

Pickling Vegetables

Written by W.J.Pais

Pickling, also known as **brining** or **corning**, is the process of [preserving food](#) by [anaerobic fermentation](#) in [brine](#) (a solution of [salt](#) in water) to produce [lactic acid](#), or [marinating](#) and storing it in an acid solution, usually [vinegar](#) ([acetic acid](#)). The resulting food is called a **pickle**. This procedure gives the food a [salty](#) or [sour](#) taste. [In South Asia](#), edible oils are used as the pickling medium with vinegar.

Another distinguishing characteristic is a [pH](#) less than 4.6, ^[1] which is sufficient to kill most bacteria. Pickling can preserve [perishable](#) foods for months. [Antimicrobial](#) herbs and spices, such as [mustard seed](#), [garlic](#), [cinnamon](#) or [cloves](#), are often added.

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If the food contains sufficient moisture, a pickling brine may be produced simply by adding dry salt. For example,

[sauerkraut](#)

and

[Korean](#)

[kimchi](#)

are produced by salting the vegetables to draw out excess water. Natural fermentation at room temperature, by

[lactic acid bacteria](#)

, produces the required acidity. Other pickles are made by placing vegetables in vinegar. Unlike the

[canning](#)

process, pickling (which includes fermentation) does not require that the food be completely

[sterile](#)

before it is sealed. The acidity or salinity of the solution, the temperature of fermentation, and the exclusion of oxygen determine which microorganisms dominate, and determine the flavor of the end product.

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When both salt concentration and temperature are low, [Leuconostoc mesenteroides](#) dominates, producing a mix of acids, alcohol, and aroma compounds. At higher temperatures

[Lactobacillus plantarum](#)

dominates, which produces primarily lactic acid. Many pickles start with

Leuconostoc

, and change to

Lactobacillus

with higher acidity.

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[3](#)

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The term *pickle* is derived from the [Dutch](#) word *pekel*, meaning *brine*. In the U.S. and Canada, the word

pickl

e

alone almost always refers to a pickled cucumber

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[citation needed](#)

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(other types of pickles will be described as “pickled onion,” “pickled cauliflower,” etc.), except when it is used figuratively. In the UK, pickle (as in a

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"cheese and pickle sandwich") refers to
[Ploughman's pickle](#)
, a kind of
[chutney](#)
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Middle East

In Arab countries, pickles (called *mekhallel* in [Arabic](#)) are commonly made from [turnips](#) ,
peppers, carrots, green
[olives](#)
, cucumbers, beetroot, cabbage,
[lemons](#)
, and
[cauliflower](#)
.

[Source](#)