



# Troubleshooting Problems when Canning Applesauce

Common problems when canning applesauce may include discoloration, siphoning, mold, and jars not sealing. Following good procedures can prevent these from occurring.

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## Air Often the Problem

Many of the problems with applesauce are caused by air. Although an apple is firm and solid, it actually contains air. In fact, twenty-five percent of an apple's volume is air. Think of bobbing for apples at a Halloween party. It is the air that causes the apples to float. Unless the air is driven from the apple during the preparation of the sauce, there is oxygen present.

## Enzymes

Enzymes in apples cause oxidation (browning) when cut surfaces are exposed to air. Many people report that the top of the jar of applesauce gradually turns brown. What is happening is the sauce has not been heated adequately to stop all enzymatic reactions and there is enough oxygen in the headspace to react with the enzymes. When air bubbles are not removed from the sauce after it is poured into the jar, the same problem occurs.

A suggestion to reduce the enzymatic reaction is the addition of ascorbic acid. Some recipes for applesauce include a tablespoon of lemon juice for each quart of sauce to preserve the color and to increase acidity. The addition of ground spices such as cinnamon or nutmeg adds natural color that may mask some of the oxidation.

## Siphoning

Putting cooked apples through a sieve, food processor, or blender incorporates additional air into the product. After making the apples into a puree, be sure to bring the mixture to a boil and maintain a gentle boil while filling the jars.

Cooking drives air out of the apple. Air left in the apple will expand during processing, causing the contents in the jar to overflow. This is called siphoning. When the sauce overflows, you not only lose good product, but you also increase the risk of a jar not sealing. You can reduce the chance of siphoning by using a plastic knife or bubble freer to remove air bubbles from the jar before applying the lid. Leave adequate headspace ( $\frac{1}{2}$  inch) to accommodate expansion during processing.

It is common for applesauce to siphon from the jars when removed from the canner. The thinner the applesauce, the less siphoning there seems to be. Try to maintain a constant rolling, but gentle, boil while processing; large temperature fluctuations during processing forces product out of the jar.

Another technique that helps to reduce siphoning is when the processing time is complete, set the canner off the heat and remove the canner lid. Wait five minutes before removing jars; this equalizes the temperature in the jar.

## Spoilage Organisms

There are many potential sources of molds and spoilage organisms in applesauce. The fresh apple likely contains some, which is a reason for thoroughly washing the fruit and peeling it before cooking. It is also a reason for practicing good kitchen procedures (clean hands, clean utensils and counters).

Molds are common in the air and can settle on the product after it is put into the jar and before applying the lid. Processing pints for 15 minutes and quarts for 20 minutes (remember to adjust for altitude) in a boiling water bath or atmospheric steam canner destroys microorganisms that may have entered the headspace during canning.

Never open kettle can applesauce (putting hot applesauce in the jar, applying the lid, and letting it sit until the lid goes down). Processing in the boiling water bath canner or

atmospheric steam canner gives a much stronger vacuum seal to prevent spoilage. If there are signs of mold or other spoilage, discard the product.

## Freezing Homemade Applesauce

If you are new to home food preservation, making and freezing applesauce is a great way to begin. It can be prepared plain, seasoned, smooth, chunky, or even mixed with other fruits.

### Tips for Freezing Applesauce

- Make the sauce using your favorite recipe and with apple varieties that are suitable for cooking. Some of the best sauces use a blend of apple varieties.
- Improve the color by adding lemon juice, ascorbic acid, or commercial color preservers.
- Adjust the sweetness to your taste. The variety of apple will determine the amount of sugar to add.
- Artificial sugar substitutes can be used; however, do not add aspartame before cooking the apples.
- Cool the cooked sauce quickly; you can set a larger pot of sauce in a sink of cold ice water changing the water frequently. Stir the mixture while it is cooling.
- Pack it into rigid containers leaving adequate headspace. It will expand when frozen.
- To use, thaw in the refrigerator.
- Sauce served before it is completely thawed tastes similar to a slushy.