

How Fermenters are Transforming the Food and Beverage Industry

The Role in Food Production

They play a vital role for many food producers by providing a controlled environment for the fermentation process. Fermentation is a process where microorganisms like bacteria or yeast interact with ingredients like fruits, vegetables, grains or dairy to produce everything from bread, wine and beer to kimchi, sauerkraut and yogurt. They allow producers to carefully control various factors like temperature, pH level, oxygen levels and mixing to achieve the desired results.

For example, many dairy producers use large [Fermenter](#) steel fermentation tanks that allow them to precisely control the fermentation of milk into yogurt. They maintain an optimal temperature around 110-115°F for the lactic acid bacteria to adequately multiply and cause milk to thicken into yogurt within around 4-7 hours. Proper agitation during this process results in a creamy consistency.

In the brewing industry, fermenters are integral for transforming wort (unfermented beer) into actual beer. Large cylindrical tanks controlled at around 60-70°F allow yeast to consume the sugars in wort and produce the desired alcoholic beverages along with other flavors over the course of 1-3 weeks. Proper aeration and mixing is important to facilitate the fermentation process.

Economic Benefits of Large-Scale Fermenters

Larger food producers have benefited tremendously from investments in large industrial scale that can process massive volumes of ingredients on a continuous basis. This allows for significant economies of scale that reduce production costs.

For example, a large dairy may have fermenters that can hold up to 50,000 gallons of milk or more at once. Running almost non-stop, such can produce truckloads of yogurt daily in an extremely cost-effective manner compared to smaller batches.

Similarly, major breweries rely on towering cylindrical fermentation tanks that can hold hundreds of thousands of gallons each. With advanced controls, these automated systems can maintain a perpetual fermentation process to pump out railcars full of beer. The savings in labor and overall efficiency allows them to profitably sell at lower price points than craft brewers.

