Fermented foods

What are fermented foods?

Scientists have defined fermented foods as those made through desired microbial growth and enzymatic conversions of food components. These foods are not new. Fermented foods have been around for thousands of years. To understand how fermented foods are made, let's look at yogurt.

Yogurt is a fermented food made from milk. During yogurt fermentation lactic acid-producing bacteria grow on the sugar and other nutrients in milk. As they multiply, the bacteria produce compounds that change the flavor, texture, and nutrients in the milk to give us what we know as yogurt.

The value of fermented foods

- May be a source of live, active microbes
- Improve taste, texture, and digestibility of food
- Increase concentrations of vitamins and bioactive compounds in foods
- Remove/ reduce toxic substances or anti-nutrients in raw foods
- Inhibit pathogens and food spoilage microbes
- May benefit human health by reducing risk for some acute and chronic diseases

The fermentation process

Depending on the food, certain types of bacteria, yeasts and/or molds carry out the fermentation. Ingredients such as salt may be added and temperature and time will be manipulated to get the desired end-product. The fermentation microbes are still alive when we eat yogurt, kefir, cheeses, kimchi and some other fermented foods. But some foods that undergo fermentation are further processed (by pasteurization, baking, or filtering) so they are no longer sources of live microbes.

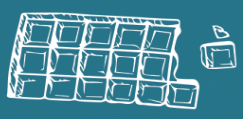
FERMENTED

Fermented and retaining live fermentation microbes

- Yogurt
- Kefir
- Most cheeses
- Miso
- Natto
- Tempeh
- Kimchi/fermented vegetables
- Dry fermented sausages
- Most kombuchas
- Some beers

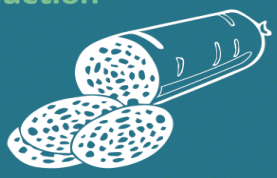
Fermented but fermentation microbes killed or removed (process)

- Bread, including sourdough (baked)
- Shelf-stable pickles/fermented vegetables (heat-treated)
- Sausage (heat-treated)
- Soy sauce (heat-treated)
- Vinegar (heat-treated)
- Wine, most beers, distilled spirits (filtered)
- Coffee and chocolate beans (roasted)



NOT FERMENTED

No live microbes used in production



- Fresh sausage
- Vegetables pickled in brine or vinegar
- Chemically-produced soy sauce
- Non-fermented cured meats and fish
- Acidified cottage cheese

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THE BENEFITS OF FERMENTED FOODS

BY APAGE

WHY EAT FERMENTED FOODS?

ENZYMES
Increased enzyme content helps you absorb nutrients, reducing the need for vitamins and supplements.

PROBIOTICS
These good bacteria help restore balance in the gut and aid digestion and immune health.

SAFETY
The lactic acid created during the fermentation process kills E. coli, making it safer to consume than raw vegetables.

PRESERVATION
The lacto-fermentation process stores food longer than canning without depleting nutrients.

NUTRITION
The fermentation process increases the nutritional value by enriching certain nutrients.

SAUERKRAUT

The Benefits

Rich in Vitamin U, which can help heal peptic ulcers

Probiotic strains:
- lactobacillus - improves skin health
- acidophilus - helps prevent polyps and colon cancer
- L. bulgaricus - has a tart taste and aids digestion
- L. plantarum - shown to improve immune function in HIV patients

What is it?

Finely chopped and fermented cabbage

How to eat it?

- On a reuben sandwich
- In soup
- On a hot dog

KIMCHI

The Benefits

Vitamin A
- reduces risk of heart disease and cancer caused by free radicals
- promotes healthy vision
- aids healthy fetal development

Vitamin C
- repairs wounds
- boosts overall skin health

What is it?

A traditional Korean side dish made of fermented radishes or napa cabbage with a variety of spices

How to eat it?

In salads | In soups | In stir-fries

MISO

The Benefits

- Manganese — bone & skin health
- Copper — balances cholesterol & boosts energy
- Bacillus subtilis — probiotic strain that boosts vitamin K and bone health

What is it?

A fermented mixture of soybean, rice or barley paste

How to eat it?

In soups, marinades, and salad dressings

Try this recipe

For a tasty Asian salad dressing, combine miso with olive oil, flaxseed oil, ginger and garlic.

PICKLES

The Benefits

Rich in vitamin K, which aids healthy blood clotting

Good source of calcium for healthy bone density

What is it?

Pickles are fermented cucumbers.

Look for lacto-fermented pickles for probiotic benefits, since most regular pickles don't contain them and are made with heat and vinegar - killing both good and bad bacteria.

How to eat it?

- Eat alone for a healthy snack.
- Slice thinly and add to a sandwich.
- For an interesting twist, slice and add as a pizza topping.

TEMPEH

The Benefits

Good source of vitamin K for healthy blood coagulation

Rich in manganese for bone and skin health

High in protein to maintain immune function and improve skin, hair and nail health

Rich in copper, which helps balance cholesterol and boosts energy

What is it?

This popular meat substitute is made from fermented soybeans and has a firm, chewy texture.

How to eat it?

Substitute for meat on a sandwich with lettuce and tomato.

Crumble into pasta sauce for vegetarian meat sauce.

Crumble on top of salads to boost protein content.

SOURDOUGH

The Benefits

An excellent source of:
- selenium - supports thyroid function and aids antioxidant absorption
- folate - supports healthy red blood cells, skin health, and neurologcal function
- manganese - supports bone and skin health

What is it?

This easy to make bread uses fermented dough and is easier to digest than traditional yeast breads.

How to eat it?

Use a sourdough roll to hold soup.

Sourdough pairs well with mayo, mozzarella, and fresh tomato for a tasty sandwich.

SOURCES:
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HealthCentral

the SCIENCE of HOME FERMENTATION

Before the advent of freezers and canning machines, people throughout the world used **fermentation** to preserve the harvest of vegetables throughout the following winter.

TYPES OF FERMENTED FOODS


SAUERKRAUT


KIMCHI


RELISH


GINGER ALE


PICKLES


YOGURT

veggies

seasonings

*or whey, or a starter culture

HEALTH BENEFITS

As vegetables begin to ferment, **good bacteria** transform **sugar** into **lactic acid.** This brings out the best in the season's fresh crops.

Just a few tablespoons of fermented veggies are loaded with millions of **lactobacilli,** in addition to **vitamins, enzymes,** and **minerals.**

aids in **digestion**

increases **vitamin levels** and **mineral absorption**

boosts **intestinal flora** and improves the **immune system**

reduces GI symptoms due to **chronic stress**

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