

# Common issues with fermented fruits and vegetables

## Surface growth on the fermentation

### Abnormal: Mold

Molds require oxygen to grow. Molds can grow on the surface of the ferment at the air interface. Mold growth can occur anytime during the fermentation process and is a sign of a failed fermentation. If you confirm mold growth on any part of a ferment, it should be immediately discarded. Mold is typically green, blue, brown, or black in color.



*Note: White mold growth on sauerkraut stored outside brine, causing it to change color to purple instead of red due to an increase in pH and subsequent pigment color change (left). Excessive blue/green mold growth on the surface of olive brine (right). Photos courtesy of Erin DiCaprio.*

### Normal: Yeast

White, grey, or pink films may form on the surface of fermenting fruits or vegetables. This film is typically yeast, often referred to by home fermenters as Kahm yeast. For some fermentations, such as the olives shown below, yeast growth is necessary for flavor and softening of the fruit. For other ferments, such as sauerkraut, yeast should be periodically removed during fermentation. Excessive yeast growth can lead to off flavors or textures and reduce acidity. The pH can be checked periodically to ensure it does not rise above 4.6.



*Note: White yeast on surface of olive brine (left) and white/grey yeast on the surface of sauerkraut (right). Photos courtesy of Erin DiCaprio.*

## Controlling growth of mold.

**Proper cleaning and sanitation.** Cleaning is the physical removal of debris using soap. Sanitation is the application of high heat or chemicals to inactivate undesirable microorganisms. Sanitation cannot be achieved on equipment that is not clean.

**Ensure all the ingredients stay submerged.** All produce should be submerged in the brine liquid. Weights can be used to keep the produce submerged.

**Keep a lid on it.** It is important to keep the fermentation away from air. The lid should be applied firmly, with no air gaps. The CO<sub>2</sub> should be released periodically by opening container or using an airlock.

### Abnormal: Putrid Smell

A putrid smell indicates a failed fermentation. A fermented fruit or vegetable will smell pleasantly sour but not putrid. If a ferment smells noticeably spoiled, especially in combination with mold growth, it should immediately be discarded.

### Normal: Fermentation vessel swelling or gas accumulation

Some fermentation microbes make carbon dioxide gas during the fermentation process. This can be a good sign, but only if the pH stays below pH 4.6 Use a fermentation vessel with a breathable top or airlock if available. If not, periodically “burp” your vessel (i.e. open the lid) to release the gas.

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