

## Vacuum Sealed Foods: Safety Guidelines

Many foods have a longer shelf life when oxygen has been removed from the environment. Therefore, several food preservation methods create a vacuum seal to increase the amount of time the food will stay fresh on the shelf. This method of food storage can be used successfully when you follow some important safety guidelines.

There is one food-borne illness that can be created in an anaerobic (no oxygen) environment. It is called botulism – which is an extremely potent and fatal toxin. Botulism spores can be found in the soil, on fruits and vegetables, and can be found in honey. These spores can develop into the toxin when the following three conditions are present:

- 1) Low-acid (non-acid pH, or higher pH)
- 2) Adequate moisture
- 3) Airless environment (no oxygen)

The following methods have been used to vacuum seal foods. Please consider the safety guidelines for each one. All methods require cleanliness, therefore it is recommended to use sterilized jars, clean utensils, and clean hands for all food preservation techniques.

Commercial Vacuum Sealers: (Food Savers): This equipment will suck the air out of a plastic bag or mason jar. This method will increase shelf life but, you must remember, if the food required refrigeration or freezer before vacuum packing, it will need refrigeration or freezing after vacuum packing. This method works well for Dry Pack (foods that typically store on the shelf, dry). I like to use mason jars for dry packing the following items:

- 1) Chocolate chips or chocolate candies
- 2) Nuts
- 3) Home prepared mixes containing freshly ground whole wheat flour (hot roll mix, sweet bread mix, muffin mix, waffle mix, brownie mix)
- 4) Dried fruits and fruit leather, jerky

Do not use this method if moisture is present! This will extend the shelf life of these foods, but not indefinitely. It is important to use and rotate all foods in your storage.

Warmed or Baked Foods placed in canning jars with lids: The vacuum seal is created when the food cools. This method has been used for canned butter or canning quick breads. **THIS METHOD IS NOT RECOMMENDED.** While there are many recipes floating around the internet about this technique, it is not considered safe. Moisture and pH conditions are such that the botulism toxin could develop.

Granola made with honey has the same potential problem when vacuum sealed. Moisture content of granola varies and honey has botulism spores. If you want to make ahead granola in bulk, it is recommended to freeze surplus amounts in a zip-loc bag in the freezer.

Water-bath Canning: This is a wet-pack method used for many fruits, juices, jellies, and jams. The fruits used with this method have a low pH (high acid content) that will protect the food from botulism poisoning. Make sure you follow processing methods and times recommended by your County Extension agency.

Pressure Canning: This is a wet-pack method for canning foods with a higher pH (low acid content). This is the only method that will cook foods at a high enough temperature to kill the botulism spore to prevent the toxin from developing. This method is a MUST to preserve vegetables, meats and beans on the shelf. Make sure you follow processing methods and times recommended by your County Extension agency.