

## United Nations Environment Programme, Dec. 2023

What's cooking: An assessment of the potential impacts of selected novel alternatives to conventional animal products (summary by GFI). [Read the full report](#)

### Topline summary for alternative proteins

**Key finding:** “Novel plant-based meat, cultivated meat, and fermentation-derived foods could be instrumental in reducing the environmental impacts associated with the production of many conventional ASF [animal source foods]. They also show promise for reduced risk of zoonoses and antimicrobial resistance.”

**Environment** “Animal products—including animal emissions, feed, changes in land use and energy-intensive global supply chains—account for almost 60 percent of food-related emissions, for a total of 14.5–20 percent of global emissions... novel ASF alternatives already show strong potential for reduced environmental impacts compared to many conventional animal products.”

**Global health** “The widespread and excessive use of antibiotics in animal agriculture has been linked to the rise of antimicrobial resistance in both animals and humans; globally, 73 percent of all antimicrobials sold are used in livestock agriculture. Animal agriculture expansion and industrialization... have also been linked to increased risk of zoonoses emergence. The majority (70 percent) of emerging infectious diseases and almost all known pandemics (e.g. influenza, HIV/AIDS, COVID-19) are zoonoses.”

**The report highlights the need for public funding and appropriate regulation to ensure alternative proteins reach taste and price parity:** “Higher production and uptake of novel ASF alternatives depends on food producers perceiving the market as profitable and reliable, and then delivering products that can compete with conventional equivalents in terms of taste and price. Governments can help producers reach these goals through research funding, commercialization funding, and the development of appropriate regulatory frameworks.”

**Public R&D funding** “Ways governments can support novel alternatives to become commercially viable include funding for research—in particular open-source research—and commercialization.”

**Government support for commercialization** “Governments can assist producers in establishing production facilities and infrastructure... policy instruments like tax rebates, direct financial investments and loan guarantees to enhance producer interest in the space can also promote competition by reducing barriers to entry, for instance by reducing up-front capital costs of production facilities.”

**Appropriate regulatory frameworks** “Governments can... develop regulatory and approval frameworks that ensure food safety in a transparent and streamlined manner... [these] frameworks are critical for allowing companies to bring novel foods such as ASF alternatives to market in a timely fashion.”

**International collaboration** “International collaboration, including through joint research, development and harmonization of standards and international support, can also advance the uptake of novel alternatives.”

**Research on impacts** “Equitable, evidence-informed policies are needed to ensure positive outcomes. Understanding of the implications of these technologies and their interactions with other environmental, health, and social systems continues to evolve, highlighting the need for more research, especially open-source research.”