

METHODS FOR ACHIEVING A SAFE AND STABLE LOW-TO-NO ALCOHOLIC BEVERAGE

Food Safety should always be at the fore front when producing a beverage of any kind. When working with alcoholic beverages, due to the high amount of alcohol present, food safety can become a second thought. When producing a low-to-no alcohol beverage, you no longer have the safeguard of alcohol content to control the growth of microorganisms. Therefore, it is important to produce a product that is food safe and stable.

Please note depending on the product and location for sale, you are required to meet federal and provincial regulations. For up-to-date information, always check Health Canada, Canadian Food Inspection Agency and applicable provincial legislators for regulations required in your area of production and sales.

As per CFIA definition, if you are producing a beverage that is as under 1.1% ABV, you need to have procedures and processes in place to ensure microbial control and, therefore, the safety and stability of your product. If you are producing a “low” alcohol product, it is still important to be mindful of the ingredients and any potential sources of contamination, as microbial control may still be necessary to implement.

There are a few methods that can ensure micro stability, extend stability and prevent refermentation. The below options can be used alone or in conjunction, depending on your product.

CHEMICAL PRESERVATION	PASTEURIZATION	FILTRATION
<p>Depending on the type of beverage you are making, there are certain chemical preservatives that can be added to help with microbial control. Make sure to consult Health Canada’s List of Permitted Food Additives for permitted preservatives and allowable usage rates.</p> <p>Some common preservatives that are used in beverages are</p> <ul style="list-style-type: none"> • Potassium sorbate • Sodium benzoate • There are options for natural preservatives available but again, ensure they are permitted in your product and have been tested for efficacy. • Acidification is when you add acids to the beverage to achieve a pH below 4.6. The most commonly used are citric acid and malic acid. Depending on the product and ingredients, just lowering the pH to below 4.6 may not provide enough microbial control, and an additional stability method may be required. 	<p>Pasteurization is the use of heat to decrease the microbial load in a product so that it can be shelf stable. It is important that the proper temperature and time exposed at that temperature are reached to achieve the microbial reduction required. Those temperatures and times are product dependant, and one should consult a food processing expert to help determine what is required for your product.</p> <p>When canning or bottling, the two most common pasteurization processes are</p> <ul style="list-style-type: none"> • Batch pasteurization • Tunnel pasteurization <p>These processes are similar in that they cascade hot water over a packaged product until the internal temperature reaches the target for the time required to reduce the microbial load. Batch pasteurization is performed stationary with a smaller footprint and is ideal for smaller production volumes. Tunnel pasteurization is more continuous as product passes through a tunnel on a conveyor. This has a larger footprint and usually is done with larger production volumes.</p> <p>There are other methods of pasteurization that can be done before packaging, but it is very important if using these methods the remaining processes are as clean and as sterile as possible to ensure recontamination does not occur.</p>	<p>Using membrane filtration to decrease/remove microorganisms from your product can achieve stability. By using a 0.45 micron or lower filter system, you can achieve close to sterile product. When using filtration, it is important to test the product after to ensure the microorganisms are being removed and the filter size is correct. It is also extremely important to ensure after filtration the remaining production processes (i.e. packaging) are clean/sterile, and there are no chances of recontamination occurring.</p>