

## Canning of Fruits and Vegetables

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Canning is a method of food preservation in which food is prepared and hermetically sealed in vessels using heat. Canning normally has a shelf life of one to five years, though it can last considerably longer in some circumstances.

### History of Canning

Nicolas Appert, a French confectioner and brewer, noticed that food cooked within a jar did not deteriorate until the seals leaked in 1809 and created the appertization (also known as canning) method of sealing food in glass jars.

Fruit and vegetable canning is a growing and competitive industry, particularly in the international export market. Canning fruits, vegetables, and fruit and vegetable juices; processing ketchup and other tomato sauces; and creating natural and imitation preserves, jams, and jellies make up the majority of the industry. The purpose of the canning process is to kill any bacteria in the food while also preventing recontamination.

The most popular method for killing microbes is to apply heat. To prevent the growth of oxygen-dependent bacteria, oxygen removal can be employed in conjunction with other approaches. There are basic process steps that are comparable for both types of products in traditional canning of fruits and vegetables. However, even among units that process the same item, there is a tremendous deal of variation. The inclusion of particular processes for certain fruits or vegetables, the sequencing of the process steps employed in the operations, and the heating or blanching steps are among the variances. Fruit and vegetable juices are made in a variety of ways, and there is a large range of plants that can be used to make them.



**Figure 1: Canned Fruits & Vegetables**

Beans (cut and whole), beets, carrots, maize, peas, spinach, tomatoes, apples, peaches, pineapple, pears, apricots, and cranberries are all common canned items. Orange, pineapple,

grapefruit, tomato, and cranberry juices are common. The illustrations below demonstrate generic process flow diagrams for canning fruits, vegetables, and fruit juices.

The stages depicted in these diagrams are meant to represent the most basic manufacturing processes. Washing, sorting/grading, preparation, container filling, exhausting, container sealing, heat sterilisation, chilling, labeling/casing, and storing for transportation are some of the general operations used in a commercial canning operation. There has been no attempt to be product specific and include all process steps that would be used for all products in these diagrams. The blanching procedure is one of the most significant changes in the sequence of operations between fruit and vegetable canning. The majority of fruits are not blanched before canning, although many vegetables are blanched. Because canned veggies have a lower acidity and include more heat-resistant soil organisms, they require more severe processing than fruits. In order to achieve the best flavour and texture, many veggies require more cooking than fruits. The cooking procedures employed in each facility differ significantly.



Preliminary treatment stages (e.g., peeling, coring, halving, pitting) occur before any heating or cooking phase with many fruits, but they commonly occur after the vegetable has been blanched with vegetables. Peeling is done with a mechanical peeler, steam peeling, or lye peeling for both fruits and vegetables. The decision is determined by the type of fruit or vegetable used, as well as the company's preferences.

## References

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