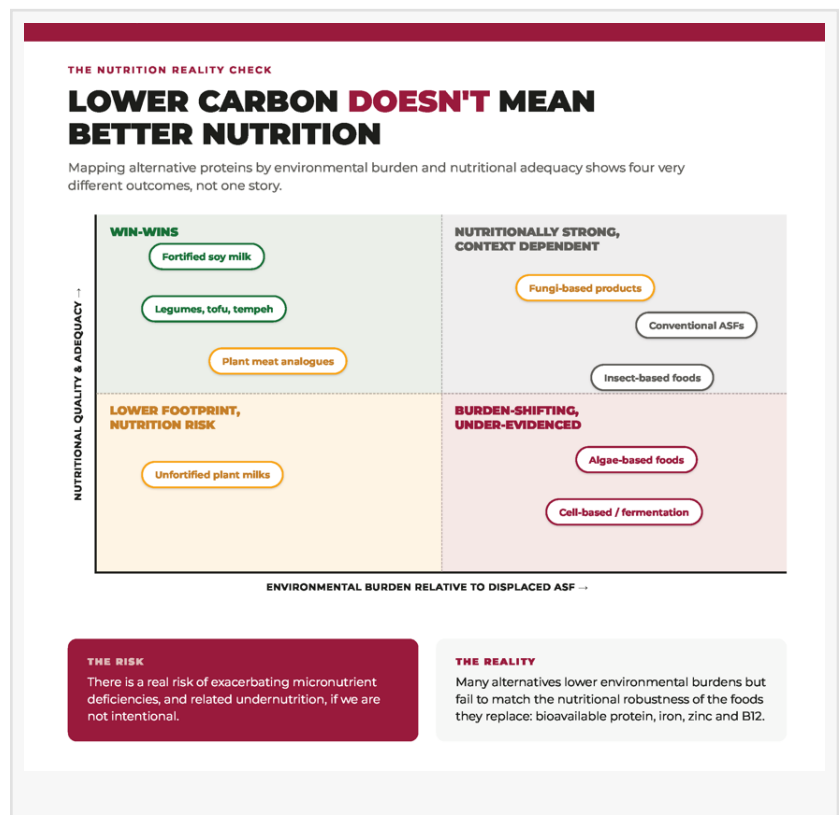


Climate-only Lens on Alternative Proteins Risks Worsening Micronutrient Deficiencies

GENEVA, WA, UNITED STATES, July 20, 2026 /EINPresswire.com/ -- Over the past few years, alternative proteins have moved from sustainability narratives to real-world food products on plates. While the argument of alternative proteins helping reduce climate change sounds revolutionary, there are shortfalls.

In a recent [article published in the journal One Earth](#), researchers from the Global Alliance for Improved Nutrition (GAIN) argue that the case for alternative proteins is often made on narrow evidence—oversimplifying it to just mitigating climate change could have an unintended effect of worsening micronutrient deficiencies in the regions where nutrition is already most precarious.



The article draws on a paired evidence base published this year: a scoping review of 247 studies comparing alternatives to animal-source foods (Alt-ASFs) with conventional animal products on nutrition and health, and a companion review of 125 product-level environmental studies with direct animal-source comparators. Read together, they show that the advantages of alternative proteins are real but conditional.

According to the analysis by the authors, whole and traditional plant foods such as legumes, tofu, and tempeh are in a win-win zone: low environmental burden, strong nutritional value, and existing culinary familiarity. Whereas formulated meat often claims a climate and land-use advantage over beef, however, energy consumed in processing, sourcing ingredients and packaging can narrow the gap. For fungi, insect, algae, and cell-based products, outcomes swing widely with feedstocks, production design, scale, and the carbon intensity of the electricity used.

Nutritionally, the findings are just as varied. Plant- and fungi-based options generally deliver more fiber and less saturated fat and can improve cardiometabolic markers. But they often supply less bioavailable protein, iron, zinc, and vitamin B12, with soy a notable exception on protein quality. Most plant-based milks, apart from fortified soy, fall short of cow's milk on protein, calcium, iodine, vitamin B12, and riboflavin.

Researchers Ty Beal, Stella Nordhagen and Mduduzi Mbuya argue that whether alternative proteins are seen as good or bad, sustainable or unsustainable, depends on a holistic assessment across sustainability domains—nutrition, environment, livelihoods, affordability, and acceptability—not just climate change.

What should change -

The article makes the following recommendations:

- Make nutritional functional units standard practice. Life cycle assessment should report impacts not just per kilogram, per calorie, or per gram of protein, but per unit of holistic nutritional value, with transparent sensitivity analyses for fortification, bioavailability, processing level, energy mix, and comparator choice.
- Hold direct replacements to clearer labeling, composition, and fortification standards. Where a product is positioned to displace a nutrient-dense animal-source food, front-of-pack communication should make non-equivalence visible rather than leaning on category names that imply it, while also highlighting what the product adds, such as fiber. Minimum fortification standards are especially urgent for plant-based milks.
- Reward the win-win zone in procurement and dietary guidance. Minimally processed legumes, nuts, seeds, tofu, tempeh, and other culturally familiar plant foods often deserve priority. Guidance should distinguish reducing excessive animal-source food intake from replacing scarce intake in populations at risk of undernutrition.
- Tie novel products' environmental promise to production design and better evidence. Fermentation, insect farming, and cultivated-cell systems lose their advantage on carbon-intensive electricity or inefficient feedstocks, so claims should be tied to low-carbon energy, circular feedstocks, and transparent safety assessment. Research and investment must also move beyond high-income novelty markets toward low- and middle-income contexts.

The true value of alternative proteins needs to be assessed holistically, based on what animal source food it replaces, in what context, and for whom. Sustainability without nutritional adequacy is not sustainability.

The full commentary is free to read only till October 15, 2026 – worth reading in full before the 90-day free access window closes – [https://www.cell.com/one-earth/fulltext/S2590-3322\(26\)00152-1](https://www.cell.com/one-earth/fulltext/S2590-3322(26)00152-1)

About GAIN

The Global Alliance for Improved Nutrition (GAIN) is a Swiss-based foundation launched at the UN in 2002 to tackle the human suffering caused by malnutrition. Working with governments, businesses, and civil society, GAIN aims to transform food systems so that they deliver more nutritious food for all people, especially the most vulnerable. For more information, visit [gainhealth.org](https://www.gainhealth.org).

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