

Preparing Fermented Fruits and Vegetables at Home

The Fermentation Process

Fermented fruits and vegetables are made by a process that requires microbial growth and enzymatic activities. Fermentation occurs within days, during which microbes (bacteria or fungi) present on the vegetables or fruits grow resulting in changed texture and taste. Bacteria belonging to a group called lactic acid bacteria (LAB) can occur naturally on the surfaces of fruits and vegetables. These LAB convert sugars present into other compounds such as lactic acid and carbon dioxide. Microbes harmful to human health (i.e. pathogens) that produce toxic compounds or cause infections do not survive well in the salty, acidic, low oxygen environment created during fermentation. Adding salt into the fermentation at a weight of 2-10% is important to prevent growth of these harmful microorganisms. The pH must also be below 4.6 to prevent botulism. After fermentation the fruit and vegetables should have higher acid and less sugar with a softer consistency than when raw.

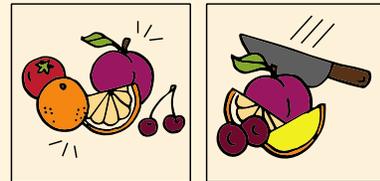
Setting Up For Success

Clean and sanitize all equipment and utensils to minimize risk of contamination. Use fresh vegetables and fruits with no signs of spoilage; using these may lead to failed ferments.

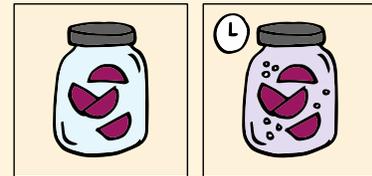
Create a brine by adding salt directly to vegetables or fruits or by dissolving salt in water and adding to the fermentation vessel. Keep ingredients covered by brine to promote LAB growth and minimize spoilage. This can be accomplished using a weight.

Generate a low oxygen environment by using an exhaust valve (or airlock) on the lid or cap. This will allow carbon dioxide gas produced to escape without letting too much oxygen into the vessel.

Process Overview:



Sanitize equipment and select fruits/vegetables free of spoilage, cut to desired size.



Add cut fruits/vegetables to a sanitized fermentation vessel. Add salt brine and ensure ingredients stay submerged. Allow to ferment at ambient (room temperature).



Monitor the process. Look for small bubbles forming or foaming. Store in the refrigerator and enjoy.

Note: This is not a validated process for fermentation of fruits or vegetables, but is provided as a general overview of the process. Always follow a safety tested recipe for fermentation.

Authors

DR. ERIN DICAPRIO^{1,2}; DR. MARIA MARCO¹; ZOE MITCHELL¹; MARIAH MIER¹; MELANIE HANLON¹

¹DEPARTMENT OF FOOD SCIENCE AND TECHNOLOGY, UNIVERSITY OF CALIFORNIA DAVIS

²UNIVERSITY OF CALIFORNIA DIVISION OF AGRICULTURE AND NATURAL RESOURCES

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