

Module 1: Hydrothermal processing to promote micronutrient bioavailability in processed food products

Understanding Hidden Hunger - Main causes



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Main causes of hidden hunger

There are two **major causes to hidden hunger**:

- Insufficient or poor intake from the diet
- Poor bioavailability of the micronutrients in the diet



Poor intake from the diet

Increasing dietary diversity is one of the most effective ways to sustainably prevent hidden hunger.

In the long term, dietary diversification ensures a healthy diet that contains a balanced and adequate combination of macronutrients (carbohydrates, fats, and protein); essential micronutrients; and other food-based substances such as dietary fiber.

A variety of cereals, legumes, fruits, vegetables, and animal-source foods provides adequate nutrition for most people, although certain populations, such as pregnant women, may need supplements (FAO 2013).

Poor intake from the diet

Effective ways to promote dietary diversity involve food-based strategies, such as home gardening and educating people on better infant and young child feeding practices, food preparation, and storage/preservation methods to prevent nutrient loss.



Photo by [Anya Rokenroll](#) on Unsplash

Poor bioavailability of micronutrients

Why are grains so important?

Today maize, rice and wheat provide more than half of all the world's calories from plants and are the major sources of iron and zinc (about 50%).

That's why grains have an immense influence on health.

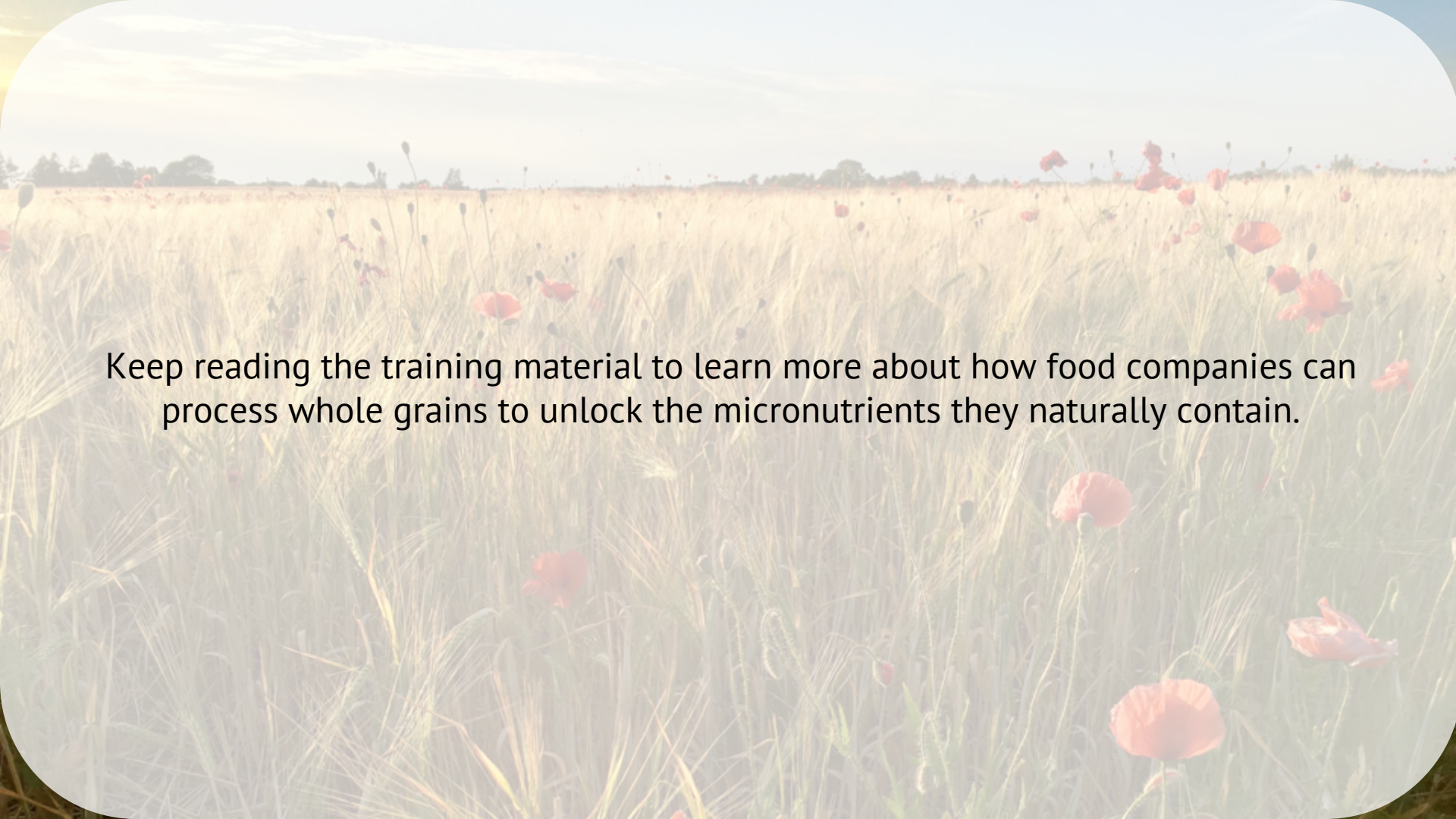


Poor bioavailability of the micronutrients

But, most grains are cultivated from modern plant breeding in monocultures and are refined in the industry to products that mostly contain carbohydrates and have lost their content of nutrients.

Grains are often consumed as refined rice or wheat, which means that micronutrients are reduced by up to 90%.

However, nutrient rich whole grains, must be treated to make micronutrients bioavailable to our body.

A wide-angle photograph of a field of tall, golden-brown grain, likely wheat or barley, with several bright red poppies scattered throughout. The field stretches to a distant horizon under a pale, hazy sky. The image has a soft, slightly desaturated aesthetic.

Keep reading the training material to learn more about how food companies can process whole grains to unlock the micronutrients they naturally contain.