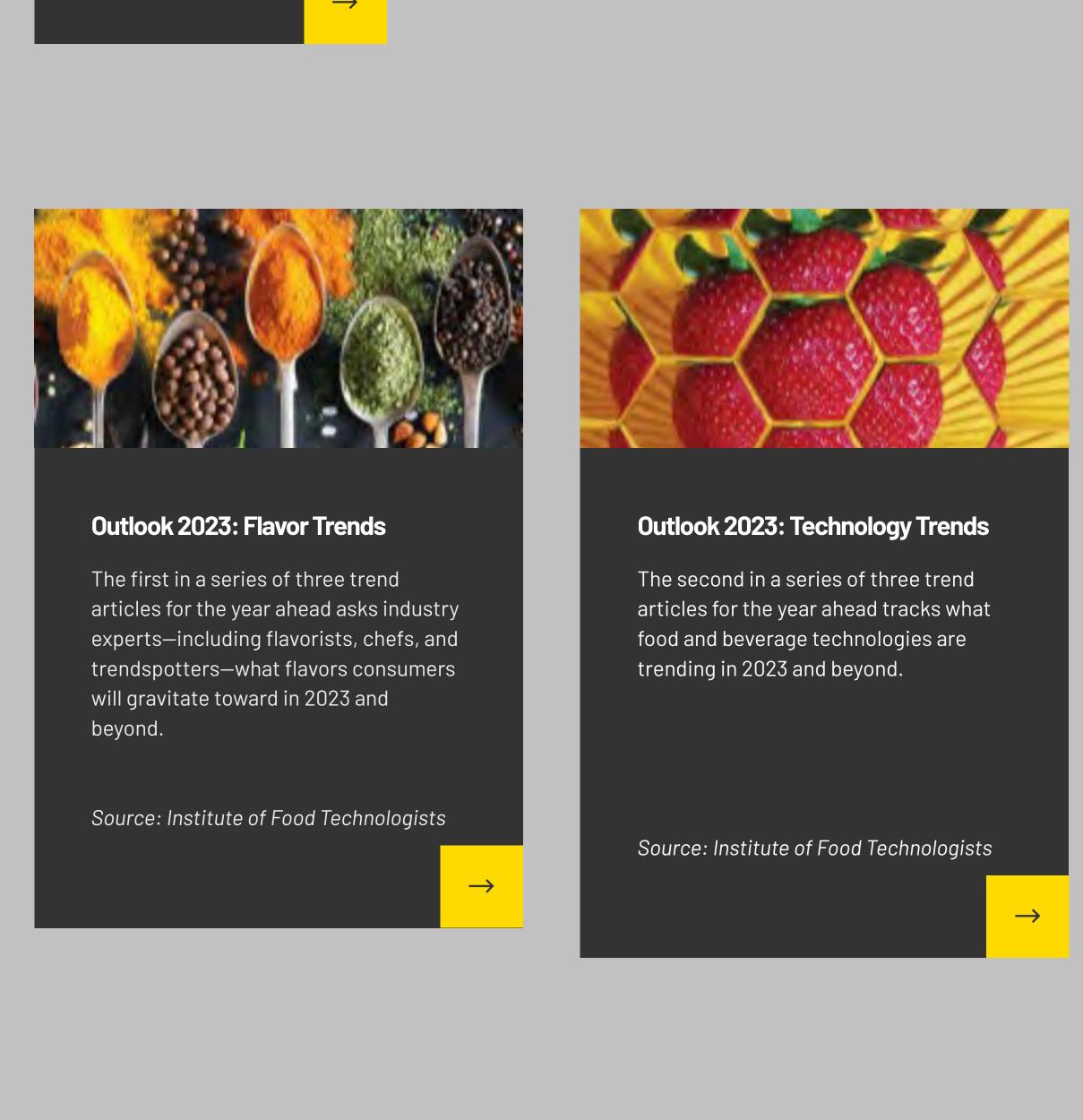
innovation over the

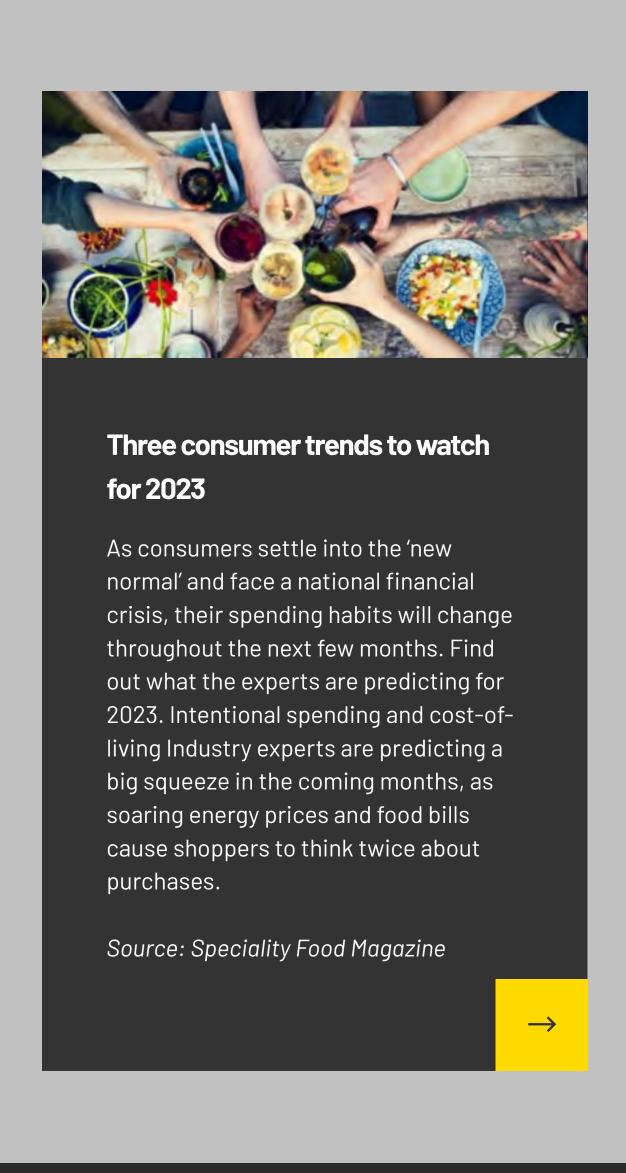
coming year.



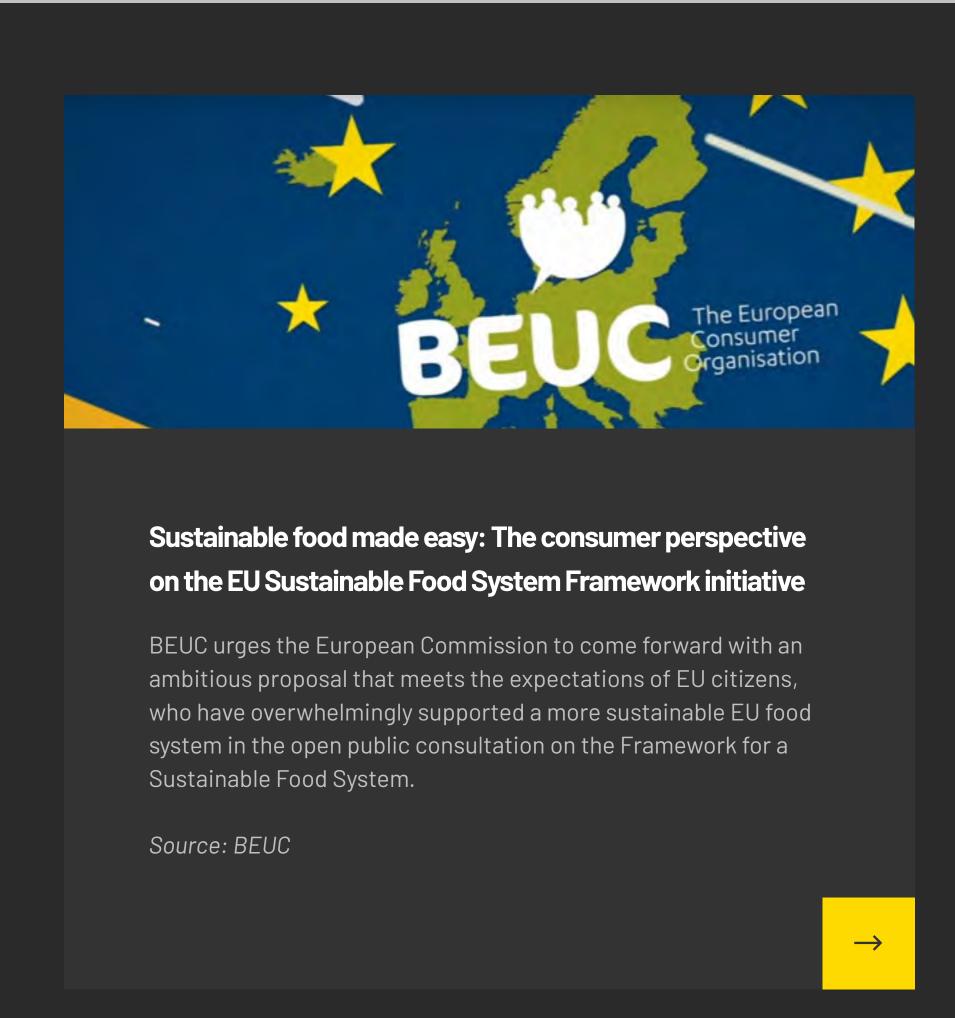




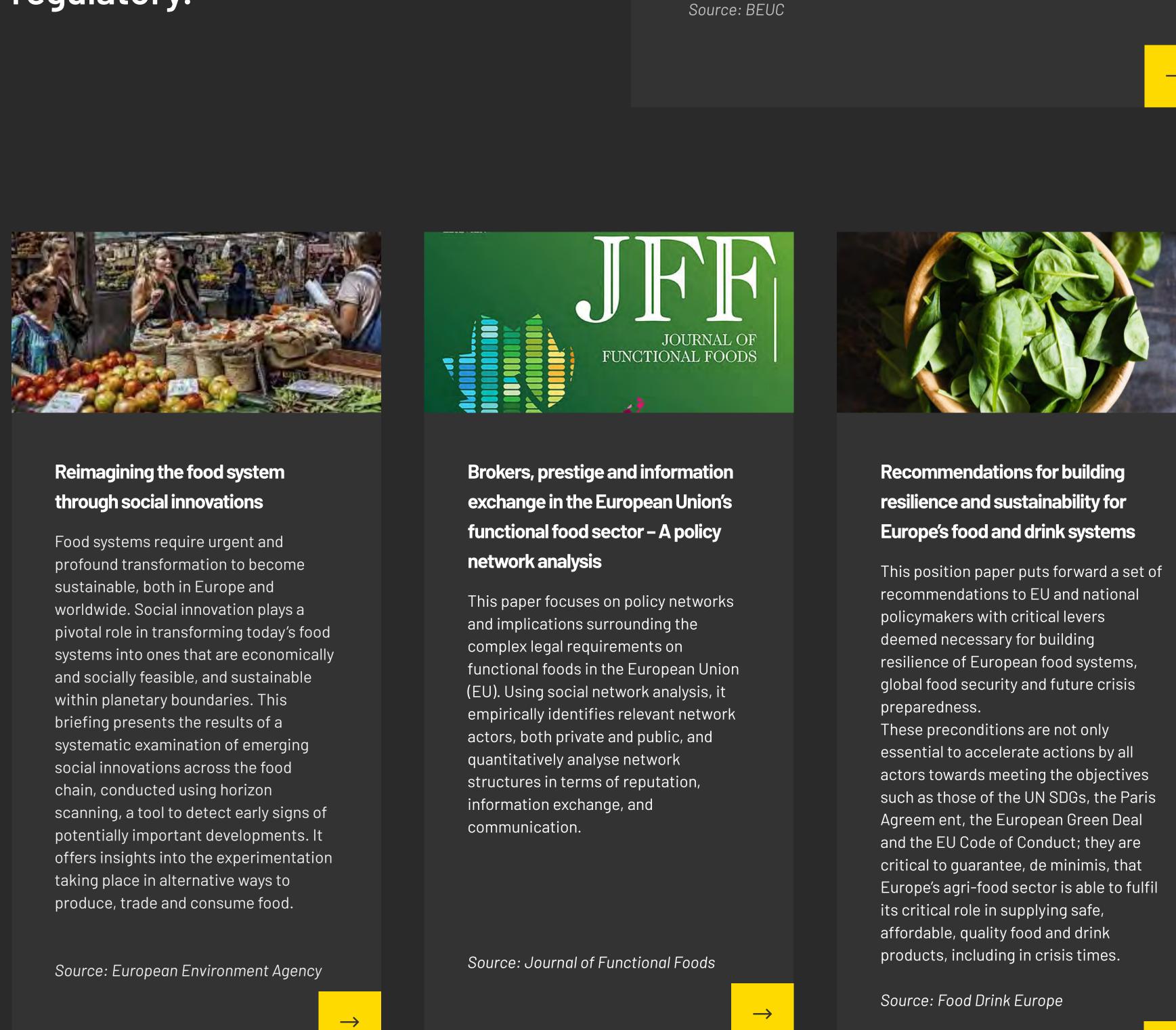








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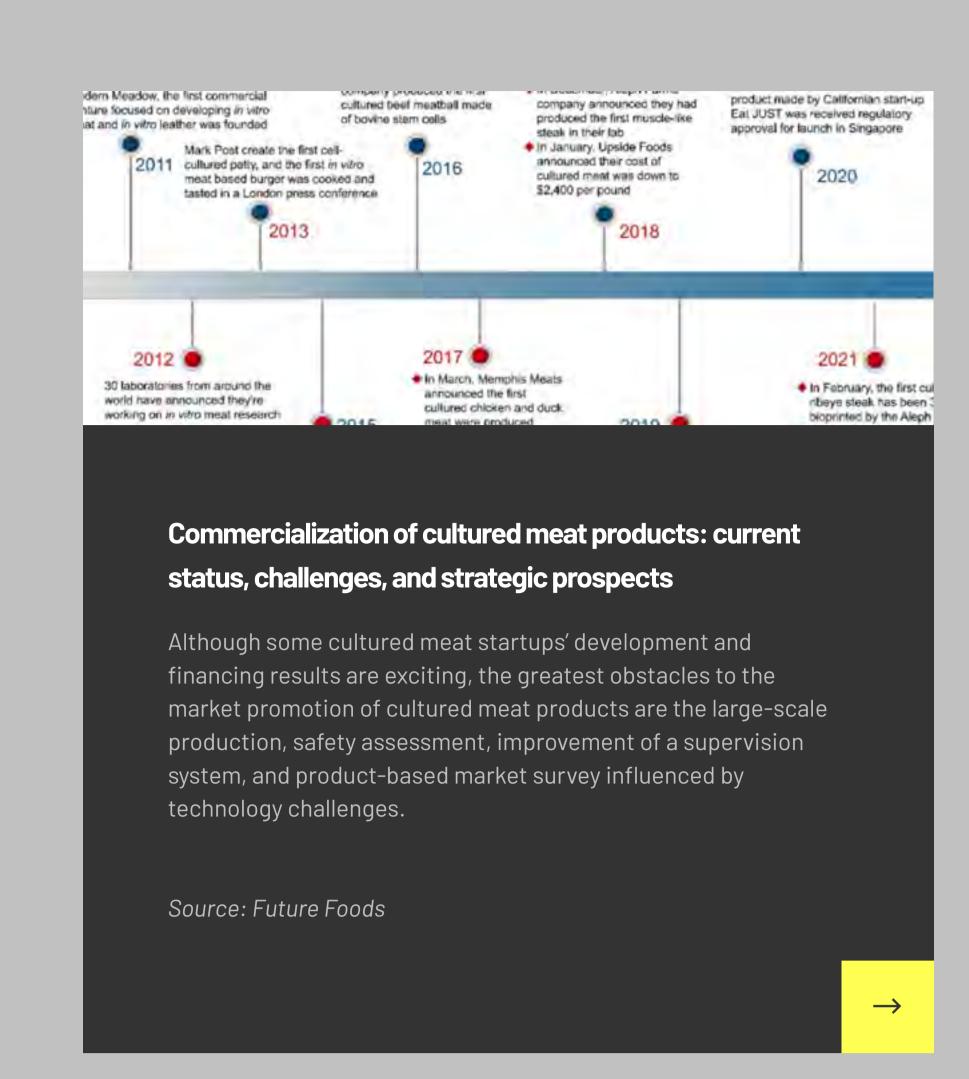


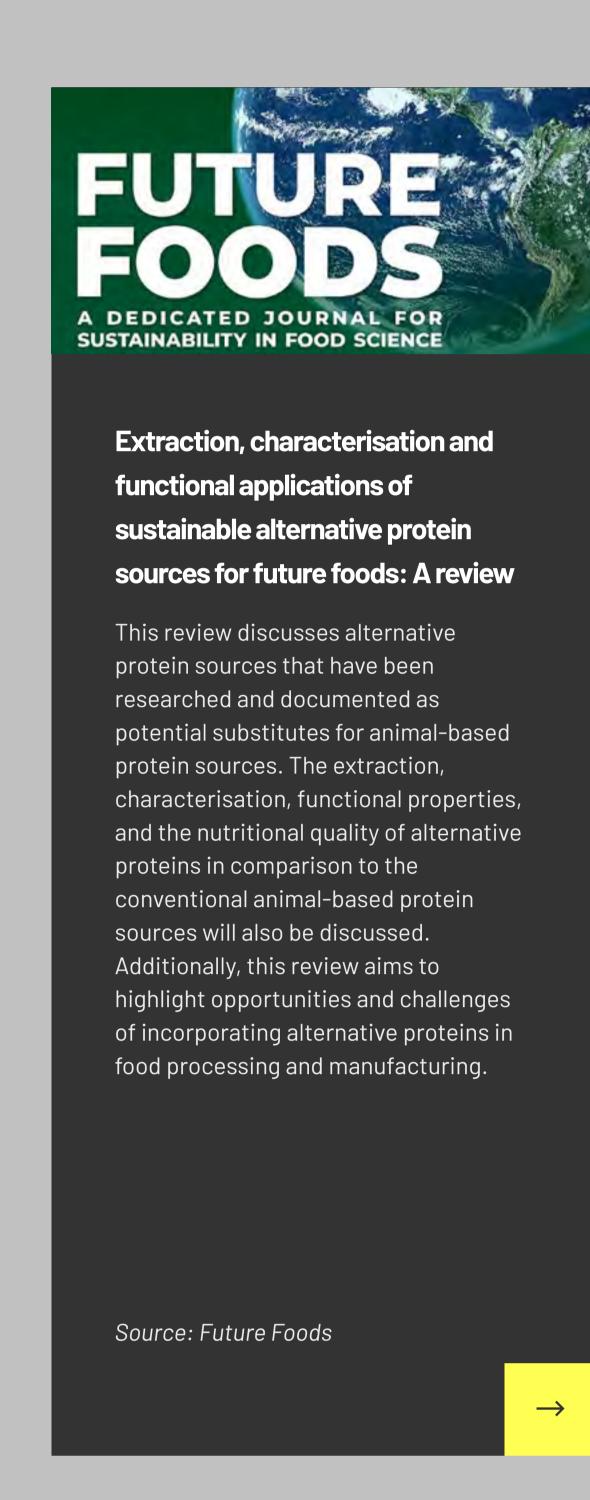


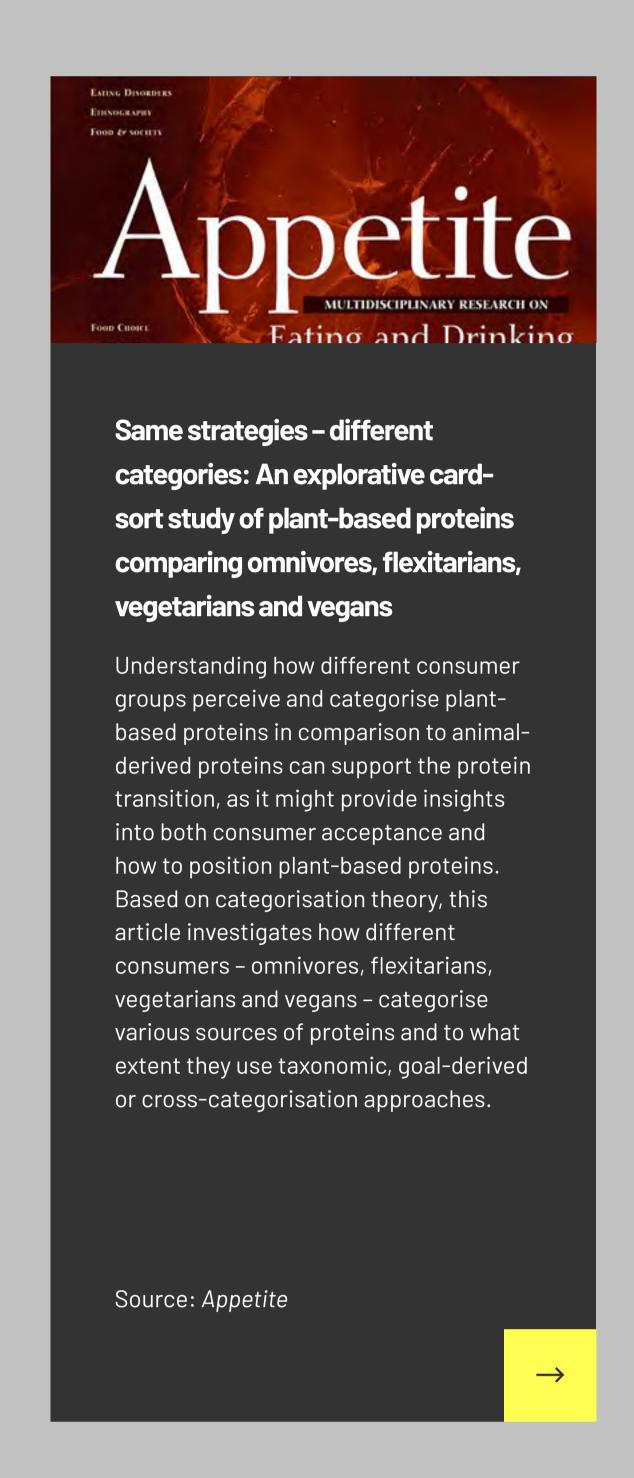
# Protein diversification

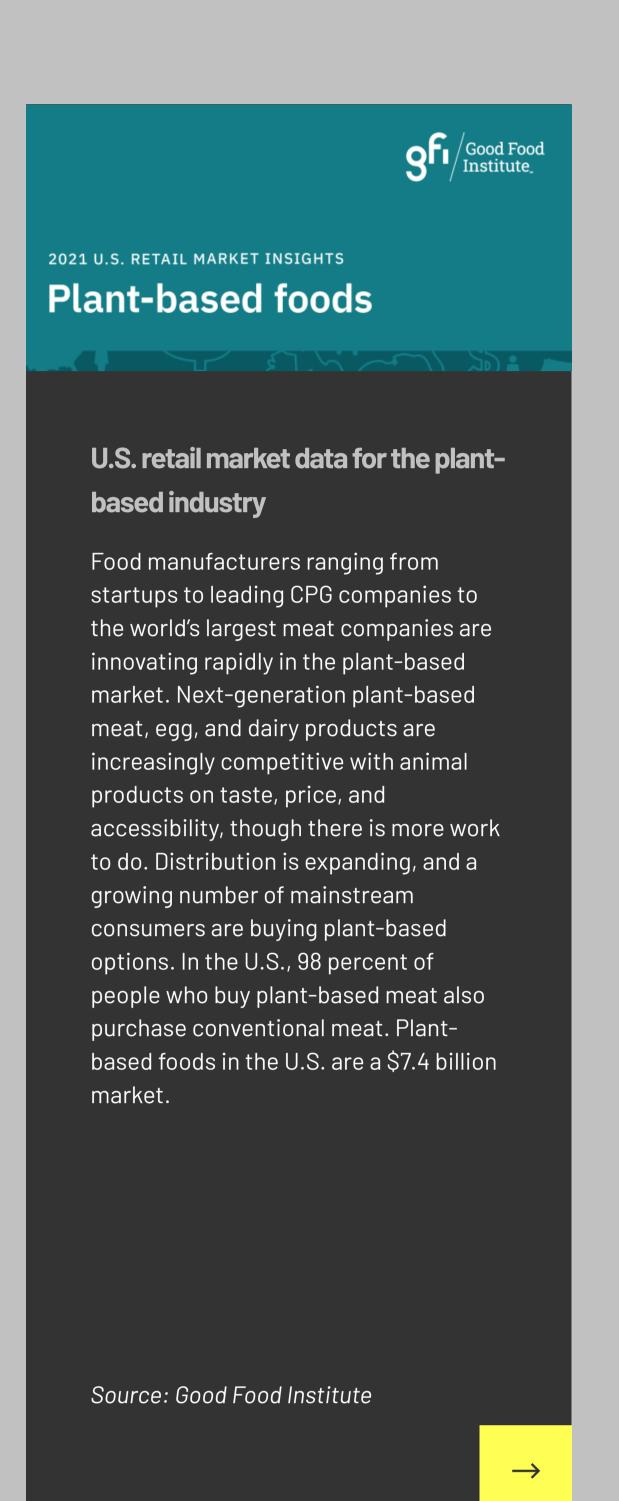


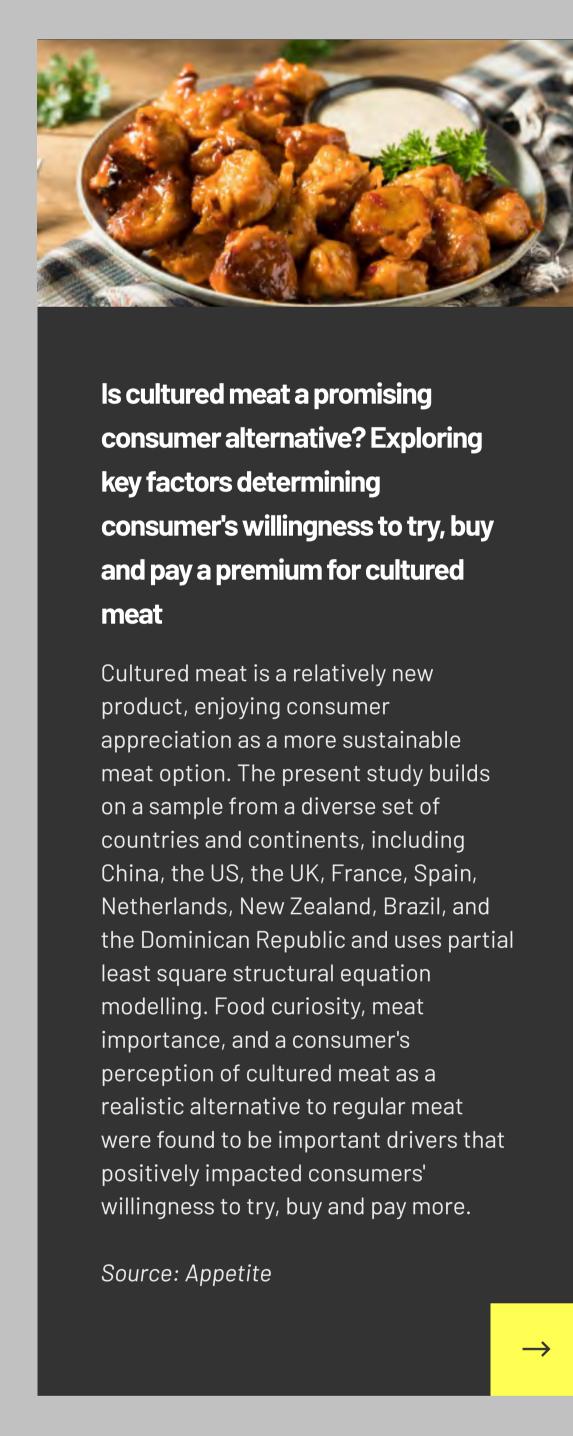
Challenges and opportunities to produce and commercialize alternative proteins are not only linked to technological, scale production or safety assessment issues, but also to consumer acceptance and market positioning.

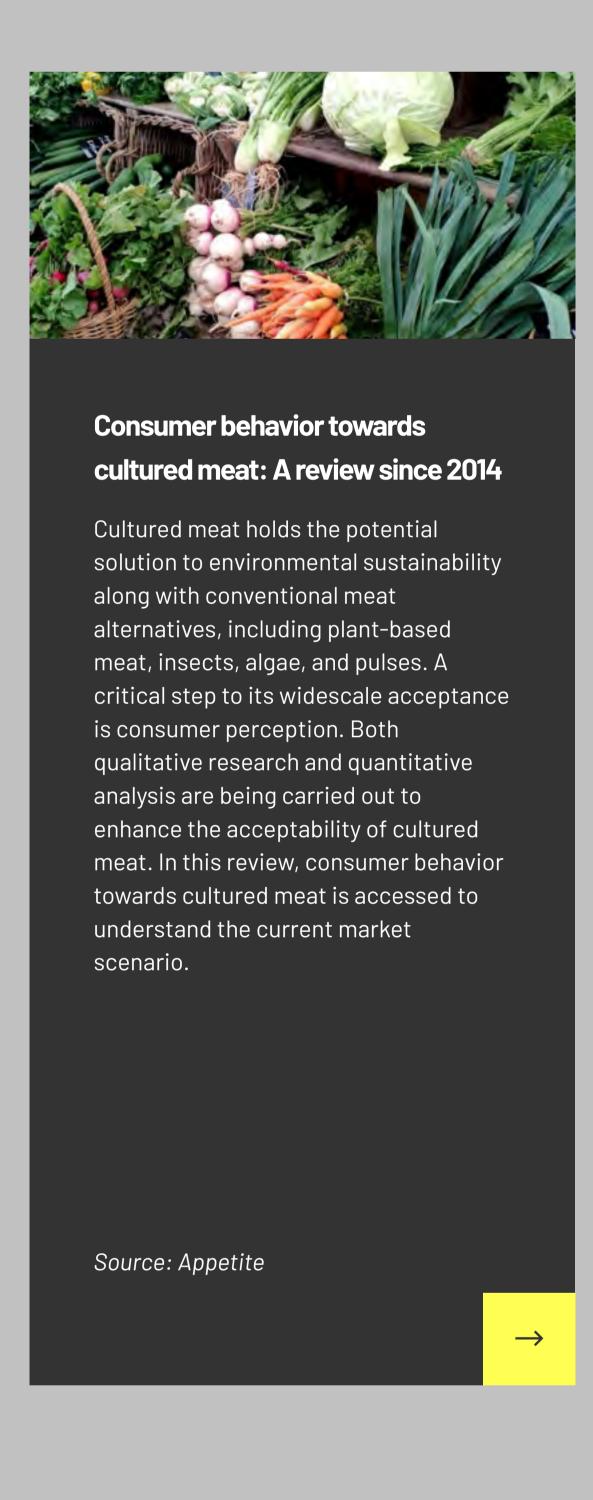


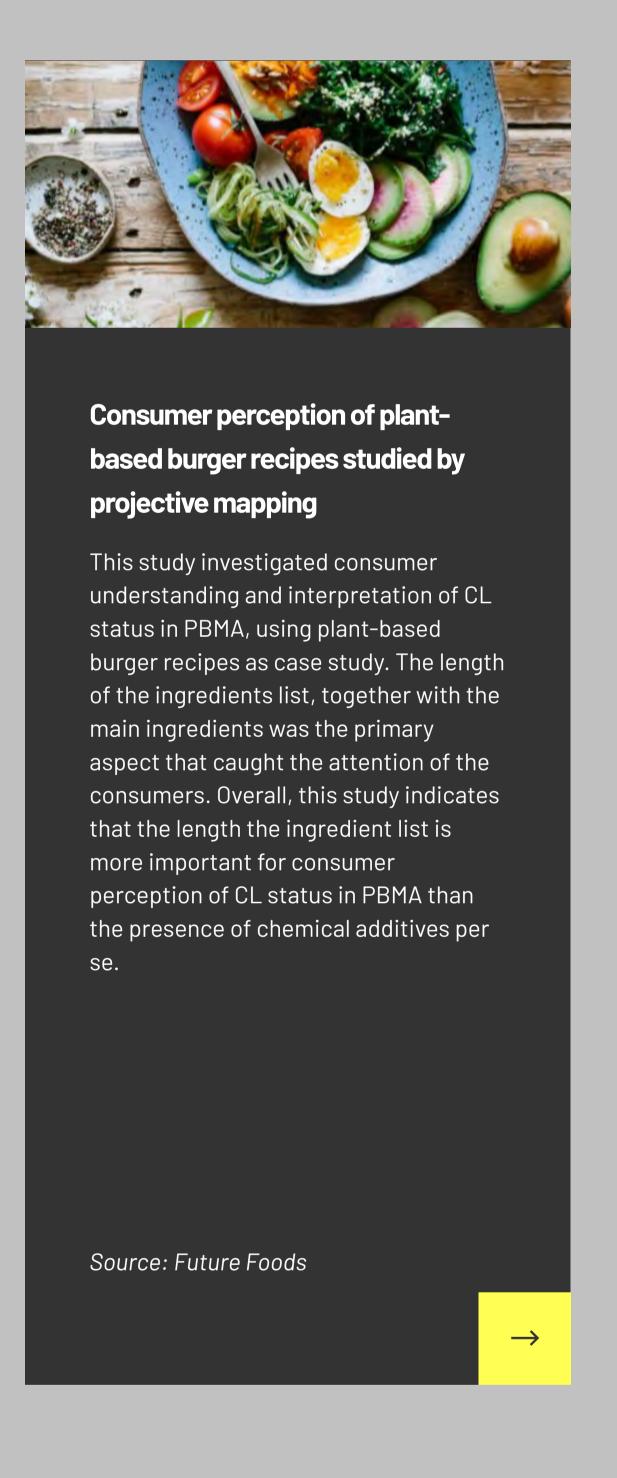




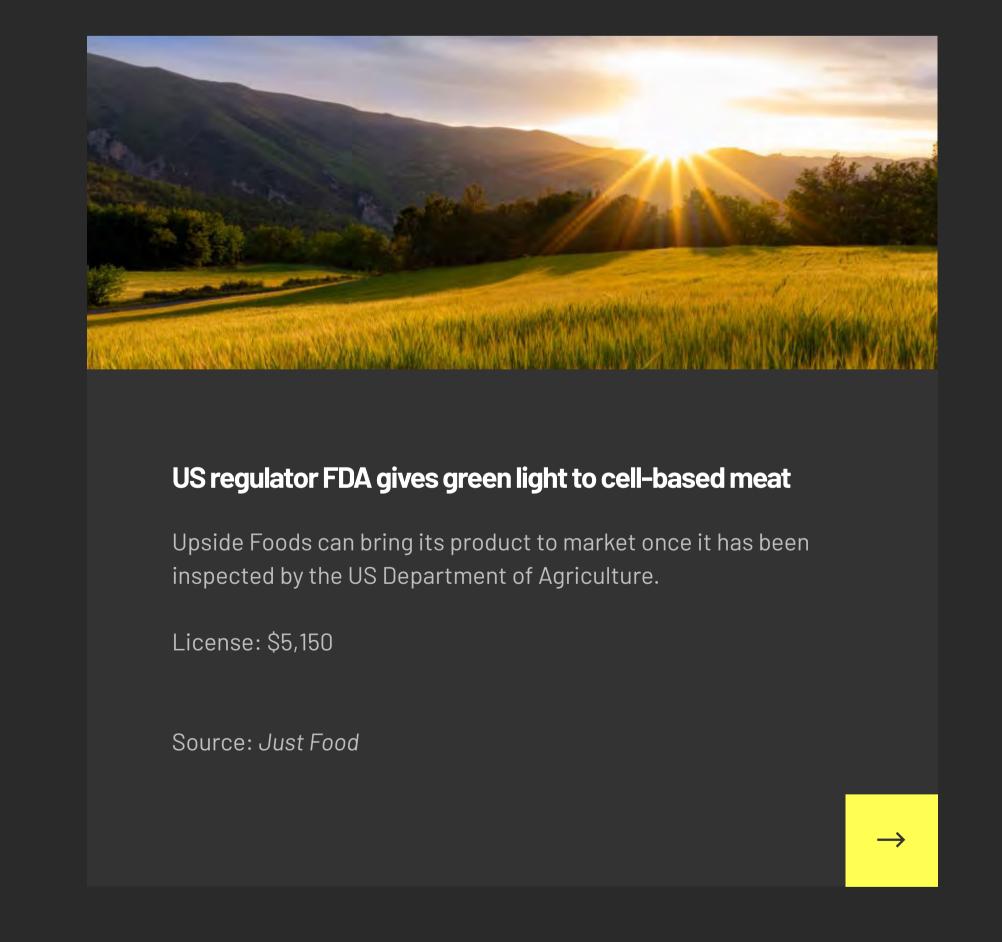




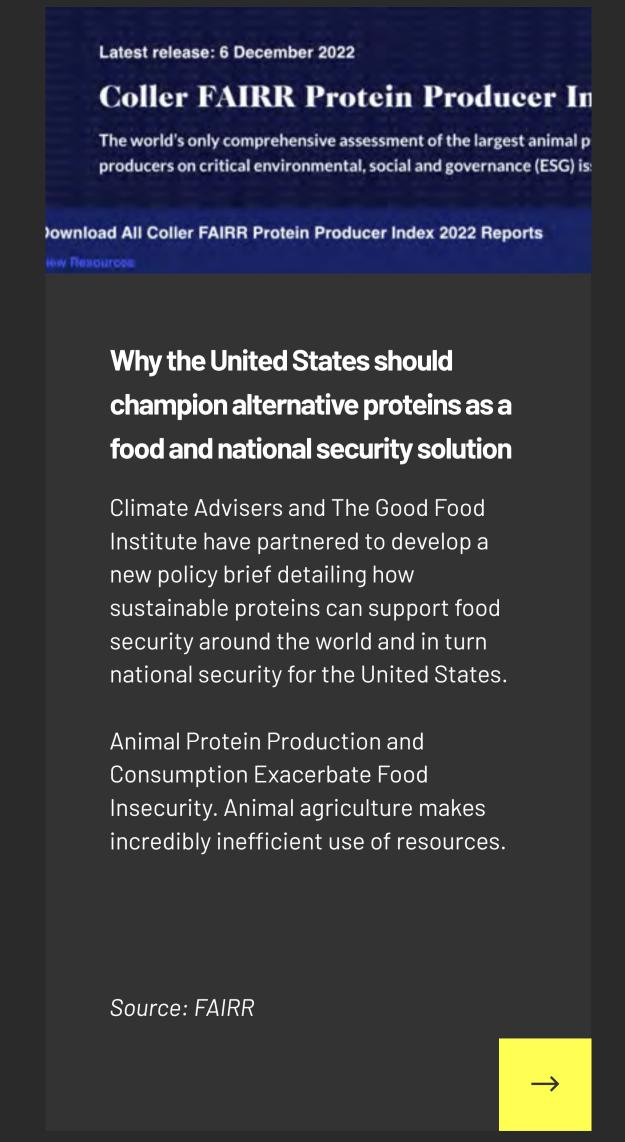


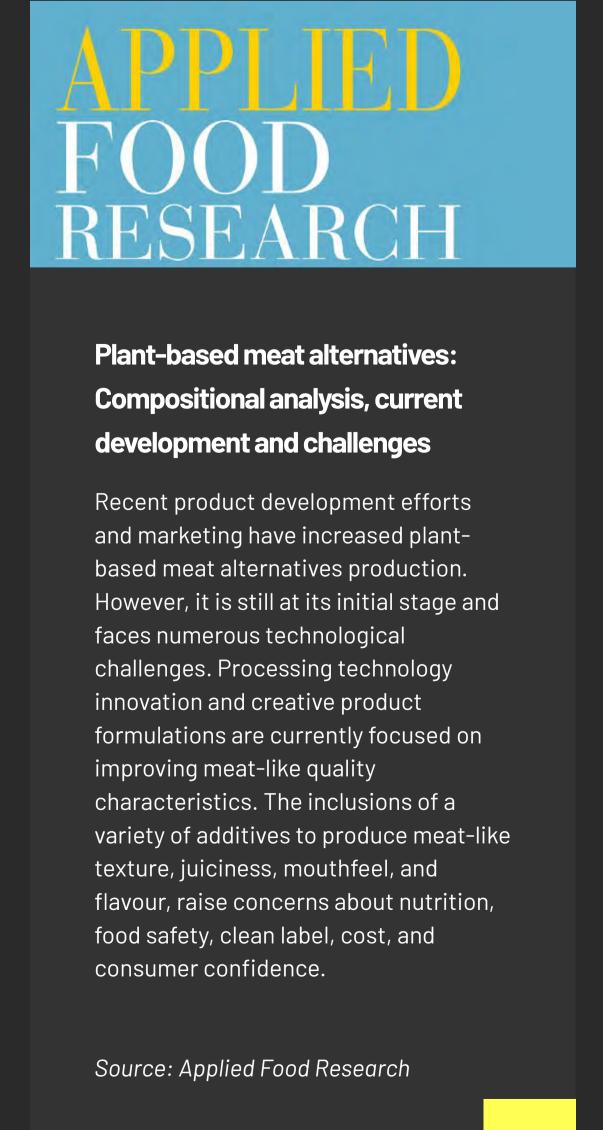


New alternative meat approvals by regulators, contributing to establish food security policies and recommendations.









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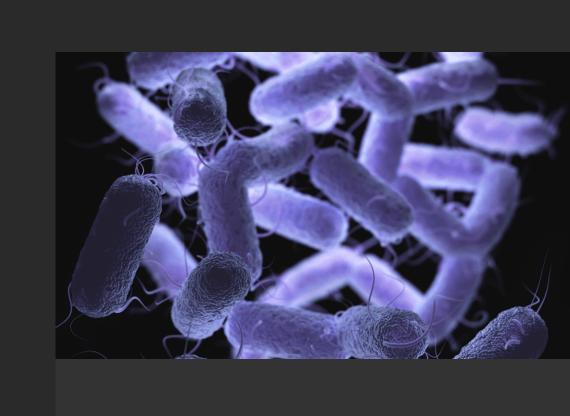
TO TARGETED NUTRITION





# Targeted Nutrition

Functional foods and their impact on microbiome and health continues to be an increasingly important area of intervention.



**Precision probiotics: Working** backwards towards targeted health solutions

A biotech startup that created what it says is the first precision probiotic is highlighting the need to bridge the "missing link" with the medical community.

Source: Vitafoods Insights



#### **Postbiotics – What Are They** and How Are They Different from Other -Biotics?

As our understanding of the influence of the gut ecosystem on short and long-term health grows, modulation of the gut microbiota continues to be an increasingly important area of intervention. The benefits of regular consumption of functional foods containing probiotics and/or prebiotics are becoming more widely known. They include enhanced nutrient digestion and absorption, lower incidence of gastrointestinal disturbances and strengthened immunity. However, the science and our understanding of the microbiome continues to evolve and grow more complex.

Source: KHNI

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#### Benefits of Omega-3 Fatty Acids: What Does Science Say?

Dietary fats are essential for human health, especially omega-3 fatty acids due to their role in eye health, brain health, heart health, and more, yet very few people get enough of these fats from their diet. Dietary guidelines recommend consuming approximately 30% of total daily calories from fat, which is a significant proportion of the diet, however the quality and composition of fat is an important consideration. Essential fatty acids, such as those in omega-3, serve many important roles in the body.

Source: KHNI



#### **Emerging natural hemp seed** proteins and their functions for

nutraceutical applications This review provides up-to-date insights into the nutraceutical values, health benefits, and future applications of industrial hemp, an emerging plant source protein, belonging to the plant family Cannabaceae, cultivated for its fibre and edible seeds. Due to its nutritional value, hemp seed proteins have drawn considerable attention in both scientific and industrial fields because of their excellent nutraceutical

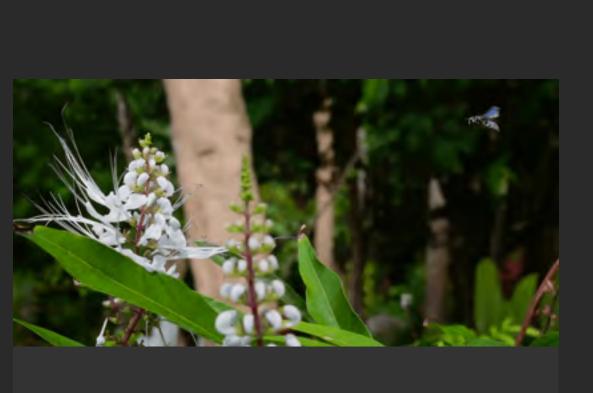
Source: Food Science and Human Wellness

values, superior digestibility, low

allergenicity and diverse techno-

functional properties.

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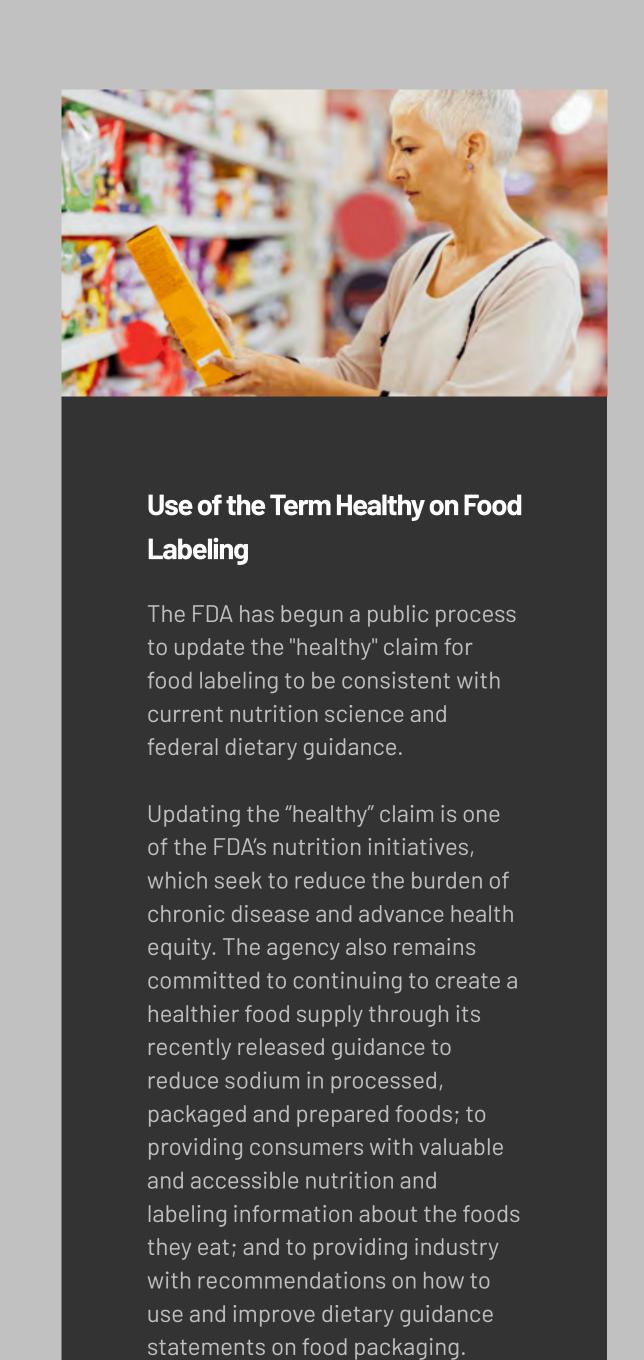
#### Novel food approval for Labisia pumila plant extract in Europe

The plant extract, Labisia pumila, known for its weight management benefits, is safe for use in dietary supplements, according to the European Food Safety Authority (EFSA).

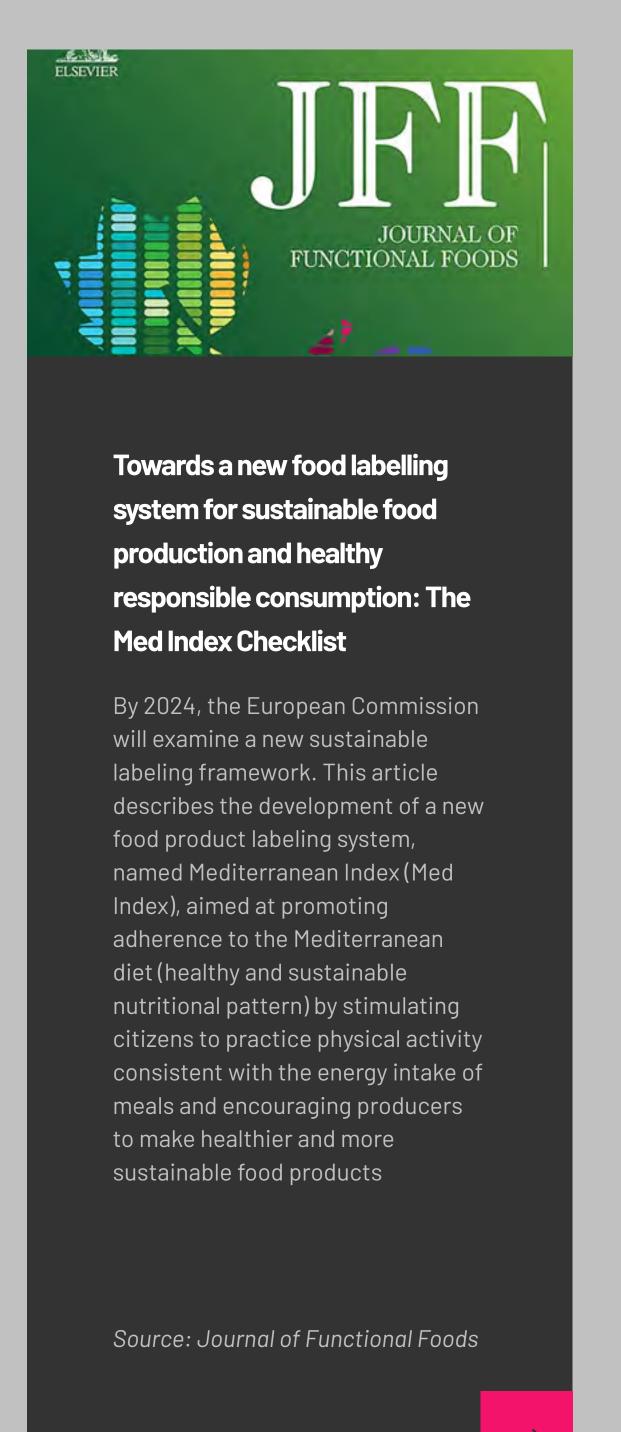
Source: Vitafood Insights

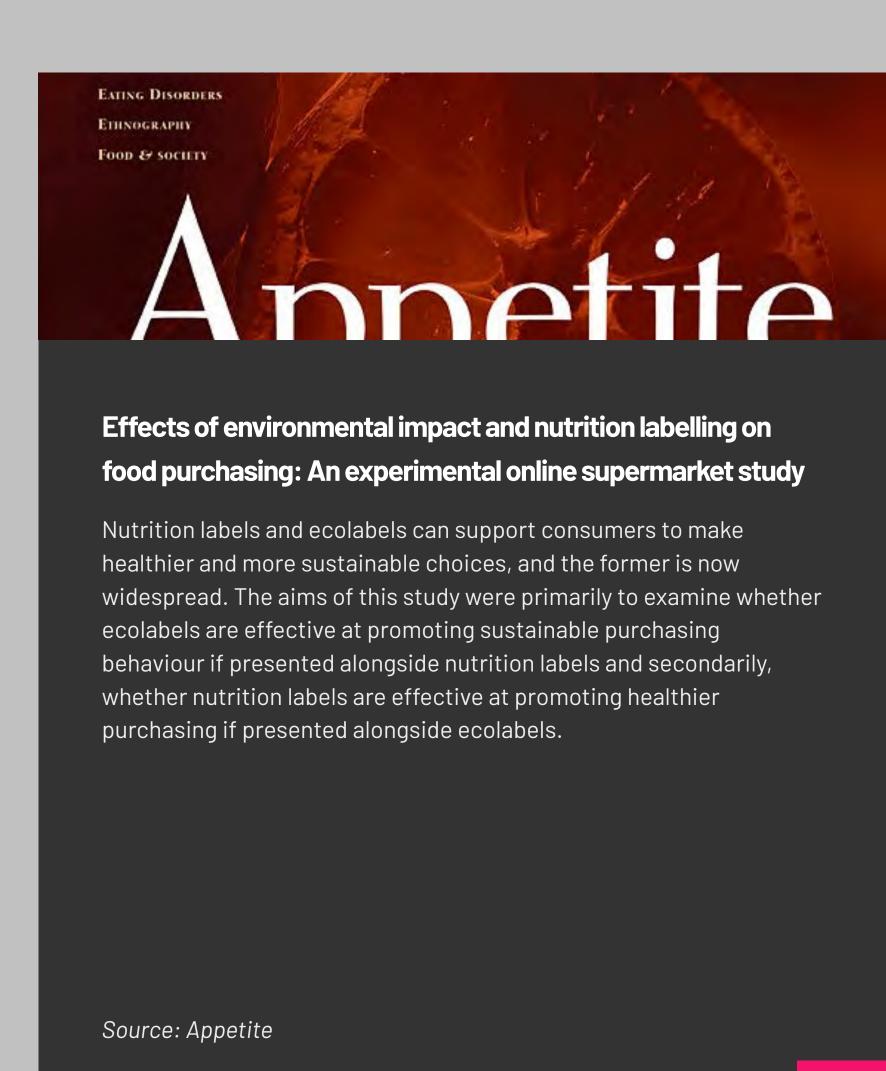
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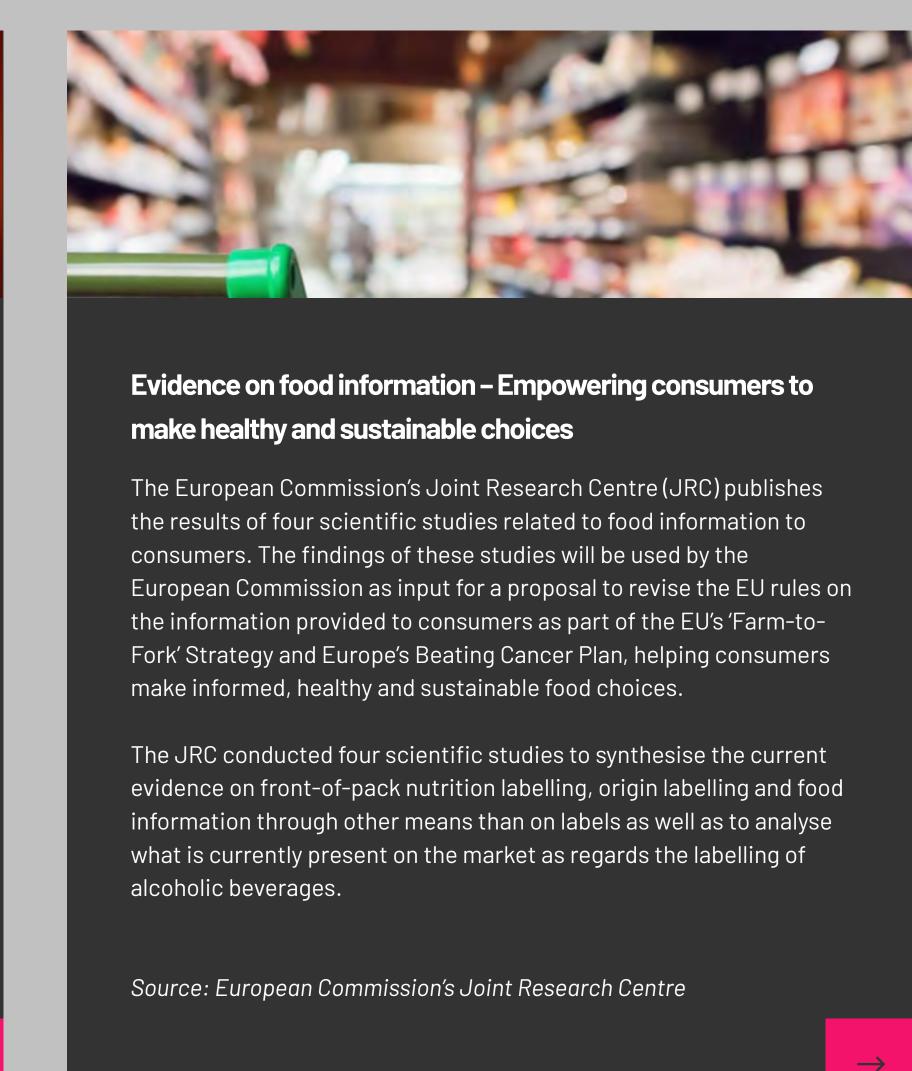
Labelling and claims: providing consumers with valuable and accessible healthy nutrition and environmental impact information about the foods they eat.



Source: FDA







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03 Preventive targeted interventions impacting on health

and healthcare costs.

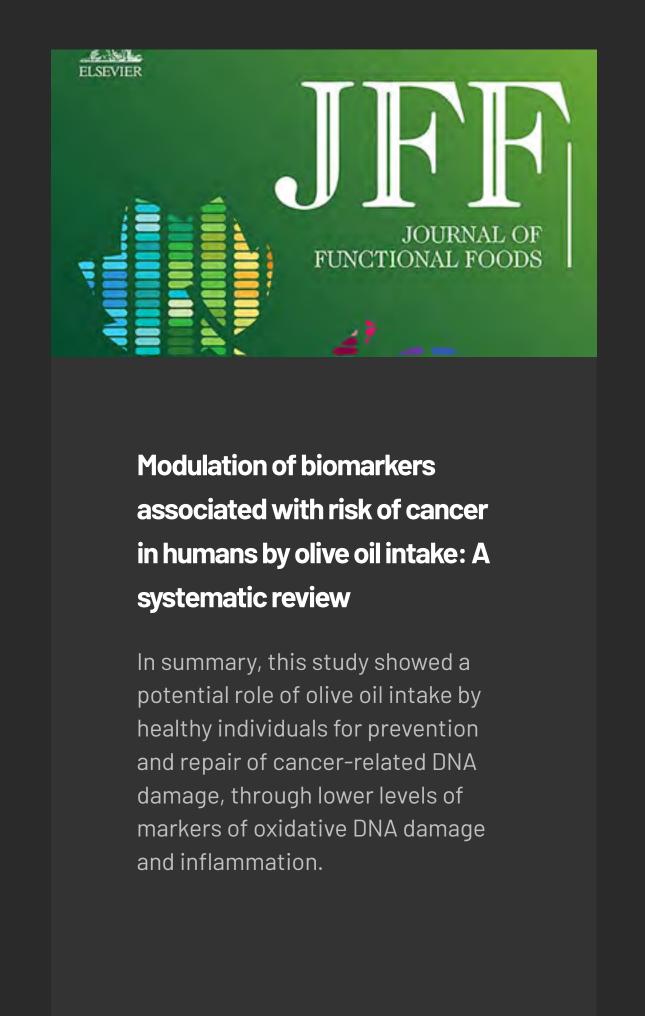


#### Selective supplement use could save 'billions of dollars' in US

health care costs, report claims

Supplements to Savings: U.S. Health Care Cost Savings from the Targeted Use of Dietary Supplements, 2022–2030 shows how only \$59 billion in savings are currently being captured.The report supplies detailed evidence that the use of certain dietary supplement ingredients by specific populations can reduce the direct and indirect medical costs associated with a wide range of chronic diseases and conditions—coronary artery disease, osteoporosis, age-related macular degeneration, cognitive decline, irritable bowel syndrome, and childhood cognitive development disorders.

Source: Natural Newsdesk



Source: Journal of Functional Foods

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**Short-Term Tomato Consumption Alters** the Pig Gut Microbiome toward a More Favorable Profile Diets rich in fruits and

vegetables have been shown to exert positive effects on the gut microbiome. However, little is known about the specific effect of individual fruits or vegetables on gut microbe profiles. This study aims to elucidate the effects of tomato consumption on the gut microbiome, as tomatoes account for 22% of vegetable consumption in Western diets, and their consumption has been associated with positive health outcomes.

Source: American Society

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of Microbiology



consumers varying meat type and mincing speed: effect of gender, age and nutritional information on sensory perception and preferences The aim of the current

study was to develop three texture-modified, portion-sized and nutrient-dense meat products using 2 types of meat (beef and lamb) and 2 mincing speeds. This study shows that combining the ingredient and process-based strategies can help improve the nutritional profile and acceptance of texture-modified meat

consumers.

products targeting senior Source: Future Foods

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The Impact of

and Synbiotic

Prebiotic, Probiotic,

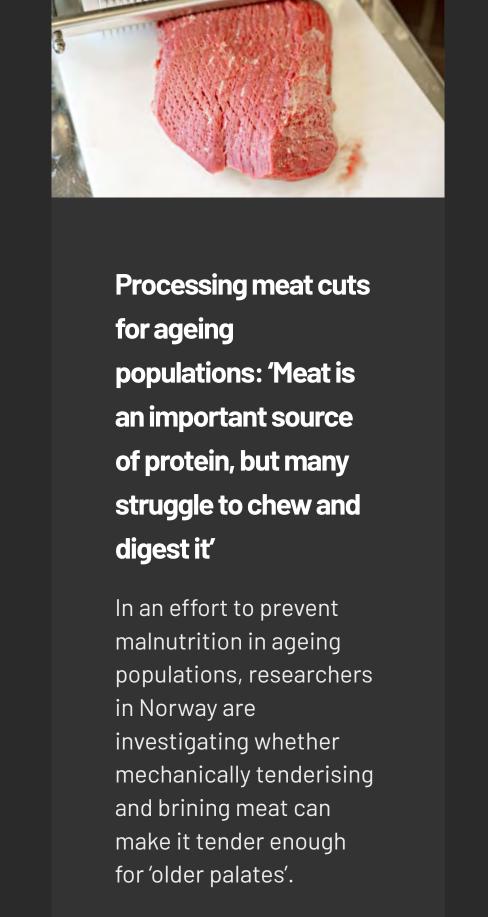
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**Supplements and Yogurt Consumption** on the Risk of Colorectal Neoplasia among Adults: A **Systematic Review** Prebiotic and probiotic supplementation and yogurt consumption (a probiotic food) alter gut microbial diversity, which may influence colorectal carcinogenesis. This systematic review evaluates the existing

literature on the effect of these nutritional supplements and yogurt consumption on colorectal neoplasia incidence among adults.

Source: Nutrients

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Source: Foodnavigator.com

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TO DIGITAL TRACEABILITY



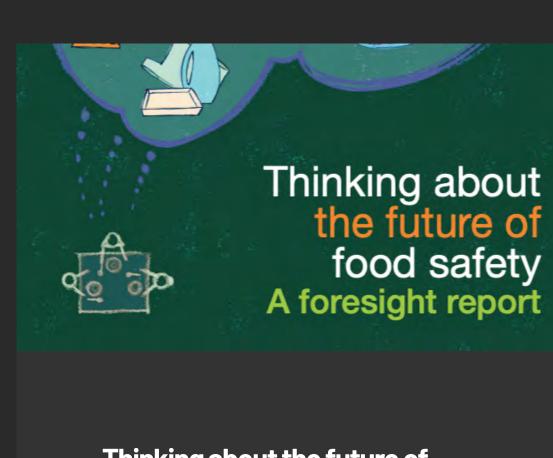




# Digital traceability

Towards stronger

food safety systems through traceability: market trends, forecasts and regulatory.



Thinking about the future of food safety: A foresight report

This publication explores a selection of the most relevant drivers and trends identified through the FAO food safety foresight programme. This publication showcases a selection of emerging areas of interest, as identified through the FAO food safety foresight programme, and is targeted at a broad audience – from policymakers, researchers, food business operators, private sector to all of us, consumers as food safety is everyone's business.

Source: FAO



WHO global strategy for food safety 2022-2030: towards stronger food safety systems and global cooperation

The vision of the WHO Global Strategy for Food Safety 2022-2030 is to ensure that all people, everywhere, consume safe and healthy food so as to reduce the burden of foodborne diseases. The strategy was adopted by the 75th World Health Assembly. With five interlinked and mutually supportive strategic priorities, the strategy aims to build forward-looking, evidence-based, people-centred, and cost-effective food safety systems with coordinated governance and adequate infrastructures.

Source: WHO

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#### **Market Trends 2023** Industry Size, Segments, Share, Key Players and Growth Factor Analysis by 2026

Global "Food Traceability Market" 2023 report presents an exclusive analysis of market size, share, revenue, production, consumption, gross margin, and price. The report offers elaborative data of leading market player's analysis and key factors that will affect the industry growth. The report provides insights into industry revenue returns, growth patterns, competitive market status, and development opportunities.

Source: Digital Journal

Licence: \$3,000.

Global Internet of Things and **Traceability for Food &** Beverage **Manufacturing Market Growth Analysis, Size,** 

**Future Forecast 2030** 

The market research report offers an elaborate study of the Global Internet of Things and Traceability for Food & Beverage Manufacturing Market to help players prepare themselves well to tackle future growth challenges and ensure continued business expansion. The report comes out as a comprehensive, allembracing, and meticulously prepared resource that provides unique and deep

Things and Traceability for Food & Beverage Manufacturing market. Licence: \$3,950

Source: Verified Market

Report

the Global Internet of

information and data on

**Food Traceability Market: Global Industry Trends,** Share, Size, Growth,

Opportunity and

Forecast 2022-2027

IMARC Group's latest report, the global food traceability market size reached a value of US\$ 16.46 Billion in 2021. Looking forward, IMARC Group expects the market to reach a value of US\$ 29.22 Billion by 2027, exhibiting a CAGR of 9.60% during 2022-2027.

License: \$2,499

Source: IMARC Group

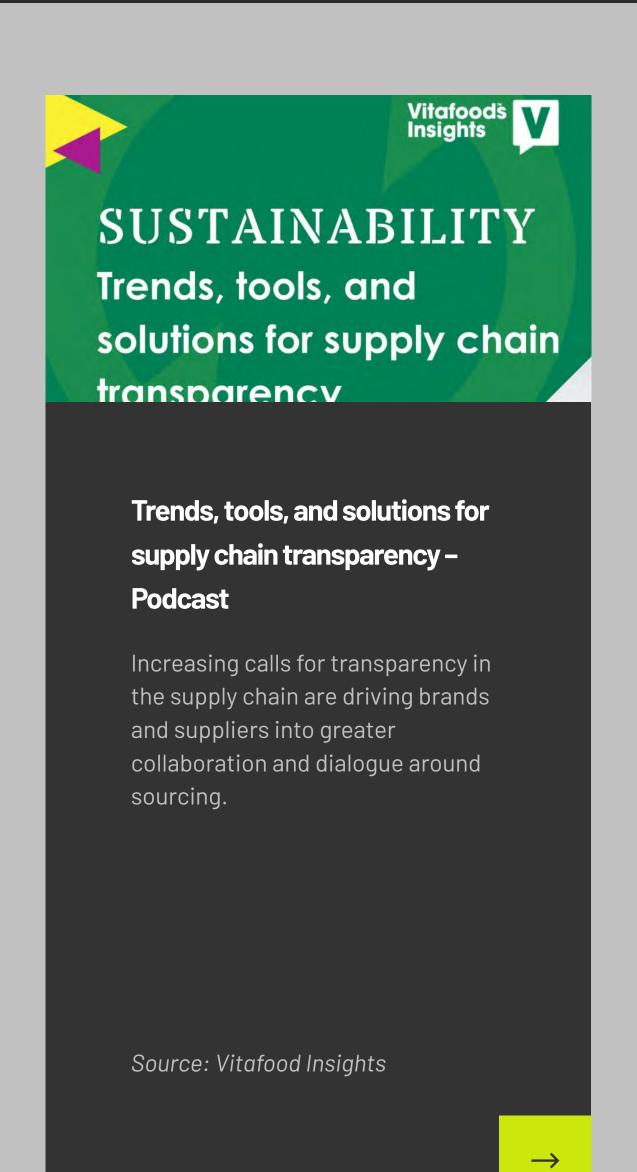


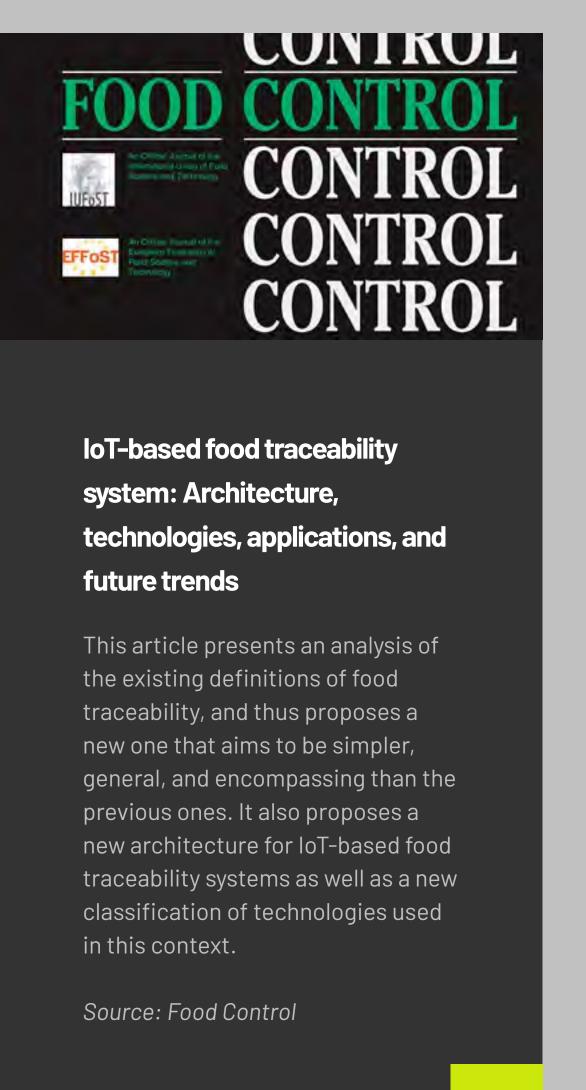
FDA Advances the New Era of Smarter Food Safety, Finalizing Foundational Rule to Improve Traceability of Contaminated Foods

The U.S. Food and Drug Administration announced an unprecedented advancement in foodborne illness prevention through the finalization of a rule to more effectively trace contaminated food through the food supply, whether sourced in the U.S. or abroad. The final rule establishes additional traceability recordkeeping requirements for those that manufacture, process, pack or hold certain foods, to be able to more rapidly and effectively identify the origin and route of travel of certain contaminated foods to prevent or mitigate foodborne illness outbreaks, address credible threats of serious adverse health consequences or death, and minimize overly broad advisories or recalls that implicate unaffected food products.

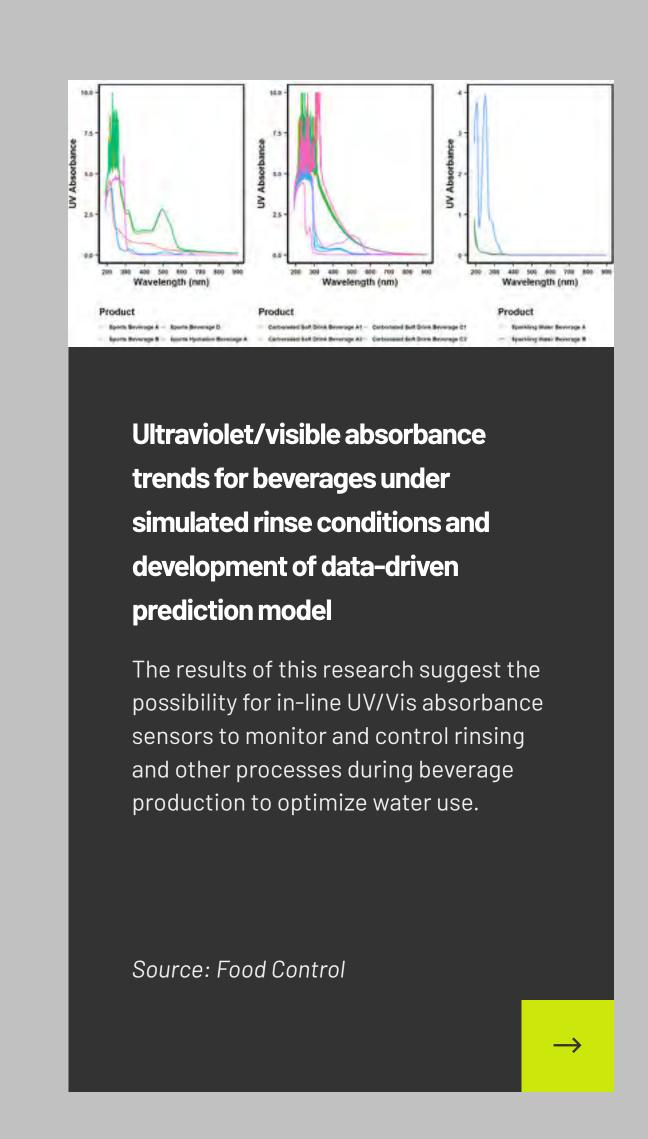
Source: FDA

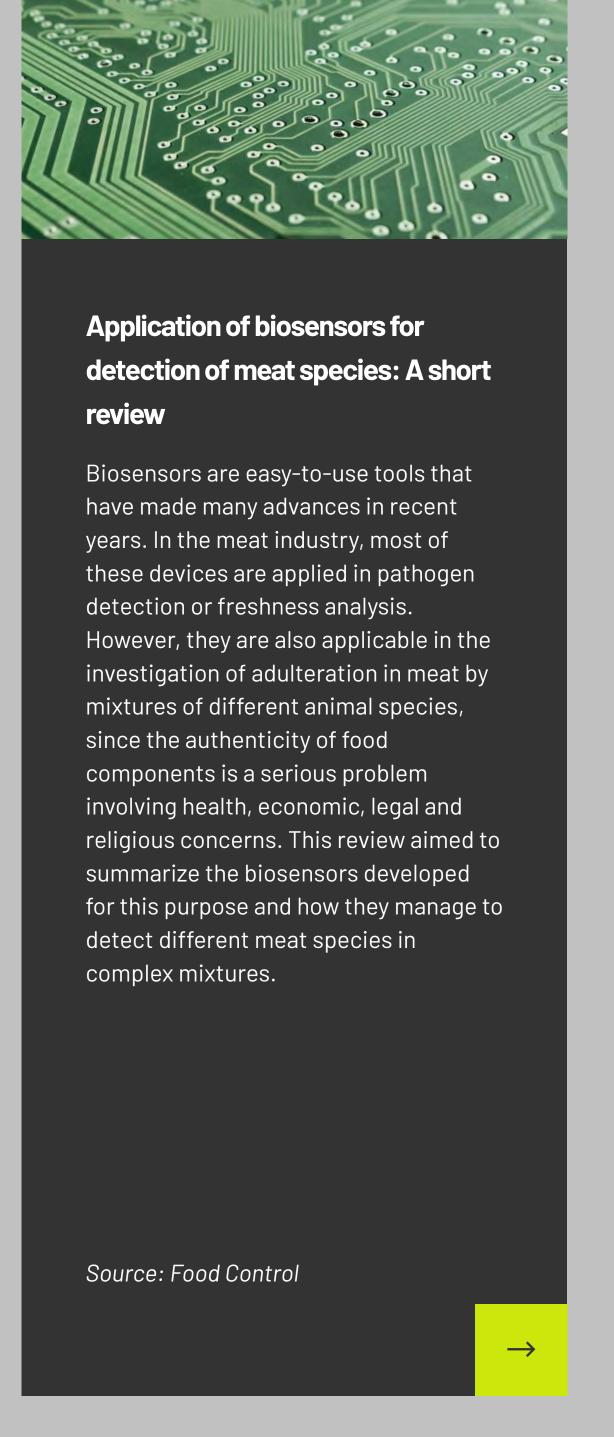
Digital solutions to increase food safety and supply chain transparency.

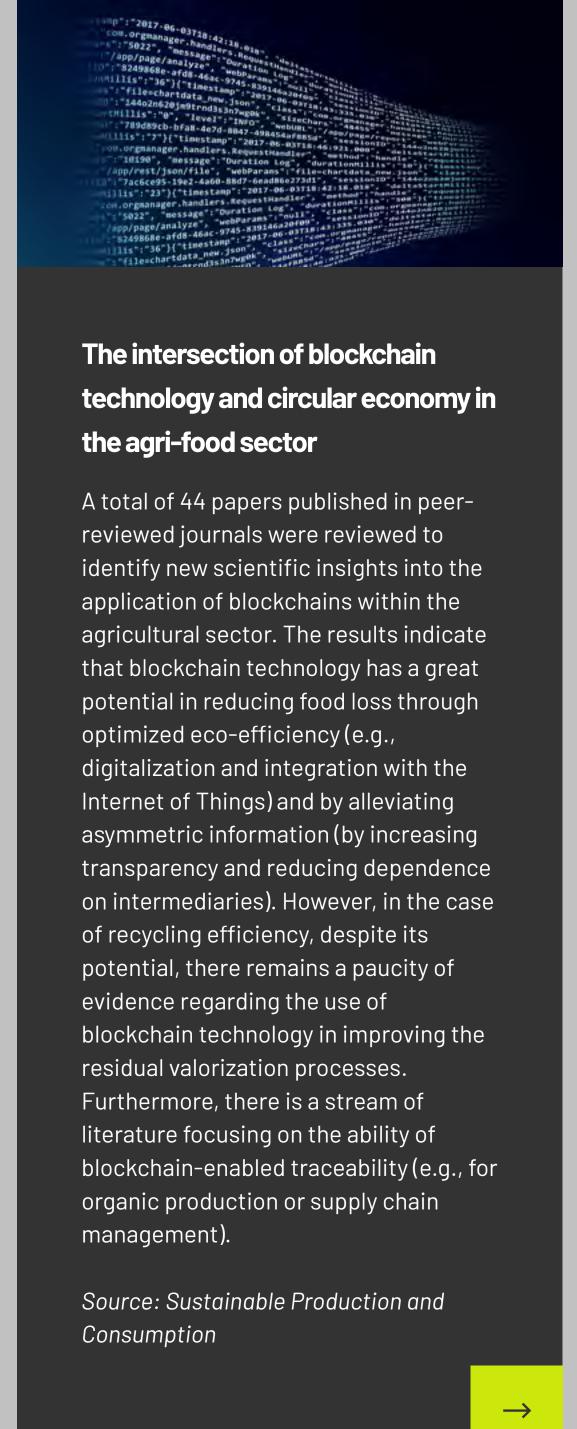




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TO CIRCULAR FOOD SYSTEMS

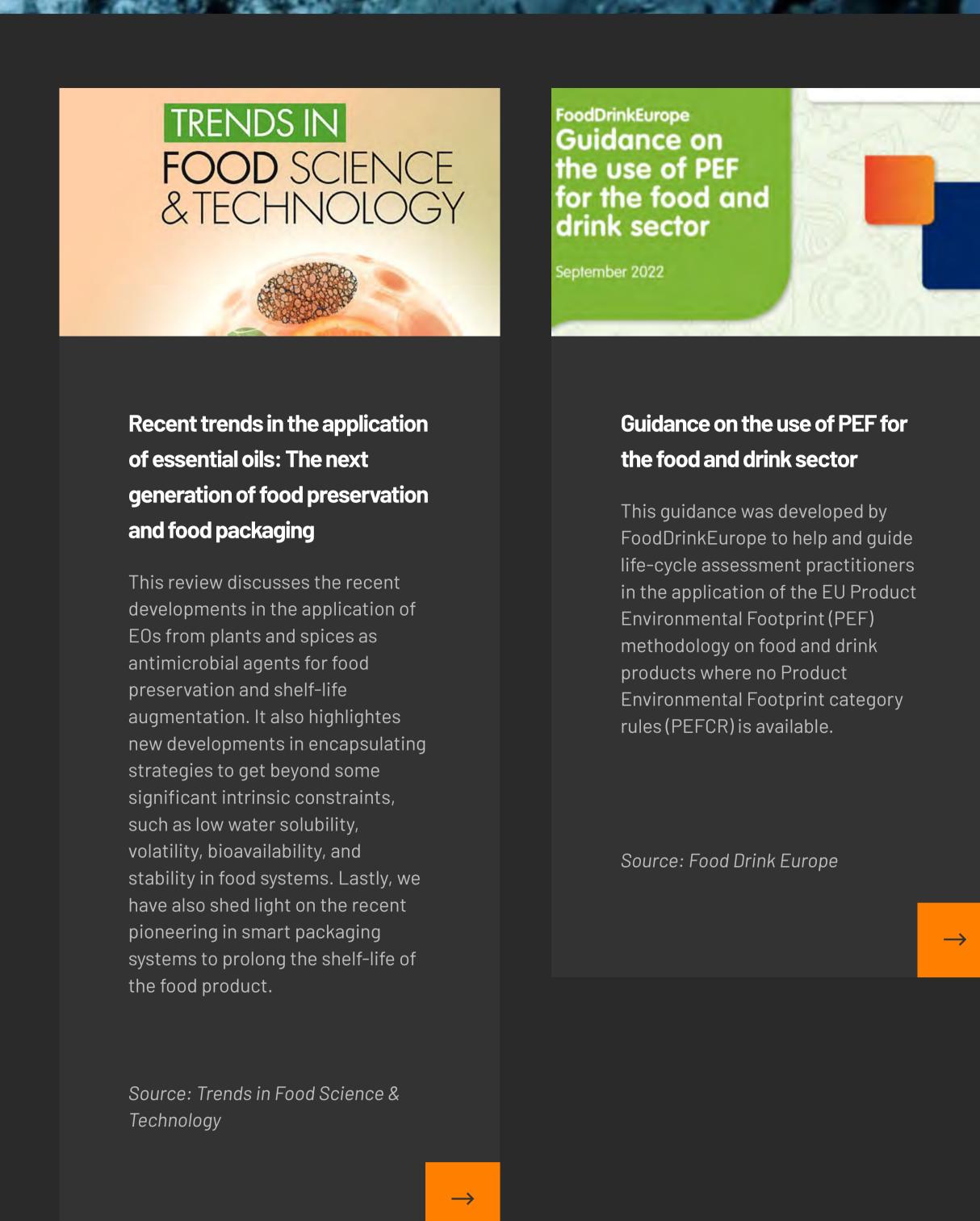


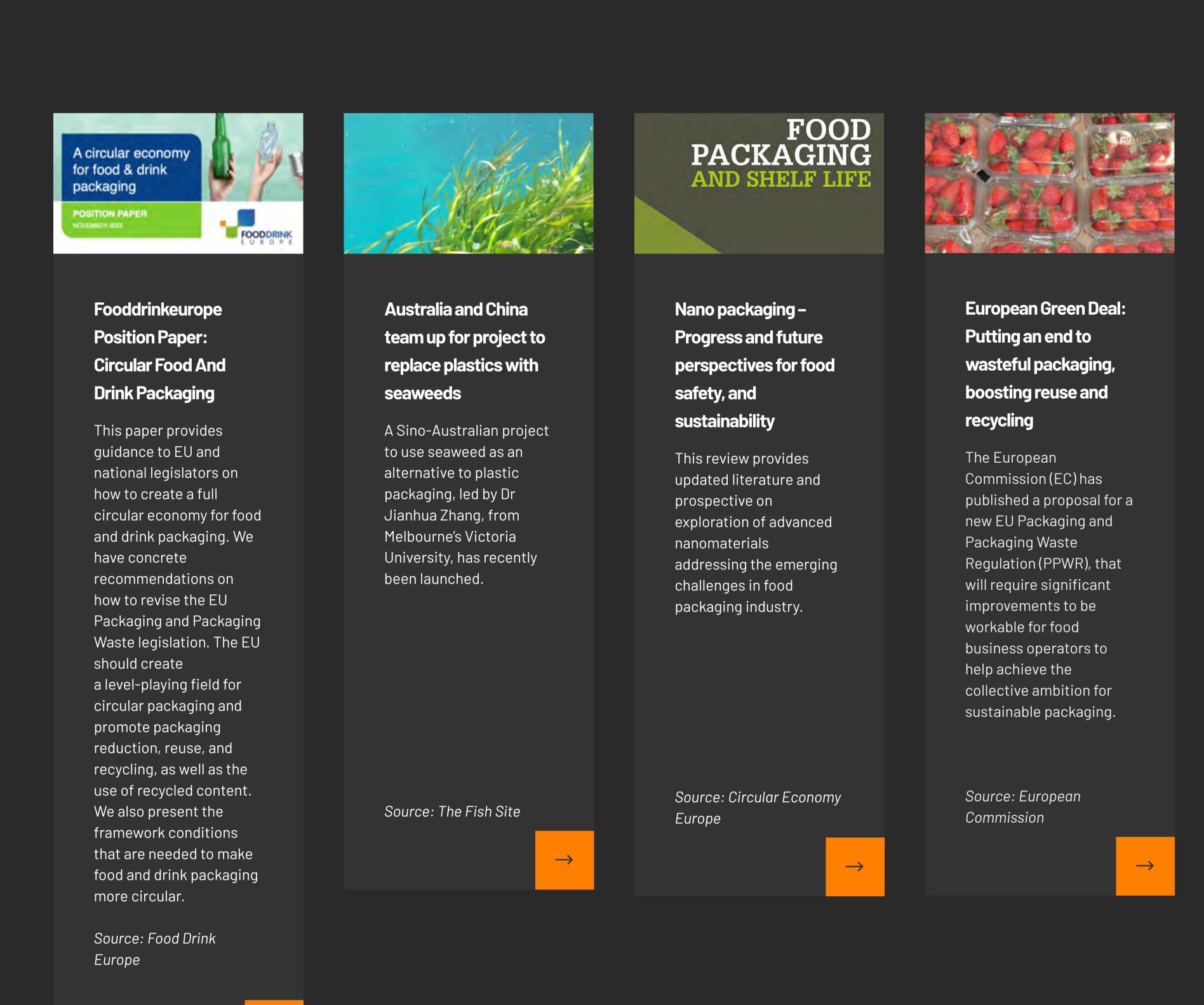




# Circular Food Systems

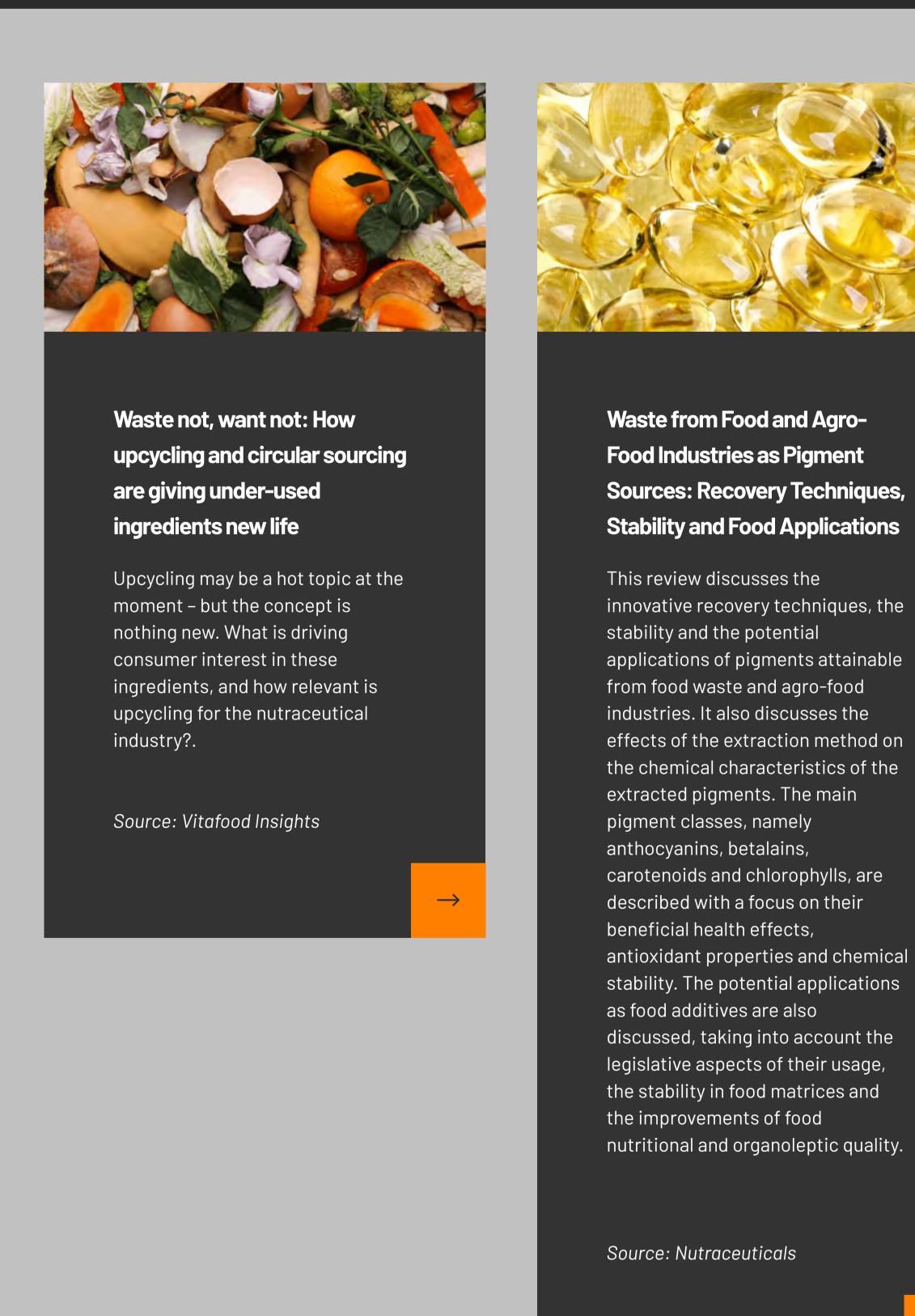
Food preservation and food packaging solutions: trends, guidances and regulatory.

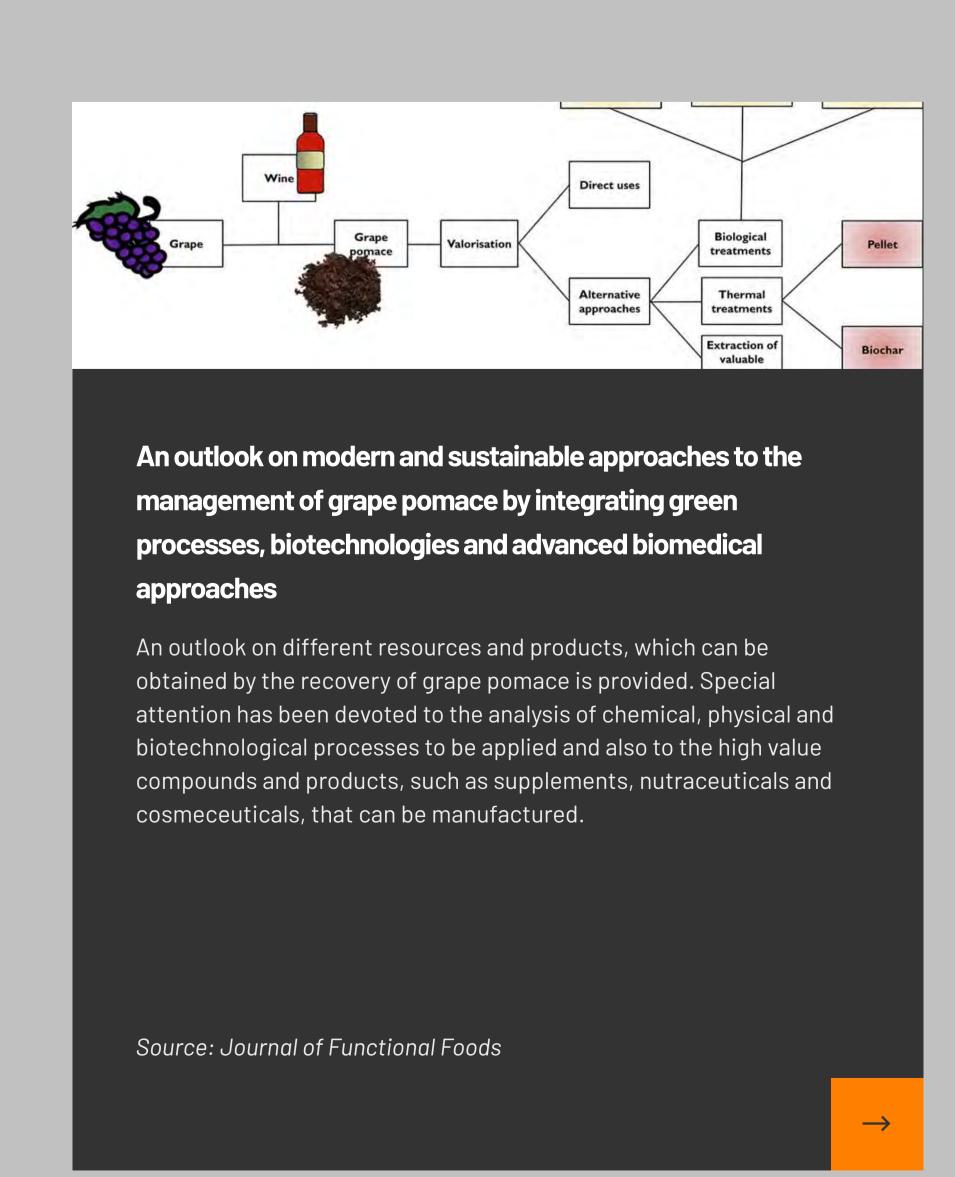


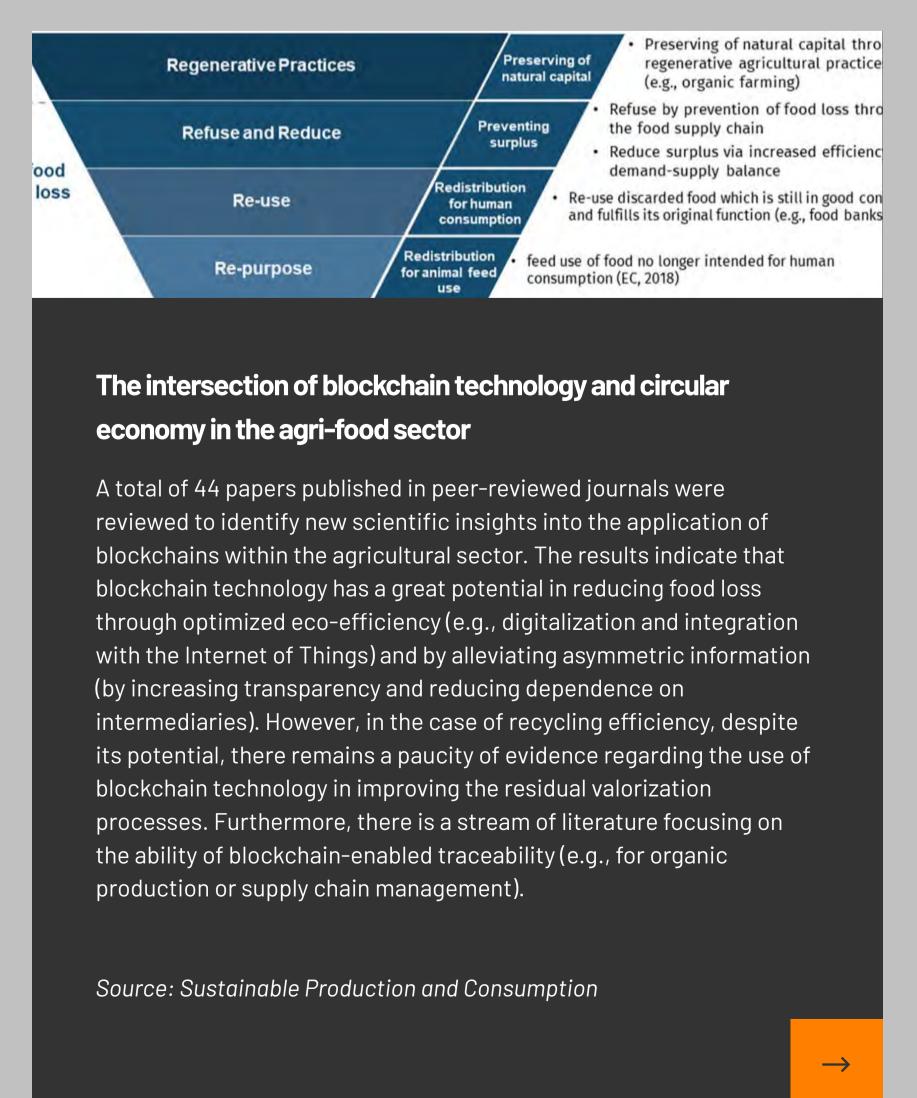


Circular economy technologies and waste in value approaches.

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TO SUSTAINABLE AQUACULTURE



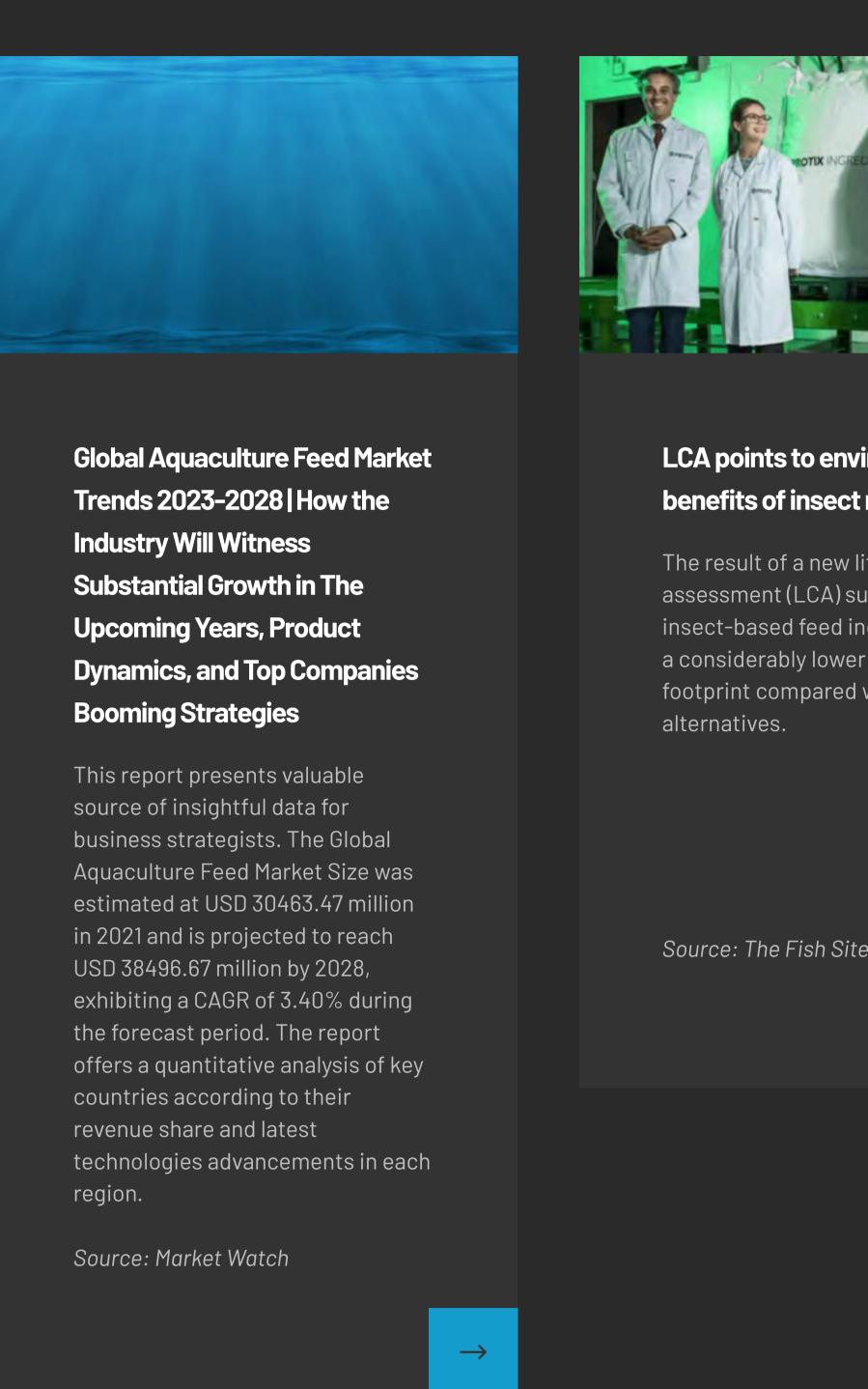


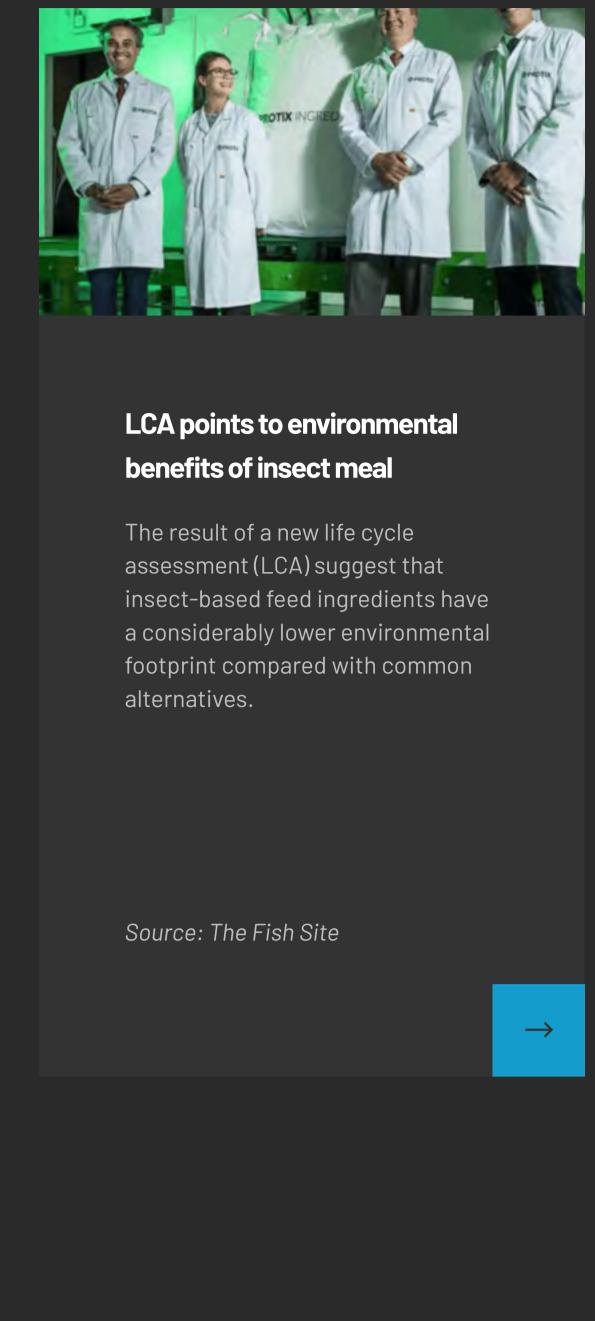


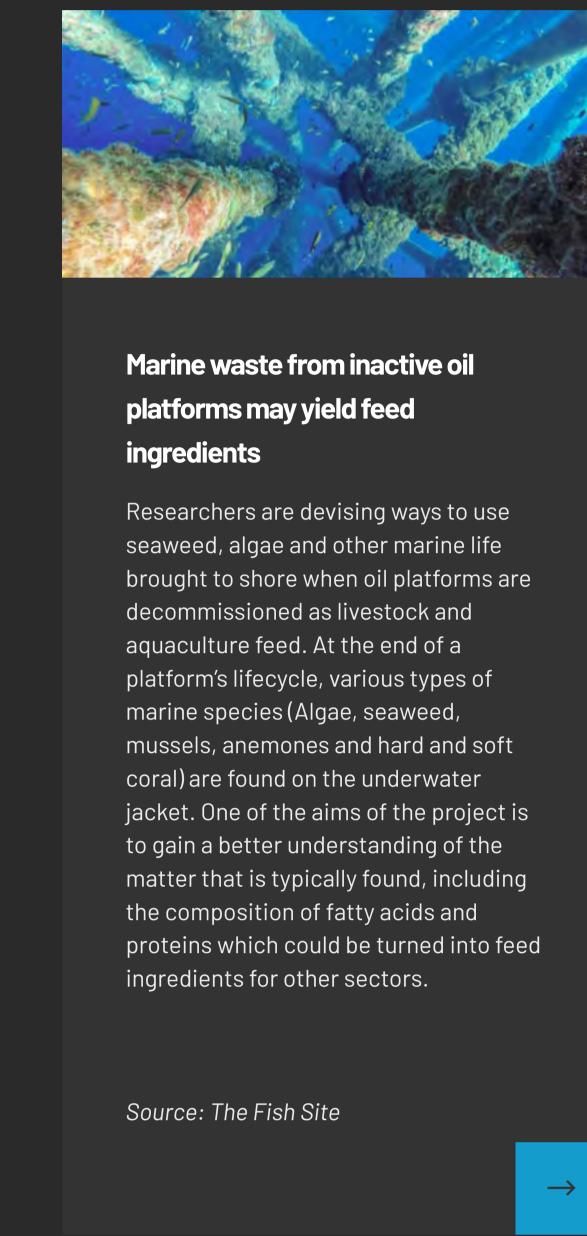
## Sustainable aquaculture



Aqua feed market is growing and there is a need to validate new sustainable ingredients from many different sources.



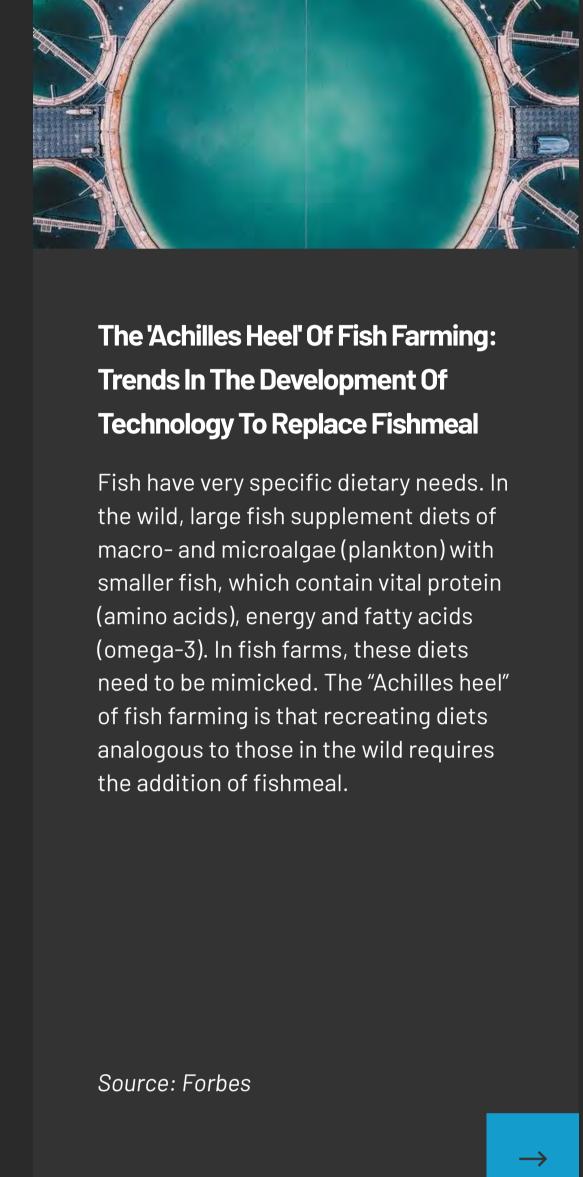




#### Aquaculture Lupin: A promising alternative protein source for aquaculture feeds? The utilization of soybean is troublesome, as the abundance of many antinutritional factors in soybean products may yield adverse effects when fed to aquatic organisms, while

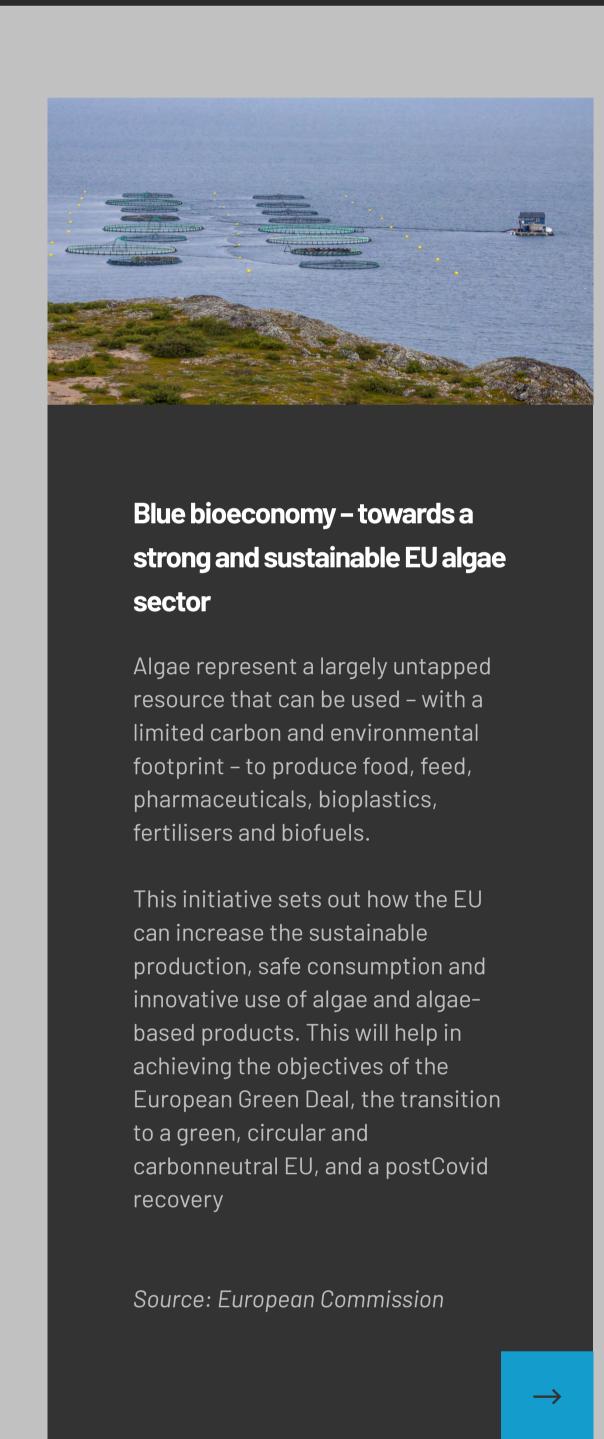
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soybean production is generally unsustainable and environmentally unfriendly. Plants of the genus Lupinus seem to be an interesting alternative to soybean due to their relatively favorable composition and regional availability. The aim of this review is to evaluate the possibility of using lupin-derived protein in aquafeeds. Source: Aquaculture Reports

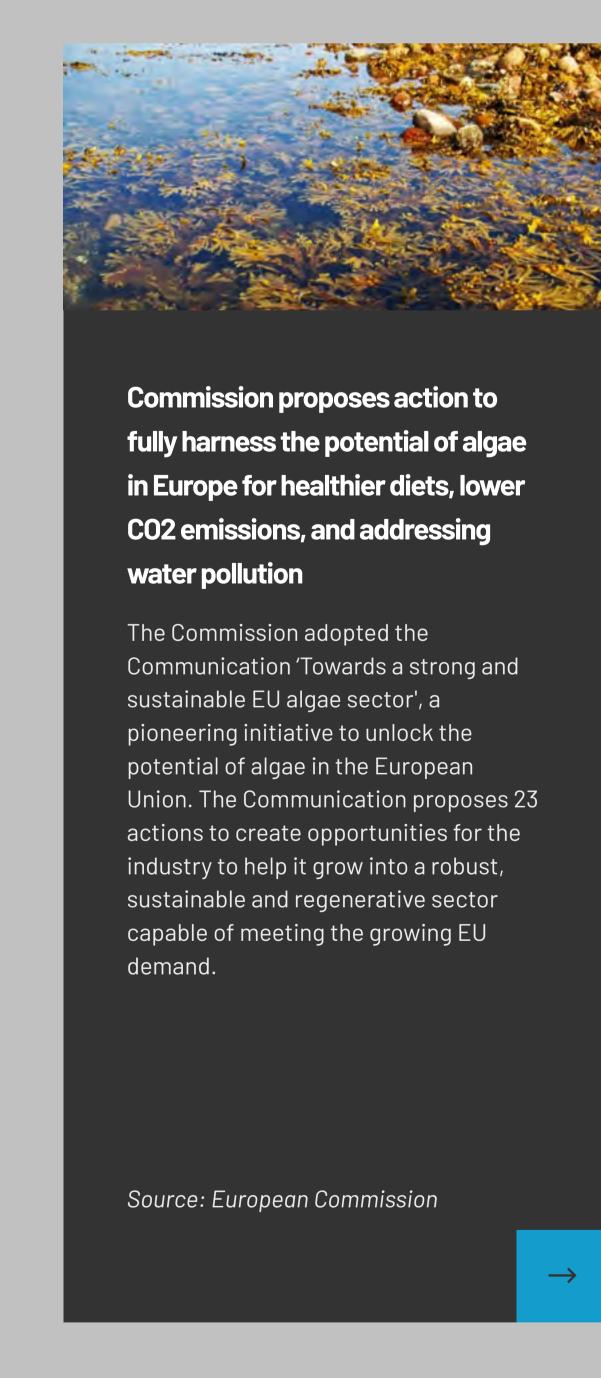


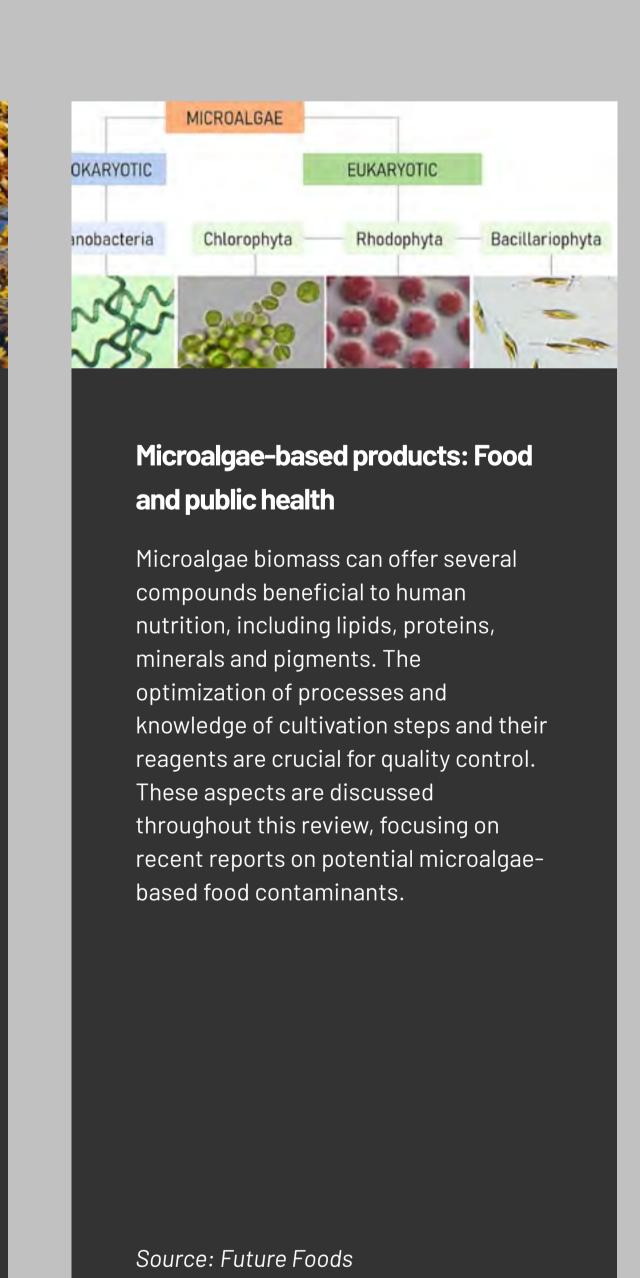
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Blue economy: seaweed and microalgae farming takes a new impetus to contribute achieving sustainable goals and healthier diets.



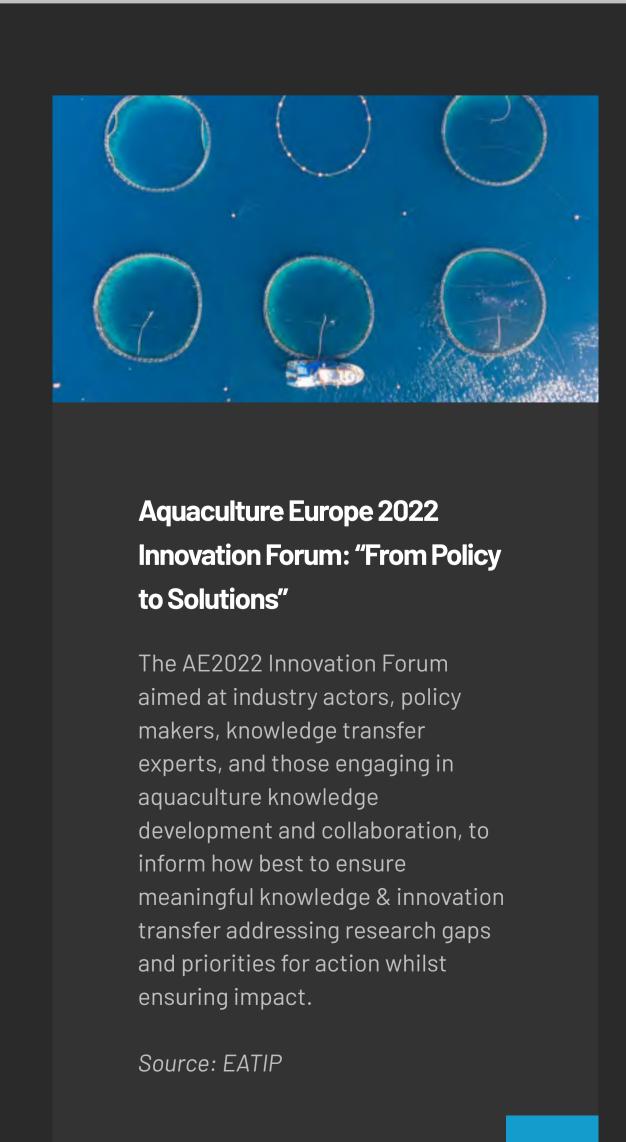


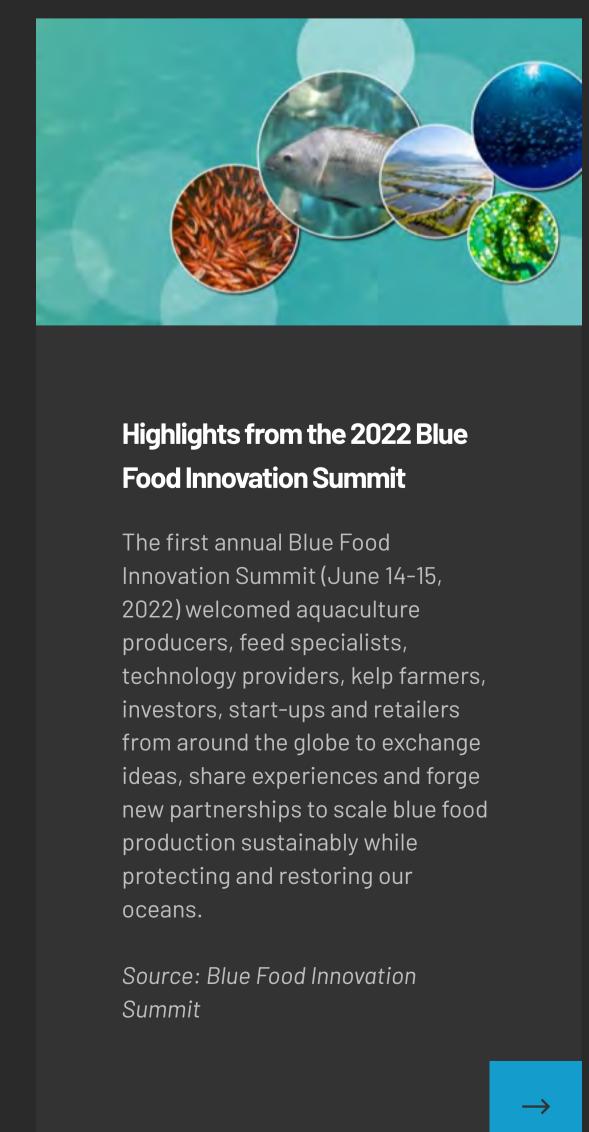






03 Summary and highlights from aquaculture innovation summits.



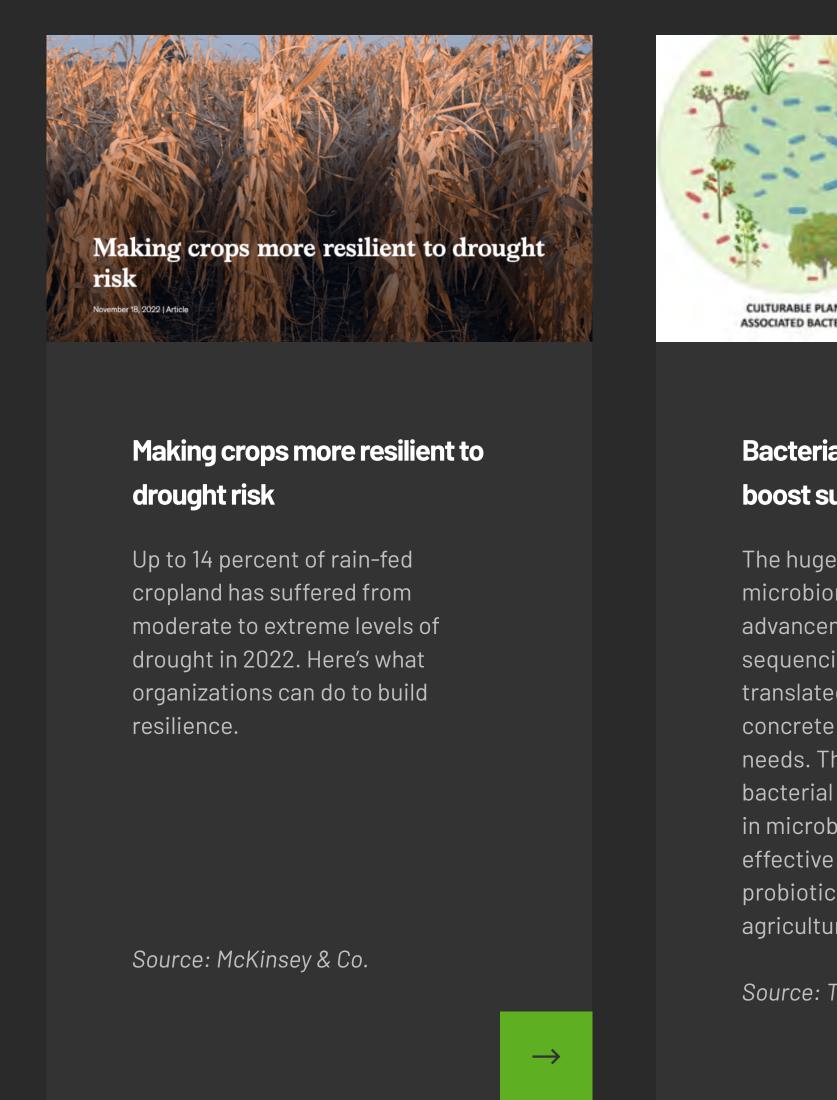


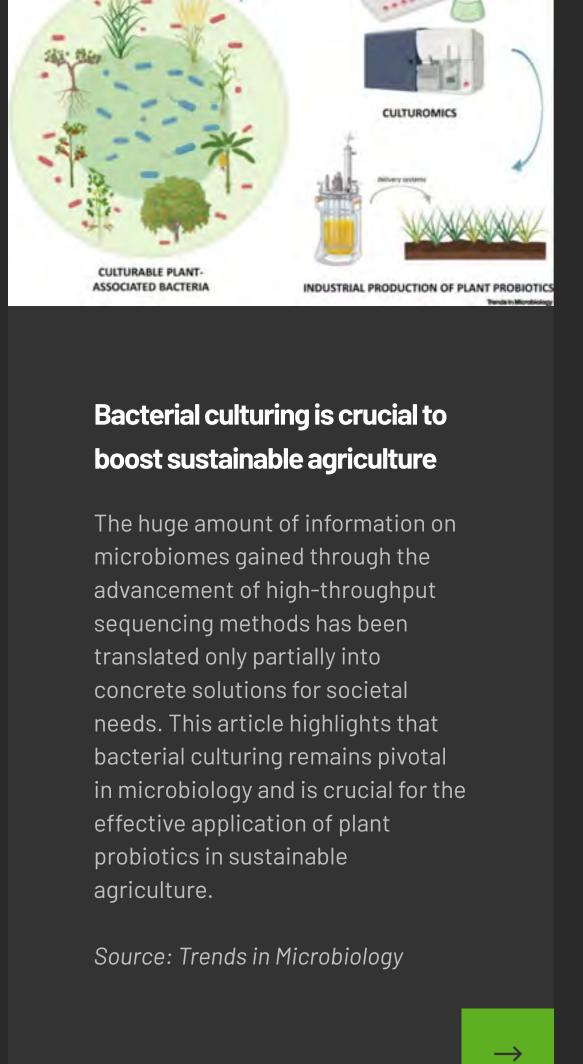
TO SUSTAINABLE AGRICULTURE



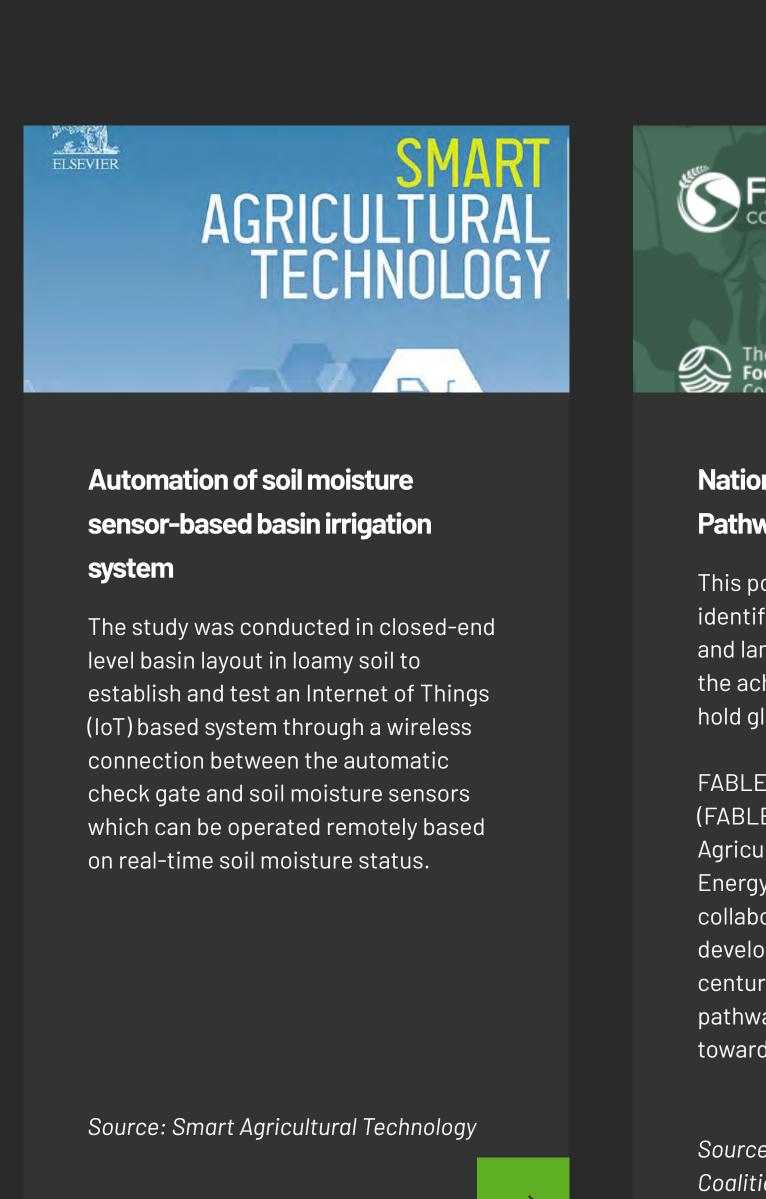


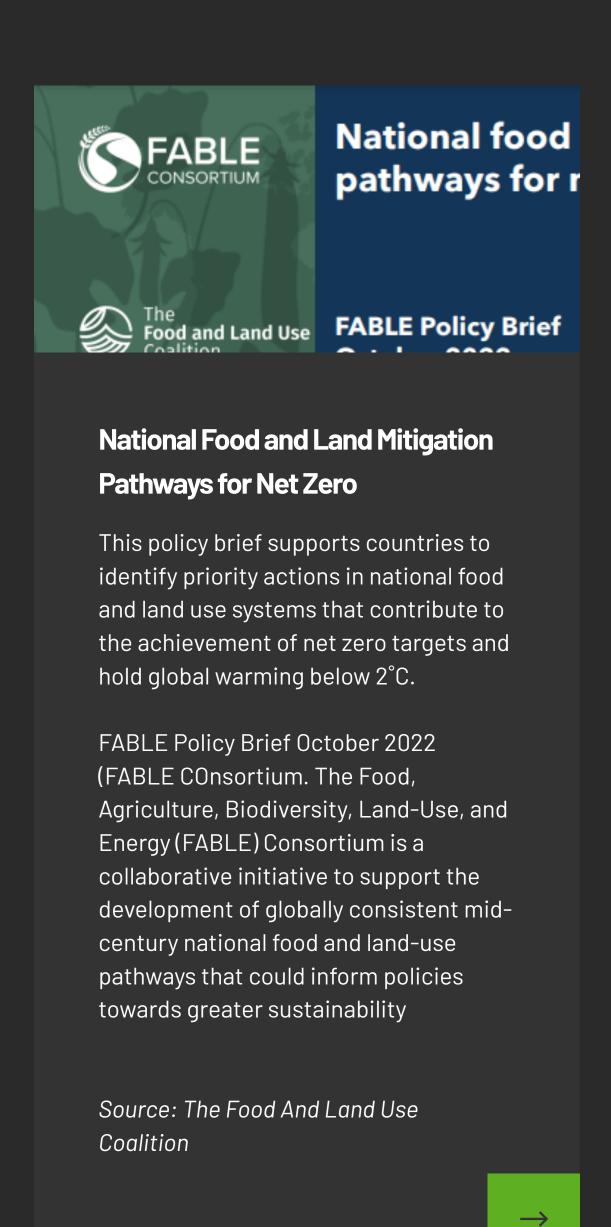
Improving agricultural profitability and yield adopting technologies that improve the healthy status and resilience of soils.



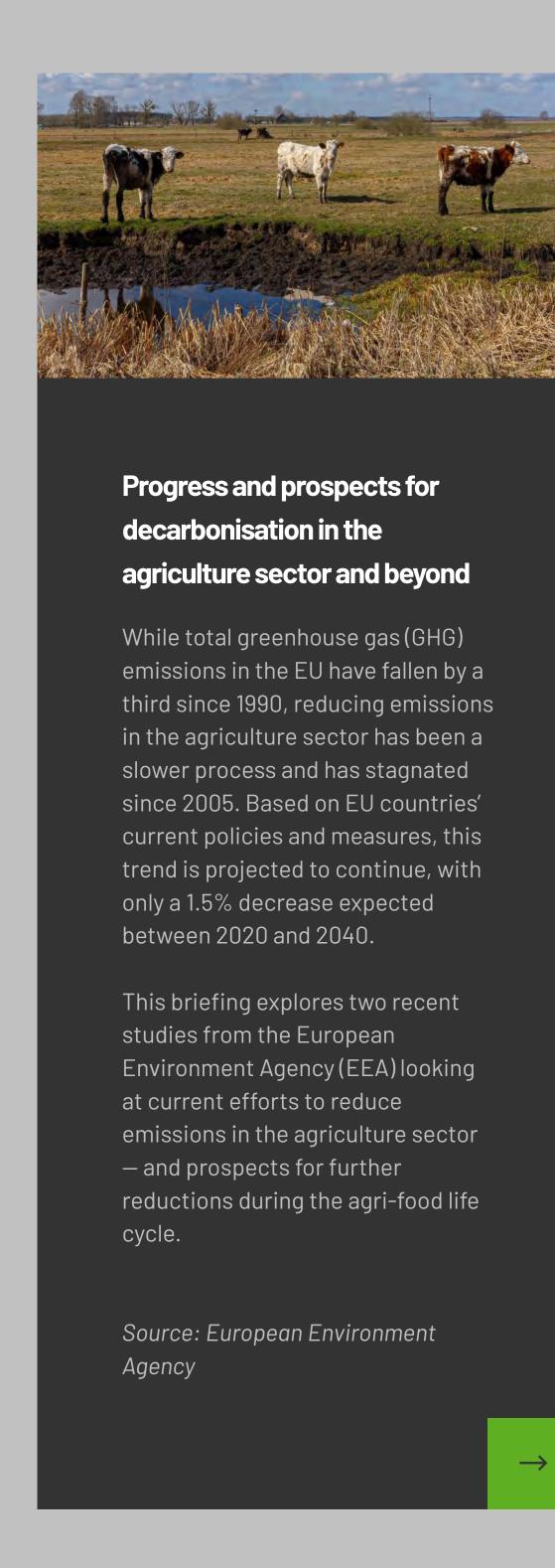


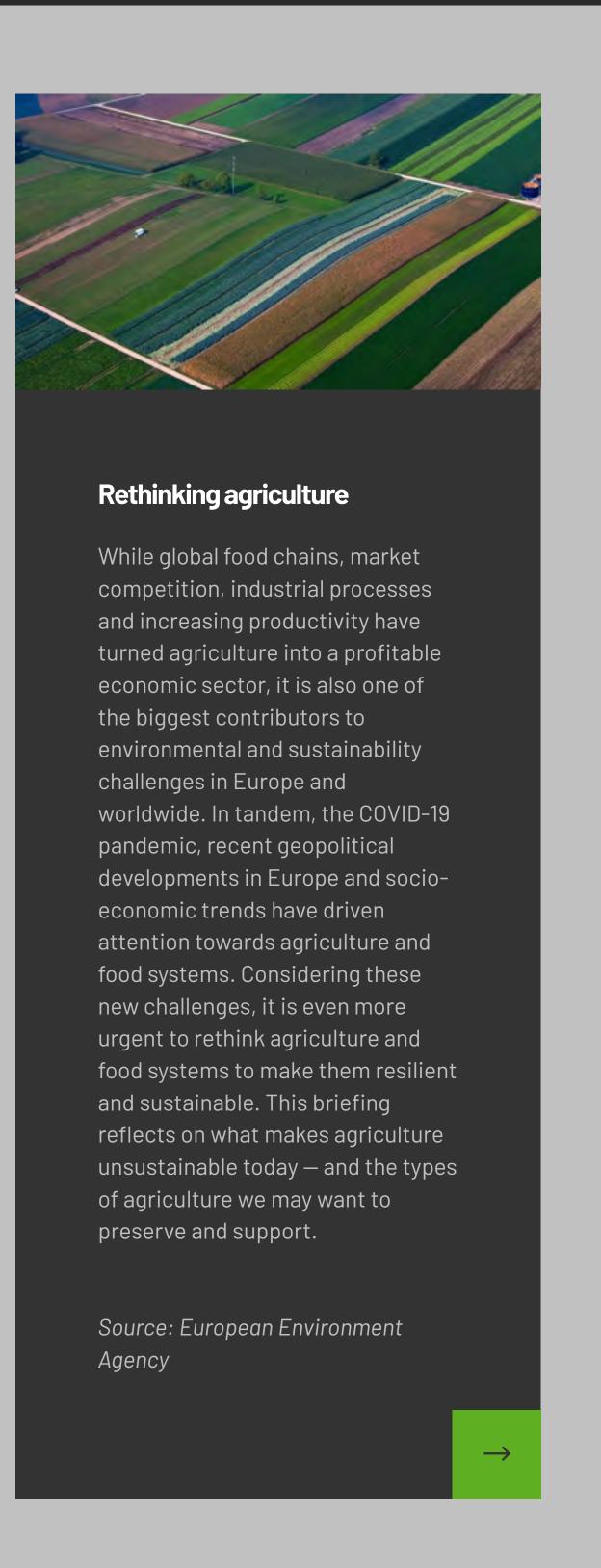


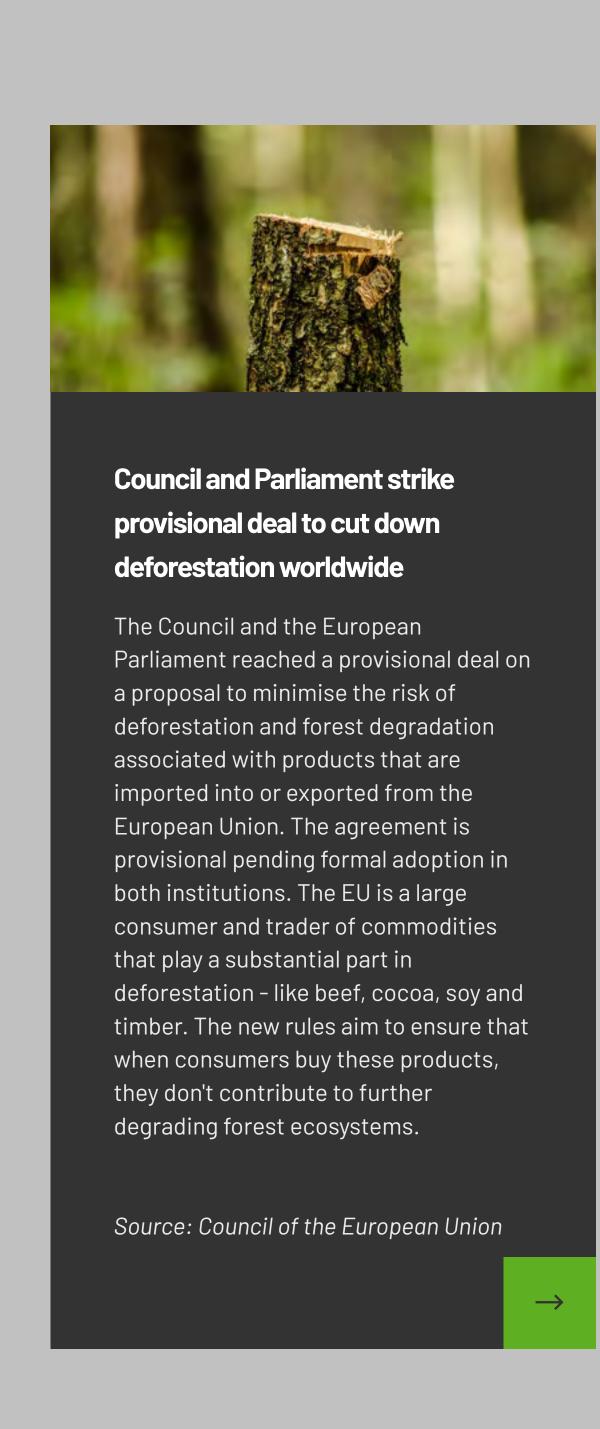




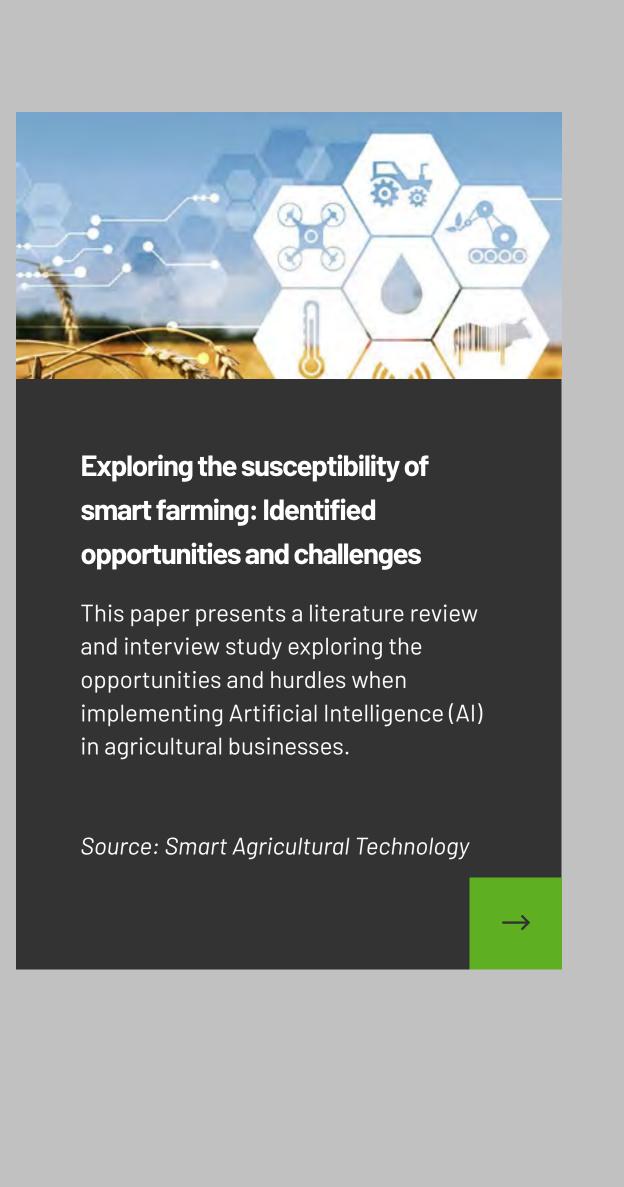
Technological advancements and trends in agriculture, consumer opportunities and regulatory to achieve the objectives of the European Green Deal.

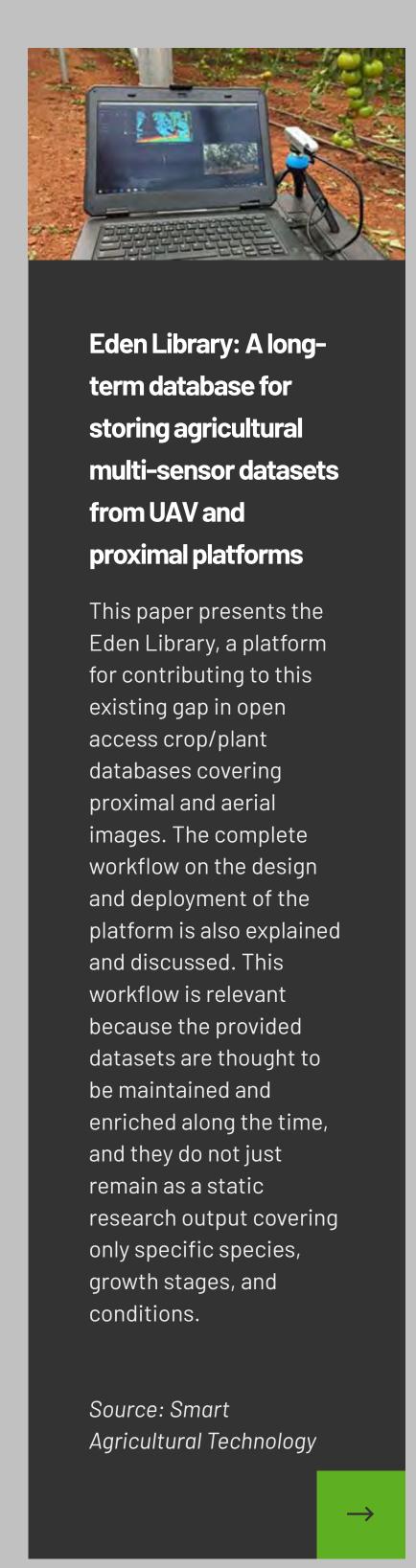


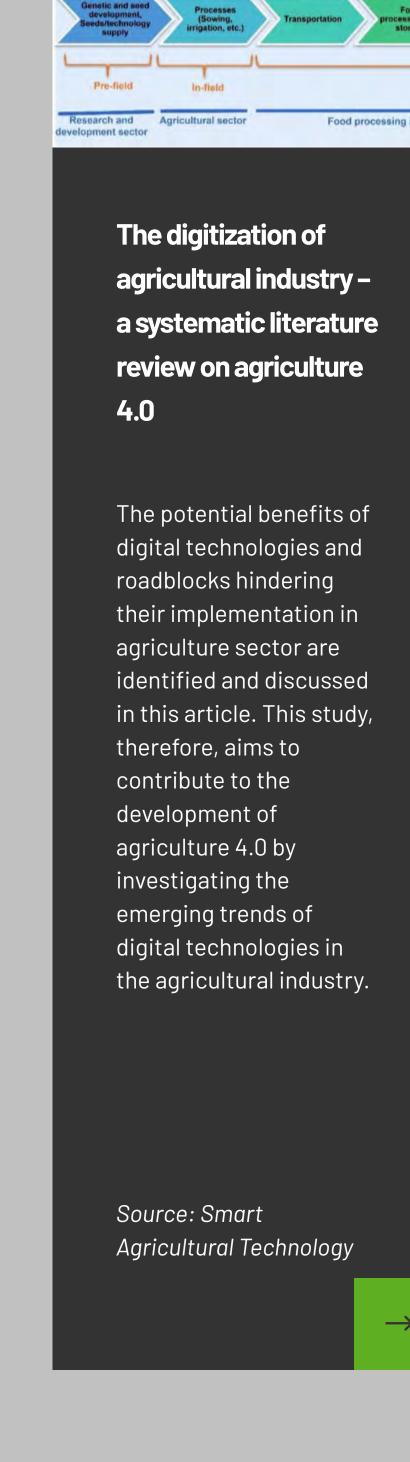


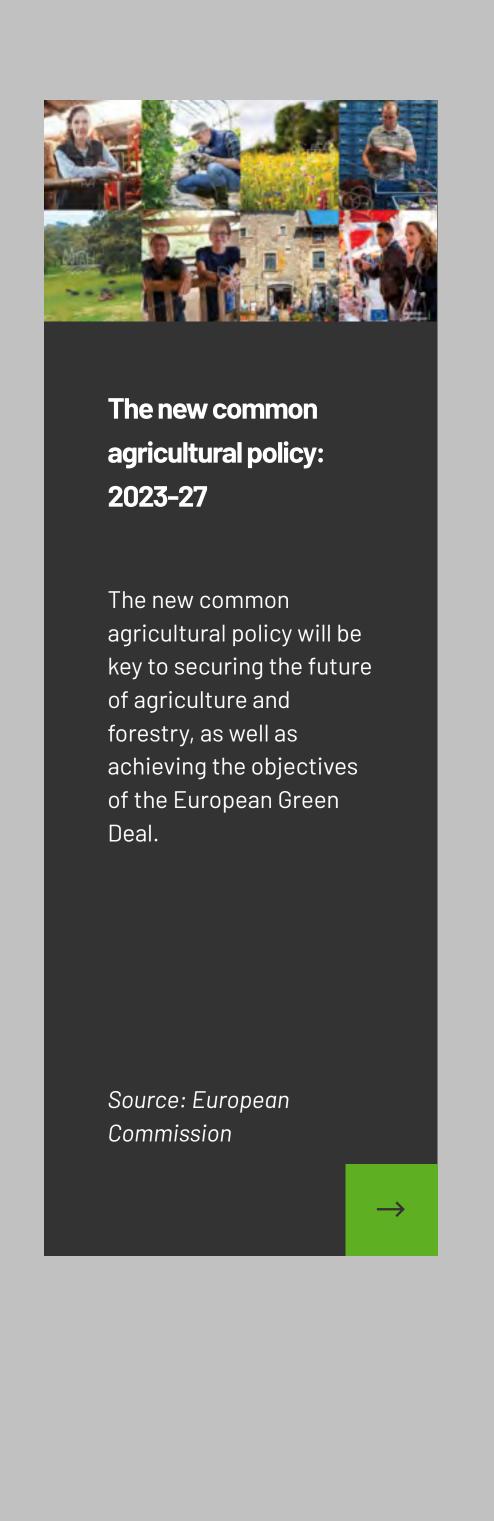


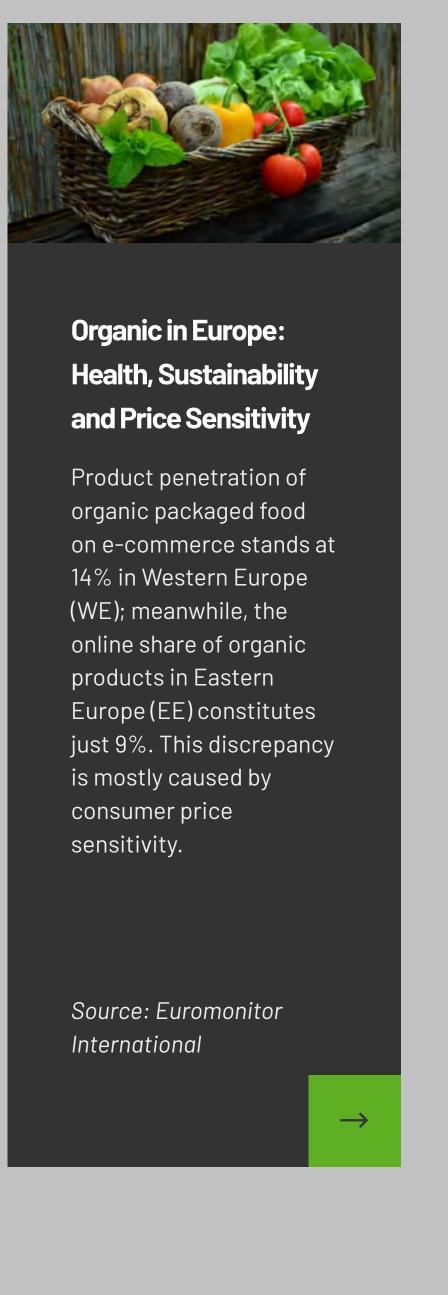












BACK TO THE MENU



