

Yeast have a
complex structure. a
single

[Environment](#)



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Yeast is a microscopic single-celled fungus.

Some yeasts are grown specifically to be used in the fermentation process or for use by scientists in their research. Most yeasts exist in the natural environment. They grow on plants and animals and are dispersed through air or water. Most yeasts belong to the order Saccharomycetales, in the class of Ascomycetes. The most known species of yeast is *Saccharomyces cerevisiae* it is used ?? in the fermentation process. The fermentation process produces the alcohol that is in wine and beer it also creates the carbon dioxide that makes bread rise. The fermentation process happens because yeast enzymes enable the cells to take oxygen from almost any starch or sugar to produce alcohol and carbon dioxide. Yeast is rich in protein, minerals, carbohydrates, and vitamin B; because of that, it is also used to enrich human and animal diets (“ yeast”).

Yeasts are fungi and are also eukaryotic organisms, which means that they have a complex structure. A single yeast pellet is around 0. 075 mm in diameter. Yeasts reproduce very fast especially when they are in a substance containing sugar. Yeast cells reproduce in two different ways. One way is budding, budding is when a part of the cells walls grow so big that it breaks off and becomes an independent cell. The other way is just normal fission (“ yeast”).

Glucose, also referred to as Dextrose, is a type of carbohydrate known as a simple sugar. It is found in fruits, honey, and is the majority sugar circulating in humans and other animals. Glucose is the main source of energy is cell function and help regulate the cell’s metabolism (“

Glucose”) Sucrose also known as table sugar, is a colorless sweet-tasting crystal that can dissolve in water. Sucrose is a disaccharide, or double sugar, being composed of one molecule of glucose linked to one molecule of fructose. Sucrose occurs naturally in many fruits and vegetables including sugarcane, sugar beets, dates, and honey. It is produced on a major scale and in large amounts all around the world (“ Sucrose”).

Splenda is an artificial sweetener made with a mixture of sucralose and maltodextrin. The exact percentages of its make up are as listed 1. 10% sucralose, 1. 08% glucose, 4. 23% moisture and 93. 59% maltodextrin. Specific types of maltodextrin has been proven to grow yeast colonies extremely fast even more so than sucrose (Richards, Lisa). The reason maltodextrin grows yeast colonies so fast is because maltodextrin is absorbed by cells extremely rapidly, just like glucose (Richards, Lisa).

The reason that the sucralose make up is so small is because it is so sweet that they only needed to use a small amount to get the sweetness they wanted. Sucralose like sucrose, is a disaccharide which means it is made of two different sugars. Sucralose is made from sucrose by replacing three hydroxyl groups with chlorine. Although there are many different artificial sweeteners, sucralose also known as Splenda has three main advantages. One advantage is that it has no aftertaste, another is that it is great to bake with due to its stability in high temperatures, and finally it is stable in different or pHs.

(Kollias, Helen.) Fermentation is the natural process in which carbohydrates (sugars and starches) are converted into carbon dioxide and ethanol.

Throughout history, people have used the process of fermentation to create many types of alcoholic beverages and other food products.

Even though they did not know the science behind fermentation people still learned that mixing certain ingredients resulted in alcohol. Even today big corporations use fermentation not just for beer and wine but for foods and condiments like vinegar, cheese, yogurt, and soy sauce (Volti, Rudi). The yeast will make the most carbon dioxide when it is mixed with Glucose because the yeast cells can consume glucose without creating special enzymes that are needed to break down Sucrose and Splenda.