

Chemical Processes in Food Science

Fermentation

energy producing process which does not require oxygen to take place

ATP

adenosine triphosphate; form of energy

Facultative anaerobes

bacteria which can switch to using fermentation as an energy source if their environment allows it

Sauerkraut

acidic cabbage

Vinegar

acidic liquid produced from the fermentation of ethanol to yield acetic acid

Brine Pickles

pickles which undergo a curing process for several weeks in which fermentative bacteria produce acids necessary for the preservation process

Fresh-pack Pickles

pickles which are made by the addition of an acid such as vinegar and not by the natural fermentation of the vegetable

Leavening

process of adding gas to a dough before or during baking to produce a lighter, more easily chewed bread

Chemical Leavener

ingredients such as baking soda or baking powder

Saccharomyces Cerevisiae

yeast used to leaven most breads

Quick Breads

breads which are leavened using baking powder, baking soda or both and a balance of acidic ingredients to produce carbon dioxide

Caramelization

oxidation of sugar and is a type of non-enzymatic browning

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Starch

polysaccharide made up of glucose units linked together to form long chains

Starch Gelatinization

process which breaks down the intermolecular bonds of starch molecules in the presence of water and heat

Gelatin

form of processed collagen

Retrogradation

process in which additional bonds form in starch filled foods and increase their rigidity after cooking

Syneresis

process in which water molecules are squeezed out of a gel